Australian Energy Market Commission

RULE CHANGE

# FINAL RULE DETERMINATION

## National Electricity Amendment (Multiple Trading Relationships) Rule 2016

## National Energy Retail Amendment (Multiple Trading Relationships) Rule 2016

**Rule Proponent**
Australian Energy Market Operator

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**Inquiries**

Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

**E**: aemc@aemc.gov.au
**T**: (02) 8296 7800
**F**: (02) 8296 7899

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**About the AEMC**

The AEMC reports to the Council of Australian Governments (COAG) through the COAG Energy Council. We have two functions. We make and amend the national electricity, gas and energy retail rules and conduct independent reviews for the COAG Energy Council.

# Summary

The Australian Energy Market Commission (the Commission or AEMC) received a rule change request from the Australian Energy Market Operator (AEMO) to implement a new framework that would better enable customers to enter into multiple trading relationships (MTR) with more than one retailer at a premises. The rule change request follows earlier work by the AEMC on MTR arrangements as part of the Power of Choice and Electric Vehicle reviews in 2012. Following that process, the COAG Energy Council tasked AEMO with developing a framework to better enable customers to engage with multiple retailers at a premises, and to then submit this to the AEMC as a rule change request. That rule change request is the subject of this final determination.

MTR refers to the ability of a customer to engage with multiple retailers at a premises. Under the current National Electricity Rules (NER), a customer who wishes to engage with multiple retailers can do so by establishing a second connection point at a premises.

The rule change request aimed to better enable MTR by implementing a new framework that removed the need for a customer to establish a second connection point and therefore reduce the cost of engaging another retailer. It was anticipated that this change would better support the entry of new and innovative energy services, facilitate increased competition in retail electricity markets, and improve consumer choice.

The Commission considers that the ability for customers to engage with multiple retailers is desirable as it may encourage improved competition in retail markets and greater choice for customers through the delivery of new and innovative energy services. These new services may provide additional operational and investment efficiencies, both for individual customers and for other parties along the supply chain.

However, the Commission has decided not to make a rule. Consumers can already engage multiple retailers at a premises under the current rules. The proposed framework set out in the rule change request would be unlikely to better enable customers to access new, or better manage existing, energy services. It is therefore not likely to benefit consumers compared to the current arrangements.

Since the Power of Choice and Electric Vehicle reviews were published, market conditions have changed and new information has become available and, in turn, so has the Commission's assessment of the merits of implementing a new framework to better enable MTR.

First, better information is now available about the costs of installing a second connection point. Recent estimates of the cost for a customer to install a second connection point were found to be substantially lower than the initial cost estimates. An expert report prepared for the Commission as part of this rule change estimates these costs and demonstrates that for most customers, the proposed framework would not involve any cost saving component to the current rules. As a result, it is expected to

be far more economical for customers to engage multiple retailers through a second connection point than initially thought.

Second, many reforms from the Power of Choice review have already progressed, including the competition in metering rule and the distribution network pricing arrangements rule. In particular, these are expected to:

- reduce the cost for a customer to establish a second connection point even further by facilitating greater competition in the provision of metering services. This may better enable customers to engage with multiple retailers under current market arrangements;

- facilitate pricing and service alternatives that can deliver similar value to customers without the need to engage with multiple retailers. For example, a customer could utilise a time-of-use tariff to reduce the electricity costs of a specific appliance. The result of this could be similar to a customer engaging a separate retailer to supply electricity for that appliance.

Third, alternative energy business models have become far more common in recent years and are capable of delivering similar services and value to customers as those that could be provided by engaging with multiple retailers. These arrangements allow energy service providers to offer customers specific innovative services, either through partnering with a retailer, or directly to customers.

Fourth, in the rule change request, AEMO stated that the existing rules do not provide clear guidance regarding the roles and responsibilities of parties where a customer engages two retailers at a premises. Although the rules do not expressly address this, the Commission considers that, based on submissions and current industry experiences in establishing second connection points for customers, the current rules are sufficient and that no amendments are necessary.

Given the current environment and these factors, the Commission has determined that the potential benefits of a new proposed framework are significantly reduced.

***The Commission's decision***

The Commission considers that implementing the proposed framework is not likely to be in the long term interest of consumers, for the following reasons:

- Implementing the proposed framework may deliver some cost savings to a small number of customers who seek to set up very specific MTR arrangements. However, it is unlikely to deliver cost savings to most customers seeking to engage with multiple retailers. It is therefore unlikely to materially reduce costs for customers generally, and so unlikely to drive demand for new energy service providers or stimulate service innovation and competition in the retail electricity market.

- Implementation of the proposed framework would require retailers and distributors to modify a number of IT systems and operational processes. These

changes are significant, and the implementation costs would be passed on to all customers through increased electricity prices. As a result, while only a small subset of customers may receive a direct benefit from the changes, all other electricity customers would likely face increased retail electricity prices.

- It is likely that consumer protection mechanisms would need to be reviewed and significantly amended if the proposed framework was implemented. For instance, disconnection and life support equipment registration processes would need to clarify the roles and responsibilities for parties active at the same connection point to ensure that customers with life support equipment are not inadvertently disconnected.

This decision is consistent with the draft rule determination.

The Commission received 17 submissions to the draft rule determination published on 19 November 2015, and 24 submissions to the consultation paper published on 30 July 2015. Stakeholders generally considered the proposed framework would likely lead to higher electricity prices for all retail electricity customers, and was unlikely to facilitate increased competition in retail electricity markets. Market participants also considered that other reforms underway and off-market mechanisms can lead to similar benefits for customers as the proposed framework. Most consumer groups also suggested that while a small subset of customers might benefit, it would likely increase the complexity of service delivery with detrimental cost impacts on some customer groups.

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# 1 The rule change request

## 1.1 The rule change request

On 17 December 2014, the Australian Energy Market Operator (AEMO) made a request to the Australian Energy Market Commission (AEMC or Commission) to make a rule to better enable customers to enter into multiple trading relationships (MTR) at a premises. This followed a request from the COAG Energy Council for AEMO to develop a model to better enable MTR and to submit this to the AEMC as a rule change request.

MTR refers to an arrangement where a customer engages with multiple financially responsible market participants (FRMPs) at a premises.[1] The services that different FRMPs provide could take many forms, including:

- different FRMPs for supply of energy to different portions of the premises, such as a dual occupancy arrangement, or for a specific appliance such as an electric vehicle;
- one FRMP for supply of energy to the premises, and another for purchase of energy produced by embedded generation or battery storage; or
- a community energy scheme, registered as a FRMP, which provides the bulk of a customer's supply, with backup provided by a second FRMP such as a retailer.

Customers can currently engage with multiple FRMPs at a premises under the existing National Electricity Rules (NER) by establishing a second connection point. AEMO, however, argued that this is a complex, costly and time consuming process and would impede small energy customers from engaging with multiple FRMPs.

For this reason, the rule change request proposes a new framework to better enable customers to engage with multiple FRMPs at a premises. To achieve this, the new framework would separate the point of financial settlement from the point of physical connection to the National Electricity Market (NEM). This would allow for the establishment of multiple settlement points at a premises with one connection point. This would in turn enable customers to engage with different FRMPs at each settlement point, without having to establish a second connection point.[2]

1 These FRMPs are typically retailers, however other parties may also register as a FRMP and engage directly with customers, including market small generation aggregators.

2 Customers can engage with multiple FRMPs at a premises under either current arrangements, by establishing a second connection point, or under the new framework proposed in AEMO's rule change request, by establishing multiple settlement points. This new framework is referred to as "the proposed framework" throughout this final rule determination.

## 1.2 Rationale for the rule change request

The rule change request stated that cost and regulatory barriers may deter FRMPs from seeking to provide new and innovative energy services to smaller customers.

It identified that the NER frameworks are designed around the concepts of:

- each customer load having a single physical connection point to the electricity network;
- each connection point being associated with:
  - one metering installation with its own unique national metering identifier (NMI); and
  - one FRMP.

These arrangements are based around a one-to-one relationship between the connection point, FRMP and metering installation, with each metering installation associated with one NMI. As most premises typically have one connection point, metering installation and NMI, most customers engage with only one FRMP at a premises.

Currently, the only way for a customer to engage with more than one FRMP at a premises is to establish a second connection point. The rule change request stated, however, that this process would be costly and time consuming for customers. It argued that in practice, establishing a second connection point is only viable for larger customers who obtain larger relative benefits from the second connection.[3]

The rule change request also noted that there is some uncertainty about how multiple connection point arrangements would operate in practice. For example, it stated that the current NER does not describe the roles and responsibilities of a FRMP who wishes to establish a second connection point at a premises, nor for the existing FRMP or for the local network service provider (LNSP).[4]

## 1.3 Solution proposed in the rule change request

The rule change request identified that better enabling customers to engage with multiple FRMPs at a premises would enhance customer choice and drive more competitive outcomes in retail markets by facilitating new and innovative energy services. This would provide customers with more choice regarding their electricity consumption and costs.

To enable this capability, the rule change request proposed a framework that identified changes to the NER that would separate the point at which the premises is physically

3 AEMO, rule change request, p.7.

4 ibid.

connected to the NEM from the point at which energy measurement for financial settlement occurs, by introducing the concept of a settlement point.

The principal changes to the NER proposed include the following:

- the market settles at the settlement point, not at the connection point;
- each settlement point is associated with a metering installation;
- there can be multiple settlement points and metering installations at a premises; and
- the concept of connection point remains in the NER but refers solely to the point of physical connection between the premises and the NEM.

The proposed framework was designed to be technology neutral and capable of supporting a range of different metering configurations at a premises. This included subtractive, net and parallel metering configurations.

The proposed framework was also intended to be less prescriptive to better enable customers to engage with multiple FRMPs at a premises.[5] The rule change request anticipated that day-to-day operational matters would be included in AEMO and Information Exchange Committee (IEC) procedures which would be developed by AEMO and the IEC after the AEMC had made the rule in response to the rule change request.

While it did not contain a proposed rule, the rule change request did include some suggested drafting for a number of other changes to the NER, including amendments to:

- Chapter 10, to introduce the new term "settlement point" and related definition changes
- Chapter 2, to amend participant classifications;
- Chapter 3, to amend various clauses related to loss factors, adjusted energy and spot market transactions; and
- Chapter 7, to amend various clauses related to metering, including obligations on market participants, shared meters, NMI creation and allocation by the LNSP, the location of settlement points and access to information related to a settlement point.

Other areas of the NERR that may require amendment were identified as:

5 This was in reference to AEMO's earlier high level design which set out a more detailed, prescriptive framework that was designed to better enable customers to engage with multiple FRMPs at a premises. AEMO, Multiple trading relationships and embedded networks - high level design, December 2013. Available at www.aemc.gov.au.

- Customer classification: Customer classification should continue to be determined according to premises level usage and consumption, regardless of the number of settlement points at a premises. AEMO also stated that any FRMP selling energy to a customer at a settlement point at a premises should have the capability to classify or reclassify that customer's premises as a business or residential customer.

- Shared customers: The current NERR triangular contractual relationship between DNSPs, FRMPs and customers should be adjusted to reflect the possibility of multiple FRMPs at a premises.

- De-energisation: De-energisation should occur at the level of individual settlement point wherever possible. However, DNSPs should also be able to de-energise all settlement points at a premises, while FRMPs should be able to request de-energisation of a settlement point without any liability for subsequent de-energisation of a related settlement point.

- Life support: Life support equipment should be registered at the level of the settlement point. All settlement points at a premises with life support equipment should be registered. Reciprocal notification obligations should exist between FRMPs and DNSPs at a premises with life support equipment.

The rule change request also identified a number of changes to jurisdictional instruments and AEMO procedures that may need to be made following completion of any rule change to implement the proposed framework.

## 1.4 Relevant background: earlier projects

There are three other projects that provide context to the rule change request. These are:

- the AEMC's Power of Choice review;

- the AEMC's Energy Market Arrangements for Electric and Natural Gas Vehicles review; and

- the high level MTR design.

New information is now available about the relative costs and benefits of enabling customers to engage with multiple FRMPs at a premises, since the conclusion of these projects. The market has also changed due to a number of reforms currently progressing through the industry, via the development of a range of alternative energy business models, and from new technologies becoming available in the market. These are outlined in chapters 3 and 4.

### 1.4.1 Power of Choice

The Power of Choice review considered how consumers could be empowered to make more informed decisions about the way they use electricity. This included consideration of how the NEM regulatory frameworks might support the entry of new energy technologies and energy service models, to maximise the potential of efficient demand side response and respond to consumer choice.

A package of rule changes have progressed from the Power of Choice review. The purpose of these rule changes has been to develop the NER and NERR so that they are adaptable and capable of supporting the entry of the new energy technologies and services demanded by customers.

For example, the expanding competition in metering and related services rule change, completed in November 2015, is designed to facilitate more advanced metering services which will allow consumers to access a wide range of new services that are enabled by advanced meters.

Similarly, the distribution network pricing arrangements rule change, completed in November 2014, is designed to enable the development of more innovative tariff structures. These new tariff structures may support new services and technologies, allowing customers to make more informed decisions about how they use electricity and what technologies they invest in to help manage their usage.

The demand management incentive scheme rule change was completed in August 2015 and provides clearer incentives for DNSPs to invest in demand management as an alternative to network expenditure. It also contained an innovation allowance to provide funding for research and development of innovative demand management projects that have the potential to reduce network costs.

As discussed below, the proposed framework included in the rule change request was originally developed in tandem with the Power of Choice review. While the Commission has decided not to implement the proposed framework, these other Power of Choice rule changes will improve the flexibility of regulatory frameworks to support the entry of new energy technologies and services. In doing so, these other rule changes may provide a framework for businesses to provide customers with similar benefits and service options to those identified under the proposed framework.

### 1.4.2 Energy Market Arrangements for Electric and Natural Gas Vehicles

The AEMC conducted its Energy market arrangements for electric and natural gas vehicles review (the EV review) in tandem with the Power of Choice review.[6]

The EV review considered how metering arrangements could enhance choice and facilitate efficient use of electricity services for customers with electric vehicles. A key recommendation was that a customer should be able to engage with a different FRMP

6 AEMC, Energy Market Arrangements for Electric and Natural Gas Vehicles, December 2012.

at its premises for different portions of its load without having to establish a second connection point.

It was therefore proposed that the concept of a connection point should be separated from the point at which energy was measured for market settlement. To do so, the existing NER defined term "connection point" would refer only to the physical connection to the power system. The new NER defined term "settlement point" would refer to the point at which energy metering and financial settlement occurred. This would allow a customer to engage with a different FRMP for different portions of its load, without having to establish a second connection point.

The EV Review also noted that different metering configurations could be used to enable customers to engage with multiple FRMPs at a premises. The use of these different metering configurations might create different costs for customers. For example, by using a subtractive metering arrangement, customers would not have to install a second metering installation at the mains switchboard. Betterplace, an electric vehicle provider, suggested this could provide customers with savings of between $1,000 and $8,000.[7]

### 1.4.3 The high level MTR design

Following completion of the EV Review, the Standing Council on Energy and Resources (SCER, now the COAG Energy Council) requested AEMO to develop a high level design framework that would better enable customers to engage with multiple FRMPs at a premises. AEMO was also requested to develop a design to improve metering and other arrangements in embedded networks.[8]

AEMO identified several issues while developing its initial high level design framework, including processes for disconnection and the allocation of distribution use of system (DUOS) charges at a premises with multiple settlement points. Although the proposed framework included in the rule change request is less prescriptive than this initial high level design framework, these issues remained.

AEMO engaged Jacobs SKM to undertake a cost benefit assessment of its initial high level design framework.[9] Jacobs SKM's analysis found that the high level design framework resulted in costs exceeding benefits under most scenarios (see Box 1.1).

**Box 1.1 Cost benefit analysis of the high level MTR design**

Jacobs SKM's assessment considered benefits such as increased competition and

7 The Commission did not verify these cost estimates. For more information, see: better place, Approach paper submission, 27 October 2011.

8 AEMO's final design for embedded networks is described in a separate document which has informed the Embedded Networks rule change request. For more information, see: http://www.aemc.gov.au/Rule-Changes/Embedded-Networks

9 Jacobs SKM, Benefits and costs of multiple trading relationships and embedded networks, May 2014.

the development of a more service oriented retail sector, and costs including registration and setup, metering, operational management, billing and reporting. The analysis included several sensitivities, reflecting different rates of uptake and implementation costs.

Jacobs SKM found that costs were greater than benefits for MTR under most sensitivities. This reflected high upfront implementation costs, with slow uptake deferring benefits for around five years after implementation. Net positive benefits were identified in only one sensitivity, with high levels of uptake and low implementation costs.

Jacobs SKM noted that the findings were sensitive to the value of specific input assumptions, such as actual implementation costs, uptake rates and demand growth. It also noted that combined implementation of MTR and other demand side participation (DSP) market reforms could reduce costs for MTR. It also noted that the benefits to customers of improved energy services were not considered, nor were the costs borne by customers in adopting MTR.

In June 2014, the COAG Energy Council requested AEMO to develop a rule change request for MTR that incorporated alternative, more cost effective options while preserving the policy intent of the initial high level design framework. AEMO accordingly developed this rule change request.

## 1.5 The rule making process to date

On 30 July 2015, the Commission published a notice under s. 95 of the National Electricity Law (NEL) advising of its commencement of the rule making process and the first round of consultation in respect of the rule change request.

On 13 August 2015, the Commission published a notice under s. 251 of the National Energy Retail Law (NERL) commencing the rule making process under that law as well.

A consultation paper that identified specific issues and questions for consultation was published. Submissions closed on 10 September 2015.

The Commission received 24 submissions to the rule change request as part of the first round of consultation. They are available on the AEMC website.[10]

The Commission published its draft rule determination on 19 November 2015 and called for further submissions. The second round for submissions closed on 14 January 2016. The Commission received 17 submissions, which are available on the AEMC website.

10 www.aemc.gov.au

These submissions informed the Commission's considerations in this final rule determination. Many of the issues raised by stakeholders are addressed in the relevant chapters of this final rule determination. Other issues are included in Appendix B.

## 1.6 The ATA and CUAC single meter model

The Alternative Technology Association (ATA) and Consumer Utilities Advocacy Centre (CUAC) made a submission to the consultation paper that identified a specific model (the single meter model) as an alternative metering configuration to that included in AEMO's proposed framework.

The single meter model could reduce the direct costs faced by customers wishing to engage a second FRMP for purchase of net energy produced by their embedded generation or battery storage, while retaining the other FRMP for general electricity consumption. In this regard, the potential benefits are limited to a smaller group of consumers than under AEMO's proposed framework.

The ATA and CUAC submission contained a high-level outline of the single meter model. It did not, however, provide a detailed description of the model or explain what NER or NERR amendments would be necessary for implementation, or provide an analysis of the likely costs and benefits of the model.

The Commission undertook some initial work on the single meter model prior to the draft rule determination being published, to better understand how the concept could operate. This initial work indicates that the single meter model has the potential to provide efficiency benefits for some particular small customers.

However, the Commissions initial analysis and several submissions to the draft rule determination indicated that the single meter model raises many similar issues, and potential implementation costs, as AEMO's proposed framework. The Commission considers that the single meter model is likely to have extensive and complex implementation issues, similar to AEMO's proposed framework. It may have greater benefits for some consumers but is likely to only benefit a narrower group of consumers that AEMO's proposed model. However, the Commission does not have sufficient information at this stage to assess whether the model is likely to promote the NEO and the NERO. It would, therefore, be more appropriate for any assessment of the single meter model to take place in a stand-alone rule change process.

If stakeholders consider there are potential net benefits associated with the single meter model as suggested by ATA and CUAC, or an alternative version of it, they may develop the concept into a rule change request to be submitted to the AEMC.

These issues are discussed in more detail in Appendix A

# 2 Final rule determination

The Commission's final rule determination is to not make a rule.

This chapter outlines:

- the Commission's rule making test for changes to the NER and NERR;
- the Commission's assessment framework for considering the rule change request; and
- the Commission's consideration of the proposed rule against the national electricity objective and national energy retail objective.

Further information on the legal requirements for making this final rule determination is set out in Appendix C.

## 2.1 Rule making test

The rule change request was submitted by AEMO under both the NEL and NERL. Accordingly, both the NEO and NERO are relevant to the Commission's decision.

Under the NEL, the Commission may only make a rule if it is satisfied that the rule will, or is likely to, contribute to the achievement of the NEO.

The NEO is:[11]

> "to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to:
>
> (a) price, quality, safety, reliability and security of supply of electricity; and
>
> (b) the reliability, safety and security of the national electricity system."

Under the NERL, the Commission may only make a rule if it is satisfied that the rule will, or is likely to, contribute to the achievement of the NERO.

The NERO is:[12]

> "to promote efficient investment in, and efficient operation and use of, energy services for the long term interests of consumers of energy with respect to price, quality, safety, reliability and security of supply of energy"

11 See s. 88(1) of the NEL.

12 See s. 236(1) of the NERL.

The NERL also requires the Commission to consider consumer protections, as follows:[13]

> "where relevant, the AEMC must satisfy itself that the Rule is compatible with the development and application of consumer protections for small customers, including (but not limited to) protections relating to hardship customers."

## 2.2 Assessment framework

In assessing the rule change request against the NEO and NERO, the Commission considered whether making a rule would:

- facilitate competition in the market for energy services by:
  - encouraging new and innovative energy services and empowering consumers to make more effective decisions regarding how they use energy; and
  - improving the flexibility and transparency of the regulatory framework.
- provide a proportional and efficient response to the issues identified by ensuring:
  - the proposal is compatible with the development and application of consumer protections; and
  - any benefits outweigh any implementation and operational costs.

### 2.2.1 Facilitate competition in the market for energy services

The Commission has assessed the rule change request in terms of whether it is likely to better facilitate competition, compared to existing arrangements. The Commission considers that the ability of customers to engage with multiple FRMPs could facilitate greater competition in retail markets and improved choice for customers through the delivery of new innovative energy services. These new services may provide additional operational and investment efficiencies, both for individual customers and for other parties along the supply chain. As such, the Commission considered whether the proposed framework may facilitate entry, or the potential entry, of new energy service providers. New entry, or the threat of new entry, can help maintain competitive pressure in retail markets, delivering more efficient outcomes for customers.

The rule change request has also been assessed in terms of whether it may facilitate the provision of new, specialised and innovative energy services valued by customers. The Commission has considered whether the proposed framework will better enable customers to engage with multiple FRMPs at a premises and thereby drive innovation and the delivery of new energy services.

13 See s. 236(2) of the NERL.

The Commission also considered whether the proposed framework would improve the flexibility and transparency of the regulatory framework. Flexible and transparent frameworks enhance the capacity of participants to make efficient investment, operational and usage decisions. This is particularly important given the rapidly expanding range of new energy technologies and new energy service models that are becoming available to consumers. Transparent frameworks give consumers the confidence to engage with these new energy services, allowing them to make informed choices about their energy consumption. Regulatory frameworks should not be cumbersome, overly complex, or difficult to comply with as this may impede entry of new energy service providers and innovation more generally.

### 2.2.2 Provide a proportional response to the issues identified

Changes to the NER and NERR may drive more efficient outcomes for consumers, however, there may also be associated operational and implementation costs. A rule that is complex to administer, is difficult for participants to understand, or results in unnecessary compliance requirements may not achieve its intended purpose. This could lead to an increased likelihood of higher costs imposed on consumers.

Any change to the NER or NERR must therefore be proportional to the issue that it is designed to address. The benefits of making the rule change should outweigh the costs to consumers, either direct or indirect, of making the rule change.

The Commission considered the extent of the issues identified by AEMO. This has been weighed against the complexity of changing the regulatory frameworks to enable the proposed framework, with a particular emphasis on the costs incurred by participants to amend their IT systems and operational processes to comply with these new regulatory frameworks.

The Commission also considered the likelihood of the proposed framework increasing the complexity of retail market arrangements for customers, including the kinds of costs and risks this may create. This included consideration of how hardship arrangements might be affected where multiple FRMPs are providing energy services at a single premises.

Additionally, the analysis considered whether the rule change request would be likely to impact the effectiveness of consumer protection frameworks. An appropriate consumer protection framework supports the function of competitive retail markets as they provide consumers with the confidence necessary to effectively engage with the market. They also promote efficient supply side decisions by clearly defining the roles and responsibilities of energy service providers

## 2.3 Summary of reasons

The Commission's decision is to not to make a rule. After considering the rule change request against the assessment criteria set out in section 2.2, the Commission is not satisfied that the proposed framework will, or is likely to, contribute to the

achievement of the NEO and the NERO. This decision is in line with the decision made in the draft rule determination. This section sets out a summary of the Commission's reasons. Further discussion is set out in Chapters 3 and 4.

### 2.3.1 The proposed framework is unlikely to facilitate competition in the market for energy services

As a general concept, the Commission considers that the ability of customers to engage with multiple FRMPs could facilitate greater competition in retail markets and improved choice for customers. An ability for customers to engage with multiple FRMPs at a premises may facilitate the entry of new energy services. These new services could drive more competitive outcomes in energy markets and better enable customers to participate in energy markets. These new services could also potentially support more efficient outcomes along the electricity supply chain.[14]

Customers can already engage with multiple FRMPs at a premises under the current NER, by establishing a second connection point. If a customer requests the establishment of a second connection point, this must be provided by the customer's DNSP. The rule change request was intended to better enable customers to engage with multiple FRMPs at a premises, by seeking to reduce the complexity and the direct costs by avoiding the need for a second connection point. AEMO considered that reducing these costs would more effectively support the entry of new energy services and better enable competition, relative to current arrangements.

Several submissions to the consultation paper stated that there is a lack of demand for these kinds of services as only a small number of customers currently have sought to engage with multiple FRMPs at a premises. Where customers do wish to engage with multiple FRMPs at a premises, stakeholders argued that current arrangements were sufficient to meet this limited demand, by allowing customers to establish a second connection point.[15] Some submissions to the draft rule determination again noted that demand for additional connection points remains small.[16]

Most submissions to both the consultation paper and the draft rule determination considered that the proposed framework was unlikely to facilitate greater competition in retail markets or to deliver more efficient outcomes along the electricity supply chain. Many stakeholders considered that the proposed framework was unlikely to facilitate the entry of new energy services.[17]

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14 These efficiency benefits along the supply chain include management of wholesale price peaks and network peak demand as well as the provision of ancillary services. They are discussed in more detail in section 3.3.1.

15 Consultation paper submissions: Energy Australia, p.3; ENA, p.3; CitiPower Powercor, p.2; SA Power Networks, p.1; NSW DNSPs, p.15.

16 Draft rule determination submissions: United Energy, p.1; Energy Australia, p.1.

17 Draft rule determination submissions: ERM Power, p.1; Vector, p.2; ENA, p.1. Consultation paper submissions: Metropolis, p.3; United Energy, p.4; Red and Lumo Energy, pp.1-2; AusNet Services, pp.3-4.

Some stakeholders suggested, more generally, that any new services that required customers to be able to engage with multiple FRMPs at a premises were unlikely to provide material benefits.[18]

One stakeholder noted that the proposed framework would enable two specific service models. The Commission, however, notes that current arrangements can already accommodate these services through the establishment of two connection points and that proposed framework would provide limited material benefits for consumers wishing to access these services.[19]

Implementation of the proposed framework may also introduce costs in order to support the frameworks' flexible approach to metering configurations. The proposed framework was designed to be flexible such that it could support a range of different metering configuration options at a premises. Stakeholders identified that each option would have different costs to support, and that supporting all options could lead to large overall costs.[20]

The Commission considers that the proposed framework is unlikely to facilitate greater competition in retail markets, relative to current arrangements, because:

- Current regulatory frameworks appear capable of enabling customers to engage with multiple FRMPs at a premises, by allowing for the installation of a second connection point.

- The proposed framework is unlikely to better enable the entry of new energy services that require customers to be able to engage with multiple FRMPs at a premises. Energeia's analysis of connection costs demonstrates that the proposed framework is unlikely to significantly reduce the direct costs for most consumers who want to engage with multiple FRMPs at a premises, compared to current arrangements.

- Many of the energy services potentially enabled by the proposed framework could be supported through other market reforms and alternative processes. Cost reflective network pricing, contestable metering or private, off market arrangements may be able to provide customers with some of the benefits that the proposed framework was intended to deliver. They may also provide some of the same efficiency benefits along the supply chain. The presence of these other reforms and processes may reduce the extent of the potential benefits associated with the proposed framework.

The Commission considers that the proposed framework is unlikely to provide significant benefits in terms of facilitating the entry of new energy services, improving regulatory flexibility and transparency and increasing competition in the retail electricity market.

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18 Draft rule determination submissions: Simply Energy, p.2; ERM Power, p.2. Consultation paper submissions: NSW DNSPs, pp.3-6.

19 Energy Consumers Australia, Draft rule determination submission, p.6.

The Commission's assessment of the limited benefits of the rule change request is set out in Chapter 3.

### 2.3.2 The proposed framework does not represent a proportionate response

A number of complex changes to the NER and NERR would be needed to implement the proposed framework. These would result in significant changes to IT systems and processes to comply with the new regulatory framework for DNSPs, retailers and metering businesses. These stakeholders also advised that they would incur significant ongoing operational costs to manage those customers that utilised the proposed framework to engage with multiple FRMPs.

The Commission considers that these costs associated with implementing the proposed framework are likely to outweigh any minor incremental benefits that it could provide. At least some of these implementation costs would flow through as higher prices borne by all customers, not just those customers who used the proposed framework to engage with multiple FRMPs. The Commission does not consider that the proposed framework represents a proportionate response to the issues identified by AEMO.

In general, the Commission does not consider that it is appropriate to implement regulatory arrangements where the benefits are received by a small group of consumers but significant costs are imposed on other consumers that do not benefit. The Commission's assessment of the costs of implementing the proposed framework is set out in Chapter 4.

***Risks to consumers***

Several consumer groups also noted that the proposed framework would increase the degree of complexity faced by customers. This may create a risk of negative outcomes, particularly for vulnerable customers.[21]

Increased complexity could create costs for consumers. Negotiating more complex retail market offerings imposes search and transaction costs on customers. Increasing the complexity of arrangements at a customer premises also creates customer protection risks, such as an increased risk of inadvertent disconnection of hardship customers or customers with life support equipment.

Noting these risks to customers, the Commission considers that implementation of the proposed framework would require extensive changes to the NERR to maintain adequate customer protections. As suggested by consumer groups, it may also be necessary to develop customer education and information programs, to reduce the risk of disadvantage for vulnerable customers.

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20 Consultation paper submissions: Energex, p.9; NSW DNSPs, p.8; AusNet Services, p.12; ENA, p.1.

21 Consultation paper submissions: Public Interest Advocacy Centre, p.3; Consumer Action Law Centre, pp.1-2.

## 2.4 Strategic priority

This rule change request relates to the AEMC's strategic priority of strengthening consumer participation and promoting competitive retail markets. The rule change request is intended to facilitate competition in retail markets by supporting the entry of new energy service providers. More competition could support the development of new and innovative energy services that customer's value. These new services may also help customers to actively participate in energy markets and make choices that best meet their needs.

# 3 Incremental benefits of the proposed framework

This chapter considers the extent to which the proposed framework may offer benefits compared to current arrangements. It examines the proposed framework to determine:

- the kinds of benefits that may be available;
- whether there are any incremental benefits from the proposed framework relative to the current arrangements; and
- the relevance of other developments and related rule changes, including metering contestability and cost reflective network pricing, to the incremental benefits provided by the proposed framework.

The Commission has assessed the rule change request by considering these incremental benefits against the risks and costs of implementing the proposed framework. These are described in more detail in Chapter 4.

## 3.1 The rule proponent's view

### 3.1.1 Customers' ability to engage with multiple FRMPs at a premises under current arrangements

The rule change request identified that the current NER and NERR frameworks are designed around the concepts of:[22]

- each customer load having a single physical connection point to the electricity network;
- each connection point being associated with:
  - one metering installation with its own NMI; and
  - one FRMP.

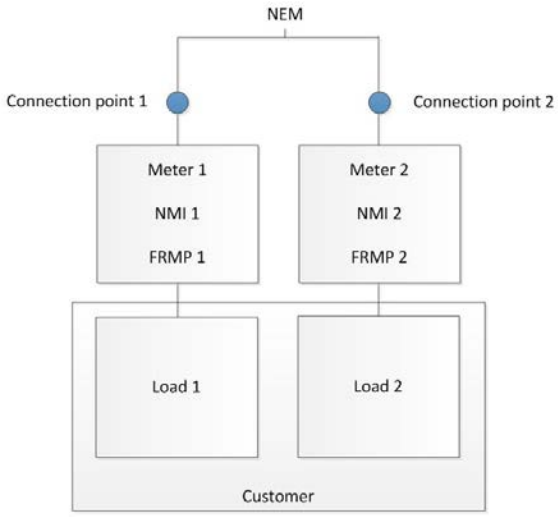
This means that under the current arrangements, there is a one-to-one relationship between the concepts of connection point, metering installation, NMI, and FRMP. This in turn means that most customers can engage with only one FRMP for the supply of energy services at their premises through a single connection point.

Given this relationship, the only way for a customer to engage with more than one FRMP at a premises is to establish a second connection point at that premises, illustrated in Figure 3.1. Here, the customer's total load is the aggregate of two loads, each with a separate connection point and associated meter installation, NMI and FRMP.

22 AEMO, rule change request, p.2.

The rule change request stated, however, that establishing a second connection point may be complex, costly and time consuming for customers and market participants. It considered that establishing a second point may be viable only for larger customers, who may obtain larger benefits from the second connection.[23] It also stated that there may be some degree of uncertainty as to how such multi connection point arrangements would operate in practice. For example, the current NER does not describe the roles and responsibilities of a FRMP at a second or subsequent connection point at a premises, nor for the existing FRMP or for the LNSP.[24] This may suggest that the roles and responsibilities set out in relation to the first connection point also apply to each subsequent connection point made.

**Figure 3.1 How customers can engage with multiple FRMPs under current arrangements.**




The rule change request argued that the cost and complexity of establishing a second connection point may create barriers to new FRMPs and third parties seeking to provide new and innovative energy services to small customers.

### 3.1.2 Potential benefits associated with better enabling customers to engage with multiple FRMPs at a premises

The proposed framework was expected to expand the range of potential metering configurations that could be used by customers who wanted to engage with multiple FRMPs at a premises. It also anticipated that the proposed framework would reduce the costs for customers to establish these different metering configurations. By doing so, it argued that the proposed framework could enable new retailers and other energy service providers to enter the market and provide new services.[25]

23 AEMO, rule change request, p.7.

24 ibid.

25 AEMO, rule change request, p.7.

In particular, the rule change request suggested that the proposed framework could enable new and innovative products for smaller customers including:

- bundling of appliance financing with the energy supply to that appliance;
- bundling the financing of small embedded generators with the purchase of the export from the generator; and
- provision of energy management and load control of appliances and equipment.

### 3.1.3 Implications of current market developments

The rule change request also identified that various market reforms would be relevant to the consideration of its rule change request, including the following:[26]

- Changes arising from the expanding competition in metering and related services rule change (the competition in metering rule change) could better enable customers to engage with multiple FRMPs at a premises. The rule change request suggested that the metering coordinator (a new role created under that rule change) could offer such solutions as a service, based on the customer's configuration and metering arrangements. The metering coordinator could also minimise participant adaptation costs by taking on the role of managing data streams.
- Subtractive metering arrangements could be implemented by making use of the embedded networks framework, although without the need for an embedded network manager (a new role created under that rule change). The rule change request suggested this could lead to savings in system requirements.[27]

## 3.2 Stakeholder views

A number of stakeholders made submissions to the draft rule determination and consultation paper. While some stakeholders considered the proposed framework may provide benefits to customers, the majority considered that these benefits were not significant, or were not sufficient to warrant the costs of implementation. These costs of implementation are examined in Chapter 4.

Stakeholder comments broadly fell into the following key areas:

- the benefits associated with the proposed framework;
- the ability of customers to engage with multiple FRMPs at a premises under current arrangements; and

26 ibid, p.9.

27 AEMO did not identify to whom these savings would accrue.

- how ongoing market developments may be relevant to the proposed framework, including other aspects of the Power of Choice package of reforms.

### 3.2.1 Benefits associated with the proposed framework

The majority of stakeholders considered that there was no clear benefit associated with the proposed framework. Stakeholders considered that the proposed framework:

- offers no clear value proposition for customers;[28]
- does not present a sufficient business case to warrant further work;[29]
- adds to the complexities of the current priority reform projects;[30]
- ignores the possibilities presented by technological advances in metering;[31] and
- would be inaccessible to the broader market and likely to benefit only a small subset of customers.[32]

There were two submissions that were supportive of changes to better enable MTR. One submission to the consultation paper supported the proposed framework. EnerNOC stated that it "will result in more vigorous competition around new products, services and customised retail offerings".[33] Energy Consumers Australia viewed that multiple trading relationships is essential for two new services (charging for electric vehicles, and small generation aggregation). It recommended that the AEMC 'move to make a "more preferable rule" to incorporate the needs of delivering the single meter model and facilitate second connections.'[34]

Several stakeholders did see value in the general concept of better enabling customers to engage with multiple FRMPs at a premises. Metropolis stated that it supported this concept in general terms and that "new developments in technologies and service models mean that the value of MTR may be increasing".[35] Similarly, AGL noted that they support "the ability of customers to contract and trade with multiple parties" and that the benefits of enabling customers to engage with multiple FRMPs "are increased as more solutions, such as energy storage, are available to small users".[36]

PIAC observed that enabling customers to engage with multiple FRMPs at a premises could "foster competition in the retail market and the delivery of alternative and

28 United Energy, Consultation paper submission, p. 6.

29 Metropolis, Consultation paper submission, p. 2.

30 Vector, Consultation paper submission, p.1.

31 AGL, Consultation paper submission, p.1.

32 Consultation paper submissions: CALC, pp.1-2; PIAC, p. 4; ATA and CUAC, p.6.

33 EnerNOC, Consultation paper submission, p. 1.

34 Energy Consumers Australia, Draft rule determination submission, p.9.

35 Metropolis, Consultation paper submission, p.2.

36 AGL, Consultation paper submission, pp. 2-4.

innovative products for consumers".[37] ESAA noted that "the advent of new technologies and business models is setting the stage for evolution in the retail electricity market" and that "MTR could form part of this evolution".[38]

ERM Power noted, however, that while 'competition is recognised as promoting the long term interests of consumers, because it can place downward pressure on prices, improve service quality and drive greater choice' that 'this does not mean that measures to increase competition are justified at any cost.'[39]

Energex took a longer term view of the potential benefits of enabling customers to engage with multiple FRMPs at a premises. It stated that "given the accelerating pace of technological change it is possible that extensive and costly system and process changes designed to implement MTR now may not be relevant in 5-10 years time and that future new technologies may require something different".[40]

Some stakeholders argued that in some limited circumstances, the proposed framework could potentially reduce the costs faced by customers, as they would not have to install a second connection point on the premises, or install an additional meter.[41] However, other stakeholders agreed with Energeia's findings (see section 3.3.2) that the overall nominal establishment cost difference between the proposed framework and the installation of a second connection point would be minimal.[42]

***Complexity and lack of customer demand***

Stakeholders generally considered that while a small subset of active and engaged customers may be interested in transacting with multiple FRMPs at a premises, the broader market was not ready for or demanding these kinds of more complex retail arrangements. United Energy suggested that this lack of readiness was evidenced by the low levels of uptake of other more complex arrangements already available, such as time-of-use tariffs.[43]

Most consumer groups also considered that the proposed framework would likely only interest a small subset of advanced customers and not provide a net benefit to most small electricity users, especially low-income or vulnerable customers.[44]

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37 PIAC, Consultation paper submission, p.2.

38 ESAA, Consultation paper submission, p.1.

39 ERM, Draft rule determination submission, p.1.

40 Energex, Consultation paper submission, p.1.

41 Metropolis, Consultation paper submission, p .3

42 Draft rule determination submissions: Simply Energy, p.2; NSW DNSPs, p.1; Energy Australia, p.1; Consultation paper submissions: NSW DNSPs, p. 15; AGL, p. 6; Origin, p. 4.

43 United Energy, Consultation paper submission, pp.1-2. United Energy, Draft rule change submission, p.1.

44 SACOSS, Draft rule change submission, p.1. Consultation paper submissions: CALC, p.1; PIAC, p.4; ATA and CUAC, p.6.

Stakeholders also stated that the introduction of more complex retail arrangements under the proposed framework could cause confusion for customers which could lead to increased billing, faults or servicing.[45] CitiPower Powercor noted that increased complexity could make it more difficult for small customers to compare retailer offerings.[46]

***Scope of services enabled by MTR***

Stakeholders in both rounds of consultation broadly agreed with the KPMG analysis that the ability of a customer to engage with multiple FRMPs at a premises was not critical to enable most of the identified new services.[47] ERM Power considered that 'the majority of the services described as MTR-dependent can be delivered under existing arrangements.'[48]The Competitive Energy Association stated that 'the range of services discussed in the rule change proposal can be implemented without the need to introduce MTR.'[49] Lumo and Red Energy noted that most of the services KPMG identified 'can be provided for with an advanced metering capability' and that 'multiple trading relationships is not required for these energy services".[50] The NSW DNSPs 'reviewed the services identified by KPMG and consider[ed] the potential benefits [to be] more marginal than suggested by the report'.[51]

There were mixed views as to whether the services identified by KPMG represented a complete list of services that could be enabled, or better enabled, by allowing customers to engage with multiple FRMPs at a premises. AusNet Services considered that the list was a "comprehensive listing of every new service".[52] Other stakeholders commented that there may be other services potentially enabled by allowing customers to engage with multiple FRMPs at a premises. ATA and CUAC considered the KPMG list to be incomplete, noting that there are a number of community energy models that could be enabled by allowing customers to engage with multiple FRMPs at a premises, beyond what was noted in the consultation paper.[53]

Energy Consumers Australia, however, considered that the value of specific energy products for separate appliances is under-estimated in the KPMG report. It noted that two services identified by KPMG require multiple trading relationships to function: charging of electric vehicles; and small generation aggregation.[54] KPMG's analysis

45 Consultation paper submission, Vector, p.4; United Energy, p.2; NSW DNSPs, p.17.

46 CitiPower Powercor, Consultation paper submission, p.5.

47 KPMG were engaged by the Commission to provide advice on the range of new energy services potentially enabled by multiple trading relationships. This report is discussed in more detail in section 3.3.1 and is available on the AEMC's website.

48 ERM Power, Draft rule change submission, p. 1.

49 Competitive Energy Association, Draft rule change submission, p. 1.

50 Consultation paper submissions: Lumo and Red Energy, Consultation paper submission, p.2.

51 NSW DNSPs, Consultation paper submission, p.3.

52 AusNet Services, Consultation paper submission, p.3.

53 ATA and CUAC, Consultation paper submission, p. 5.

54 Energy Consumers Australia, Draft rule change submission, pp. 2-6.

however, did not specify any particular model of MTR to enable these services. All of the services identified by KPMG can be enabled under current arrangements through a second connection point. These issues are discussed further in section 3.3.1.

### 3.2.2 Ability of customers to engage with multiple FRMPs under current arrangements

*Establishing a second connection point*

Many stakeholders noted that customers can already engage with multiple FRMPs at a premises under the current NER by establishing a second connection point. Some also noted, however, that uptake of these arrangements is relatively low, and that the existing regulatory framework for households with multiple connection points is not clear.[55]

Stakeholders advised that supporting these kinds of arrangements requires the manual, case-by-case, adaptation of IT systems and operational processes. ERM Power noted 'that the current regulatory arrangements do not provide specific obligations where there are multiple retailers servicing one customer' but do 'provide sufficient guidance to enable retailers to extrapolate an appropriate approach.'[56] United Energy and ERM Power suggested that these kinds of ad-hoc manual adaptations of systems were costly and would not be suitable to support large scale uptake by customers of arrangements where they engage with multiple FRMPs at a premises.[57]

ERM Power noted that the costs and risks of establishing multiple connection points are 'mitigated by the fact that the customers who currently seek these arrangements are either large customers, or highly engaged smaller customers, who are not dependent on the customer protection regime to the same extent as more vulnerable customers'.[58]

Some stakeholders suggested that customers would see little benefit from adding a second connection point to allow them to engage with another FRMP at a premises. Simply Energy, Vector and the ENA noted that a second connection point is expected to incur similar establishment costs to a second settlement point under the proposed framework.[59] Energex observed that while large customers were the only customers who could potentially see benefits of setting up a second connection point, it had found that large customers in its distribution area were in fact consolidating connection points to obtain savings through bulk energy purchases at a lower unit cost.[60]

55 Consultation paper submissions: AusNet Services, p.2; ERM, p. 8; CitiPower Powercor, p. 2; SA Power Networks, p. 1; Energex, p. 7; NSW DNSPs, p. 15.

56 ERM Power, Draft rule change submission, p. 8.

57 Consultation paper submissions: ERM Power, p.8; United Energy, p.3.

58 ERM Power, Consultation paper submission, p. 8.

59 Draft rule change submissions: Simply Energy, p.2; Vector, p.2; ENA, p.1.

60 Energex, Consultation paper submission, p.7.

*DUOS charging for a second connection*

A customer who has engaged with two FRMPs by establishing second connection point would incur two fixed DUOS charges; one levied on each connection point. DNSPs argued that this is a fair reflection of the costs that the DNSP incurs to support the additional connection.[61] In their view, each separate connection point should be charged a separate DUOS charge as this second connection point reflects:

- an assumed capacity increase on the network;
- an additional retailer relationship for DNSPs to manage; and
- additional regulated obligations for connections, disconnections, life support equipment registration, service calls, and maintenance.

Energy Consumers Australia considered that charging DUOS twice for the same premises is 'a straight-forward misapplication of the pricing principles.'[62]It considered that if current arrangements were to be maintained, then DNSPs would need 'to consider the approach to tariffs for second connections as part of their future Tariff Structure Statements. It may be desirable to make a specific rule change to ensure that customers choosing a second connection are not charged second fixed charges and to enable aggregation of data.'[63]

### 3.2.3 Ongoing market developments

#### *Power of Choice reforms*

Many stakeholders considered that the ongoing Power of Choice reforms would be likely to provide similar benefits to those of MTR, in particular the competition in metering rule change, and cost reflective distribution network pricing. They argued that these changes would provide a more efficient and more effective means to allow customers to manage their energy usage and access emerging energy services.[64]

AEMO noted, however, that there is no guarantee that the competition in metering and cost reflective distribution network pricing rule changes will provide similar benefits to customers that the proposed framework could deliver. It suggested that in the future, if the other Power of Choice reforms fail to capture the benefits that the proposed framework was designed to capture, there may be a case to revisit the issue.[65]

Several submissions in both consultation rounds argued that the ongoing Power of Choice market reforms, including competition in metering, shared market protocol,

61 Consultation paper submissions: NSW DNSPs, pp.12-13; ENA, p.6.

62 Energy Consumers Australia, Draft rule change submission, p.7.

63 ibid.

64 Draft rule determination submissions: NSW DNSPs, p.1; Energex, p.1; Vector, p.2; United Energy, p.1; Origin, p.1.

65 AEMO, Draft rule change submission, p. 3

embedded networks and the demand response mechanism rule changes should be a higher priority for implementation than the proposed framework.[66] NSW DNSPs indicated their support for 'the prioritisation of other Power of Choice reforms and consider [that] MTR would unnecessarily complicate the market for customers and participants.'[67] ENA stated that the other Power of Choice reforms should be settled first as these would foster a market environment more conducive to multiple trading relationships. They stated that progressing the other reforms first would 'make responsibilities, accountabilities and penalties clear, which will result in greater safety and security for the customer obtaining services from multiple parties'.[68]

Some stakeholders considered that the ongoing Power of Choice market reforms will create uncertainty regarding market outcomes. It was suggested that introducing further complexity, in the form of implementing the proposed framework, creates a risk of unintended interactions with these other reforms already in progress.[69] Origin noted that 'until experience is gained as to which services best meet customer needs, the value of implementing a MTR framework in addition to the investment required for other [Power of Choice] reforms is questionable.'[70]

***Competition in metering***

Stakeholders identified that the competition in metering and related services rule change may enable customers to engage with multiple FRMPs in more cost-effective ways than the proposed framework.[71] For instance, the ESAA suggested that individual metering coordinators may be able to tailor specific solutions for customers to enable them to engage with multiple FRMPs. It argued that this would be cheaper than implementing the proposed framework, which would require all participants to adapt their systems and would therefore impose costs on the whole industry.[72]

However, other stakeholders suggested that the competition in metering rule change could cause an additional level of complexity that would make it harder for customers to engage with multiple FRMPs at a premises. Stakeholders identified potential problems associated with the presence of multiple metering coordinators, (or multiple metering providers and metering data providers) at a single premises.[73] AusNet Services raised concerns that there may be scenarios in which the FRMP that appoints

66 Draft rule determination submissions: NSW DNSPs, p.1; Vector, p.2; ENA, p.1; Energy Australia, pp.1-4. Consultation paper submissions: ERAA, p. 2; Origin, p. 4; ENA, p. 6; Energex, p. 4.

67 NSW DNSPs, Draft rule change submission, p. 1

68 ENA, Consultation paper submission, p. 6.

69 NSW DNSPs, Draft rule determination, p.1. Consultation paper submissions: PIAC, p. 2; AusNet Services, p. 12; United Energy, p.1.

70 Origin, Draft rule determination submission, p. 3.

71 Draft rule determination submissions: NSW DNSPs, p.1; Energex, p.1; Vector, p.2; United Energy, p.1; Origin, p.1. ATA CUAC, Consultation paper submission, p. 4.

72 ESAA, Consultation paper submission, p. 3.

73 Consultation paper submissions: Energex, p. 11; Energy Australia, p. 2; NSW DNSPs, p.18.

the metering coordinator may seek to leverage that relationship and prevent, or make it difficult for, the customer to engage with other FRMPs.[74]

*Cost reflective pricing*

Many stakeholders identified that cost reflective pricing may help achieve benefits for customers that are similar to MTR.[75] AEMO's submission noted that cost reflective network pricing reforms 'could also contribute with innovative tariff arrangements' and that 'if these opportunities are taken up it could be argued that the need for MTR to enable competition and unbundling of services may be reduced.'[76]

United Energy suggested that customers could access similar benefits to those possible by engaging with multiple FRMPs through demand response facilitated by direct load control.[77] United Energy also highlighted that reforms such as cost reflective network tariffs and smart meters would allow customers to use energy more effectively, delivering some of the efficiency benefits along the supply chain that might otherwise be provided by enabling customers to engage with multiple FRMPs at a premises.[78]

*Embedded networks*

United Energy suggested that the embedded networks framework could be used to enable customers to engage with multiple FRMPs at a premises.[79] United Energy suggested that off-market arrangements are typically sufficient for energy service bundling type arrangements. However, if interaction with the wholesale market was deemed valuable, United Energy suggested that 'these arrangements could be turned into an embedded network with the generator being a child NMI without the need for creating the complexity of settlement point/connection point management'.[80]

ENA also suggested that the embedded networks framework could be used 'to allow an on market arrangement for customers...ENA has noted that there may be some viable alternative options to meet similar objectives of innovative services to customers from the metering contestability and the embedded network changes'.[81]

The Commission does not consider that the framework developed in the embedded networks final rule determination can be used to enable customers to engage with multiple FRMPs at a premises. This is discussed in further detail in section 3.4.3.

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74 AusNet Services, Consultation paper submission, p. 13.

75 Draft rule determination submissions: AEMO, p.3; NSW DNSPs, p.1; Energex, p.1; Vector, p.2; United Energy, p.1; Origin, pp.1,3.

76 AEMO, Draft rule determination submission, p. 3.

77 United Energy, Consultation paper submission, p.2.

78 ibid.

79 A new framework for the operation of embedded networks has been developed by the AEMC as part of the Embedded Networks rule change, available at www.aemc.gov.au.

80 United Energy, Consultation paper submission, p.7.

*Off-market arrangements*

Some stakeholders identified that customers can access other services that might provide similar benefits to engaging with multiple FRMPs at a premises. United Energy, Origin and ENA highlighted that the growing number of exempted parties utilising the AER's exempt seller framework provides evidence that off-market solutions can provide most of the solutions customers are seeking.[82]

Origin consider that it is 'better for the market to develop through competition between participants and new entrant third parties, including the provision of services on the customer side of the meter that are not 'on market', rather than develop a new framework where there is little evidence that large numbers of customers are seeking the services it supports.' They also note that 'market participants, customers and third parties are free to agree on a range of on and off-market arrangements that will support the same types of benefits that could be realised through the MTR framework.'[83]

## 3.3 Other relevant considerations

The Commission engaged two consultants to provide expert advice to inform the consultation paper. These reports were:

- KPMG - an assessment of the new energy services enabled by MTR; and
- Energeia - advice on establishing a second connection point.

### 3.3.1 KPMG: New energy services

KPMG was engaged to explore the range of services that may be facilitated by enabling a customer to engage with multiple FRMPs at a premises, considering developments in international markets and in energy technologies.[84] KPMG's focus was solely on how these services were affected by the ability of customers to engage with multiple FRMPs at a premises. As such, KPMG did not consider whether this was enabled through current arrangements, by establishing a second connection point, or through the proposed framework, by establishing multiple settlement points.

As such, KPMG's analysis was not based on any specific regulatory framework for MTR. KPMG identified nine energy services that could theoretically be facilitated, or better enabled, if a customer was able to engage with multiple FRMPs at a premises. All of the services identified through KPMG's analysis could be enabled through the current regulatory framework, via the establishment of a second connection point.

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81 ENA, Consultation paper submission, p.14.

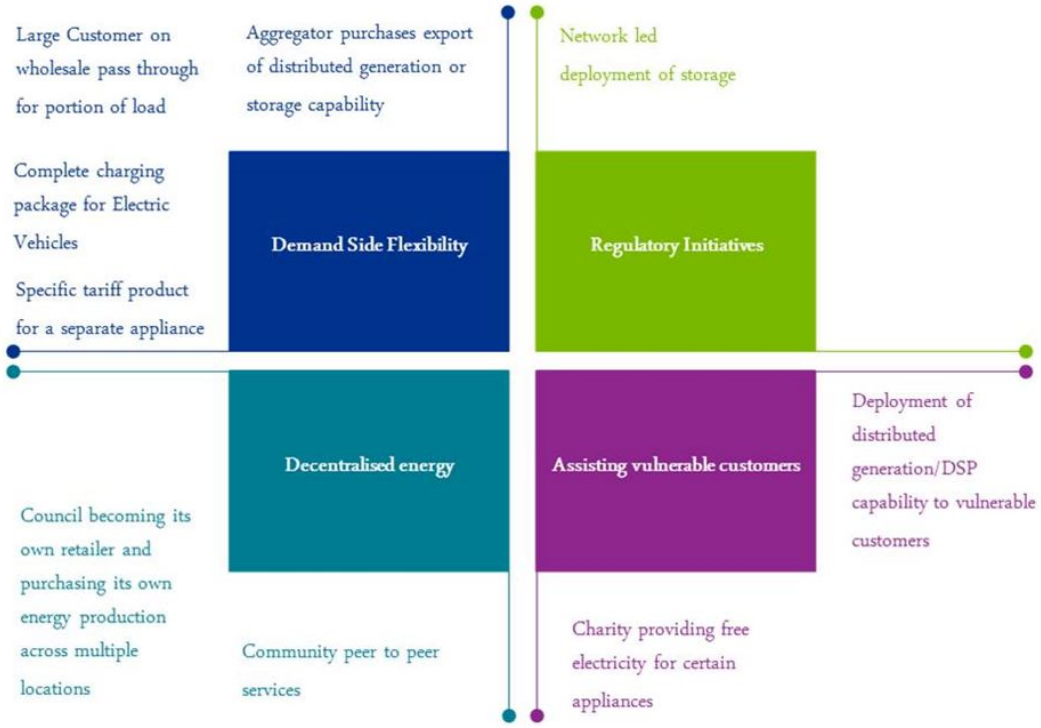
82 Draft rule determination submissions: United Energy, p. 1; Origin, p.3. Consultation paper submissions: United Energy, p. 4; ENA, p. 15.

83 Origin, Draft rule determination submission, p. 3.

84 KPMG, New Energy Services and Multiple Trading Relationships, July 2015. Available at www.aemc.gov.au.

These services were grouped into the categories of decentralised energy, demand side flexibility, regulatory initiatives and assisting vulnerable customers. The energy service models identified were those that KPMG considered might theoretically emerge given current trends in international energy markets and developments in technology. They were not intended to be an exhaustive list of all potential new energy services. Figure 3.2 illustrates these new energy services, broken into four key categories of demand side flexibility, regulatory initiatives, assisting vulnerable customers and decentralised energy.

**Figure 3.2 Potential new energy services**




KPMG identified that the ability for customers to engage with multiple FRMPs at a premises may only be a pre-requisite to enabling two of these nine services. These services could only be effectively provided if a second FRMP was able engage directly with the customer. For example, the service model where an aggregator purchases energy from a customer (top left corner of Figure 3.2) would only be effective if the aggregator was capable of engaging directly with the small customer at the premises, separately from the existing retailer.[85] Similarly, the complete charging package for electric vehicles (top left corner of Figure 3.2) would require the service provider to be capable of engaging directly with a customer as a FRMP at a premises.[86]

85 The Commission understands that currently, market small generation aggregator (SGA) service models are limited to the large customer segment of the market, as these customers may find it economical to establish a second connection point for the purposes of selling embedded generator output. See: KPMG, New Energy Services and Multiple Trading Relationships, July 2015, p.3.

86 ibid, p.3.

For the remaining seven services, KPMG considered that the ability for a customer to engage with multiple FRMPs at a premises was not a pre-requisite condition. However, for many of these services, this ability could facilitate more efficient outcomes by helping customers to more effectively capture the relevant potential value. For example, by allowing a customer to unbundle demand side response (such as engaging with a separate retailer for a load controlled appliance) from its energy consumption, the ability to engage with multiple FRMPs might support a wider range of potential service providers, improving choice and helping the customer to negotiate a better price for its demand response.[87]

KPMG was also asked to consider whether any of these new energy service models were sensitive to, or reliant upon, a particular metering configuration. While KPMG identified that different metering configurations may have cost implications for customers or participants, none of the identified energy services were found to have a reliance on any specific metering configuration.[88]

KPMG also considered the extent to which these services might create and capture value along the energy supply chain. Of the nine new energy services identified, KPMG found that most provided only limited opportunity to capture value along the supply chain.[89]

Finally, KPMG's analysis also identified that a number of other factors were likely to be relevant to the development of the different new services. These other factors included: changes to regulatory frameworks, such as the NERR and ring fencing arrangements; the existence of government subsidies; a reliance on early adopters for initial uptake; and services to enable customer participation.

A key outcome of KPMG's analysis was that while enabling customers to engage with multiple FRMPs at a premises might theoretically support the entry of new services and deliver some efficiency benefits, this was limited in extent and also dependent on other factors.

### 3.3.2 Energeia: Advice on establishing a second connection point

Energeia was engaged to provide advice regarding the costs and timeframes for customers to establish a second connection point. Each of the distribution network areas of the NEM were considered to identify the costs that may be incurred to establish a second connection point. Information was gathered directly from DNSPs, retailers and electricians.[90]

87 ibid, p.4.

88 ibid, p.23.

89 ibid, p.26.

90 Energeia, Advice on establishing a second connection point, July 2015. Available at www.aemc.gov.au.

Energeia identified a range of potential costs that would be incurred by a small customer seeking to establish a second connection point under the current rules.[91]

Energeia's analysis suggested that in most cases, a small customer would face similar or identical direct costs to engage with multiple FRMPs at its premises under either current arrangements, by establishing a second connection point, or under the proposed framework, by establishing multiple settlement points. This reflects the fact that under either approach, a new meter would need to be installed, DNSP charges would be incurred and an electrician would need to be engaged to prepare the switchboard. Any additional costs would depend on specific circumstances, such as those associated with upgrading service mains or replacing switchboards, and could be incurred under either current arrangements or the proposed framework, depending on the specific circumstances at the customer's premises.[92]

Energeia's analysis indicated that the proposed framework could reduce some of the direct costs faced by certain small customers. This may only occur in specific circumstances, such as where a customer wanted to separately meter a load located some distance from the switchboard and metering installation, such as an electric vehicle or a pool pump. Energeia identified that:[93]

- Under current arrangements, it could be necessary to install new wiring between the new meter at the switchboard and the relevant load so that the load remains electrically isolated. According to Energeia's analysis, this additional wiring could cost a customer $2,000.[94]

- Under the proposed framework, a subtractive metering approach could potentially allow for a new meter to be installed "downstream" of the main metering installation and switchboard, avoiding the need to install additional wiring at the premises.

A key outcome of Energeia's analysis was that while the proposed framework might reduce direct costs for customers who wanted to take up very specific energy services,

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91 Energeia identified that the costs of establishing a second connection point ranged from $366 to $1,437, excluding costs associated with changing in premises wiring and assuming that the switchboard was in good working condition. This is in contrast to earlier price ranges identified by Betterplace in a submission to the AEMC's review of energy market arrangements for electric and natural gas vehicles, which suggested the costs associated with establishing a new meter and NMI would range from $1000 to $8000. See: Betterplace, Energy Market Arrangements for Electric Vehicles review, Approach paper submission, p.12.

92 Installation of larger appliances may require an upgrade of the service mains that connect a premises to the distribution network. These costs are dependent on the size of any new appliance being installed and could therefore apply under either current arrangements or under the proposed framework.

93 ibid, p.4.

94 This additional wiring may not be needed if the load was already supported by an electrically isolated circuit. For example, large appliances such as air conditioners or hot water systems are frequently installed on their own designated circuits. In these circumstances, if such appliances were to be separately metered, a new meter could be installed at the switchboard without the need for additional wiring to maintain electrical isolation.

these benefits were only likely to apply to a very small subset of customers. However, as discussed in Chapter 4, the costs for market participants to adapt their systems to implement the proposed framework are likely to be significant. At least some of these costs would be passed on to all customers as increased retail electricity prices.

## 3.4 Analysis

The Commission considered the potential incremental benefits of implementing the proposed framework relative to the current regulatory arrangements. This section sets out the Commission's assessment of:

- the potential efficiency benefits associated with allowing customers to engage with multiple FRMPs at a premises;
- the extent to which the proposed framework provides additional efficiency benefits, relative to the current framework; and
- whether ongoing market reforms are relevant to the extent of incremental benefits provided by the proposed framework.

### 3.4.1 Potential efficiency benefits associated with enabling a customer to engage with multiple FRMPs at a premises

The Commission considers that, in general, the ability of a customer to engage with multiple FRMPs at a premises may have the potential to provide some benefits.

Enabling customers to engage with multiple FRMPs at a premises could facilitate the entry of new energy services, enhancing competition in retail markets, improving customer choice, and enhancing their capacity to manage their electricity usage. For example, customers could engage with a specialised retailer for the provision of energy for specific appliances, or with a small generation aggregator that would buy energy from the customer's embedded generation and battery storage units. Entry of these new services to the market could facilitate more competitive outcomes and enable customers to capture the value of their demand response. This may support more efficient operational and investment decisions in retail markets and more efficient decisions on consumption for customers.

These new energy services could also support more efficient outcomes along the electricity supply chain. KPMG found that these new energy services could provide efficiency benefits by:[95]

- addressing wholesale price peaks through reducing consumption or exporting stored energy at peak times;
- avoiding network outages and deferring the need for transmission or distribution network augmentation; and

95 KPMG, New Energy Services and Multiple Trading Relationships, July 2015, p.25.

- providing network and power system stability, through provision of network support and frequency control ancillary services.

The NER already enables a customer to engage with multiple FRMPs at a premises, by installing a second connection point. The kinds of efficiency benefits identified above are therefore potentially achievable under current arrangements. The Commission has therefore considered whether the proposed framework would be more effective at enabling customers to engage with multiple FRMPs at a premises, compared to current arrangements and what kind of efficiency benefits this may support. The extent of these potential benefits are discussed below.

### 3.4.2 Incremental benefits of the proposed framework, relative to the current arrangements

The extent to which the proposed framework is likely to result in efficiency benefits relative to current arrangements is influenced by:

- the extent to which current arrangements enable customers to engage with multiple FRMPs at a premises, where customers perceive a benefit in doing so;
- what services can be provided to customers through off-market arrangements; and
- whether the proposed framework can reduce direct costs for customers.

***Establishing a second connection point***

Customers can engage with multiple FRMPs at a premises under the existing NER frameworks, by installing a second connection point.

Stakeholders in both rounds of consultation advised that establishing a second connection point is available for customers who see value in it, but is not commonplace.[96] Stakeholders noted that MTR supported through a second connection point is sometimes sought by residential customers for supply to a dual occupancy arrangement, or from agricultural and commercial customers establishing separate connections for specific equipment.

In its rule change request, AEMO stated that the existing retail regulatory frameworks do not provide clear guidance regarding the roles and responsibilities of FRMPs active at a premises with multiple connection points.[97]

While several stakeholders indicated that the current regulatory frameworks do not present significant barriers to the entry of new energy service, EnerNOC and Energy Consumers Australia did not agree with this position. EnerNOC suggested that existing arrangements may not support specific metering configurations or may add to

96 United Energy, Consultation paper submission, p.2.

97 AEMO, rule change request, p.7.

the cost of delivering specific services.[98] Energy Consumers Australia considered that current arrangements are insufficient to support the entry of new energy services, pointing to potential duplicate network charges, and that the wide spread use of multiple connections may require rule and system changes.[99] It recommended that the Commission pursue a more preferable rule to clarify these arrangements.[100]

The existing regulatory frameworks established in the NERL and NERR are based around the concept of a triangular contractual relationship between the customer, DNSP and a single retailer at a premises. As such, the NERL and NERR do not explicitly address the roles and responsibilities of parties where a customer has engaged with multiple retailers at a single premises. This includes the obligations or rights of DNSPs in regards to each retailer active at the premises, or how those retailers should interact with each other and the customer.

In the absence of addressing this overlap, the default position is that there may be some duplication in retailer and DNSP roles to ensure that consumer protections are not compromised.

However, clarifying the roles and responsibilities of parties would likely require changes to both the NERL and the NERR. These changes cannot be addressed solely through changes to the NERR as part of this rule change process. This does not prevent future consideration of such changes. The Commission also notes that the COAG Energy Council is currently undertaking work on the regulatory implications of new products in the electricity market and whether NERL and NERR changes are needed to respond to these new products and services. It may be appropriate to consider the issue of multiple retailers at a single premises as part of the COAG Energy Council's work.[101]

Given that very few customers have taken up dual connection point arrangements and that market participants have indicated the NERL and NERR provide sufficient guidance to enable case by case solutions, the lack of specificity identified by AEMO does not appear to be a barrier to MTR at present. ERM Power suggested that the lack of specification in the NERR regarding these relationships is not problematic. It stated that while 'the current regulatory arrangements do not provide specific obligations where there are multiple retailers servicing one customer', it does 'provide sufficient guidance to enable retailers to extrapolate an appropriate approach.'[102]

However, the Commission also notes comments from stakeholders that this situation is non-problematic mainly because relatively few customers currently want to engage with multiple retailers at a premises by establishing a second connection point. ERM

98 EnerNOC, Consultation paper submission, pp. 1-2.

99 Energy Consumers Australia, Draft rule determination submission, p.7. The issue of duplicated network charges in discussed in section 3.4.3.

100 ibid.

101 Energy Working Group, New Products and Services in the Electricity Market - Advice to the COAG Energy Council, July 2015. Available at www.scer.gov.au.

102 ERM Power, Consultation paper submission, p. 8.

Power also suggested that case by case solutions may not remain efficient if increasing numbers of customers sought to engage with multiple retailers by installing a second connection point.[103]

If greater use of multiple connection points were to arise in future, it would become beneficial for participants to find more efficient management solutions than are currently employed. It is not appropriate, however, for the NER to specify how participants should design their internal IT systems to most efficiently meet their current obligations to allow customers to have two connection points.

***Off market arrangements***

New energy services can also be delivered through private, off-market solutions offered by service providers who are not FRMPs (therefore avoiding the need for two FRMPs at a premises). Such arrangements could include an energy service provider partnering with a retailer to offer a customer a specific service, or through the AER's exempt seller regime.[104] The benefits provided by such off market arrangements may be similar to those potentially provided by arrangements where the customer engages with multiple FRMPs.

Energy service providers may also utilise the AER's exempt seller regime to offer new energy services without becoming a FRMP and an authorised retailer. As highlighted by various stakeholders, this may support the entry of new energy service providers, providing customers with similar benefits to engaging with multiple FRMPs. This may also enable similar efficiency benefits along the supply chain.[105]

The Commission considers that private, off-market arrangements are capable of delivering similar services and value to customers as those otherwise provided by engaging with multiple FRMPs. Given these factors, the proposed framework is unlikely to materially enhance the ability of businesses to meet customer demand for new energy services.

***The extent of direct cost savings from the proposed framework***

The Commission considers that the proposed framework is unlikely to deliver significant direct cost savings to customers seeking to engage with multiple FRMPs at a premises. In most cases, it appears that the metering and related costs required to engage with multiple FRMPs at a premises are similar between current arrangements and the proposed framework.

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103 ibid.

104 Both types of arrangements are currently being offered to customers in different NEM jurisdictions. For instance, Reposit Power currently partners with a retailers to deliver FCAS network support services using household battery systems. Other 'behind-the-meter' services operate in the market, and are authorised under the AER's exempt seller regime. For more information, see https://www.aer.gov.au/retail-markets/retail-exemptions

105 Consultation paper submissions: ENA, p.14; United Energy, pp.1-4; Origin Energy, p.1.

These direct costs are related to DNSP charges and the costs of establishing additional metering installations. Energeia identified that the direct cost of establishing a second connection point was in the order of $366 to $1,437.[106] These costs are likely to apply whether a customer seeks to engage with multiple FRMPs under either current arrangements or under the proposed framework.

The principal benefit associated with the proposed framework, however, is that it could potentially reduce direct costs for certain customers in very limited circumstances. The proposed framework would allow subtractive metering arrangements. This may provide some customers with lower direct costs by avoiding the need for additional internal wiring, depending on the individual customer's circumstances.[107] This could reduce the costs for these customers to take up specific energy services.

The Commission considers that this particular metering configuration would only provide benefits in specific situations, for very specific energy services such as enabling separate metering and tariffs for specific appliances.[108] However, the extent to which a customer taking up such an energy service would face lower direct costs is largely dependent on a number of other factors. For example, these savings will depend on the individual wiring of the customer's premises, as well as the design of the energy service itself.[109]

Given these factors, the Commission considers that the potential direct cost savings from the proposed framework are only likely to benefit a small subset of customers and will only enable very specific energy service models. The potential associated efficiency benefits are therefore limited.

While the potential associated efficiency benefits of the proposed framework are limited, they must also be considered in light of the costs. The implementation of the proposed framework would create significant costs for participants to adapt IT systems and operational processes. At least some of these costs would be borne by all customers through higher retail electricity prices. The extent of these implementation costs are explored in Chapter 4.

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106 Energeia, Advice on Establishing a Second Connection Point, July 2015, p.2. These costs were based on the assumption of no changes to the switchboard and no additional in house wiring.

107 Where an appliance is to be separately metered, it must be electrically isolated from other appliances. Where such an appliance is not already electrically isolated, additional in premises wiring would be needed. Energeia estimates the costs of installing this additional wiring could be in the order of $2000. Subtractive metering allows "downstream" appliances to be separately metered without the need for additional wiring from the "upstream" meter.

108 This specific model was identified in KPMG's report. KPMG, New Energy Services and Multiple Trading Relationships, July 2015, p.11. Note that this model is not dependent on a subtractive metering configuration.

109 Many of the appliances that could be separately metered through an energy service model that utilised a subtractive configuration may already be on a separate wiring circuit at a premises. A parallel metering arrangement (which is effectively equivalent to the installation of a second connection point) could then be used and still enable the appliance to be electrically isolated, without the need for additional wiring. In this situation, a subtractive metering configuration would no longer provide the customer with any significant direct cost saving.

### 3.4.3 Impact of ongoing market developments

The Commission is currently progressing the Power of Choice reform package. This includes recent changes to the NER and NERR arising from the competition in metering, embedded networks, and cost reflective network pricing rule changes.

These reforms are scheduled to be implemented from 2017. Consequently, it is not yet clear exactly what impacts they will have in the market and how customers will benefit in the long term.

*Cost reflective pricing*

More cost reflective retail and network tariffs may provide customers with some of the same benefits as those that the proposed framework sought to enable, potentially reducing the need for the proposed framework.

Retail cost reflective time-of-use tariffs could deliver some of the same value to a customer as a subtractive metering arrangement without having to install a second downstream meter or connection point. Specifically, a time-of-use tariff applied to an entire premises could be used by a customer to optimise their energy consumption, for instance by allowing the customer to charge an electric vehicle when tariffs are low. This could provide similar benefits to those outcomes sought to be achieved by the proposed rule.

While some DNSP's stated that it may be 'fair 'to charge identical fixed network charges to a premises with multiple connection points, Energy Consumers Australia did not agree, stating that the AEMC should make a rule to ensure that DNSPs do not unduly charge customers for services or capacity they do not consume.[110]

The new distribution network pricing arrangements rule established pricing objectives and principles for DNSPs that require network prices to reflect the efficient costs of providing network services to individual customers.[111]

It also contains new processes and timeframes for setting network prices. DNSPs are also required to consult with consumers and retailers about the prices that will be submitted to the AER for approval as part of the five-year regulated revenue process. These network prices based on the new pricing objective and pricing principles will be gradually phased in from 2017.

The Commission is satisfied that the principles set out in the recent distribution network pricing arrangements rule provides appropriate guidance to DNSPs and the AER in relation to the pricing arrangements for households with multiple connection points. The Commission also considers that the framework in place is flexible enough to adjust to changing circumstances over time, including an increased uptake of multiple connection points.

110 Energy Consumers Australia, Draft rule determination submission, p.7.

111 AEMC 2014, Distribution Network Pricing Arrangements, Rule Determination, 27 November 2014, Sydney, p.iii.

*Competition in metering*

The Commission considers that the changes to the NER and NERR frameworks included in the competition in metering final rule determination could reduce the costs faced by customers who want to engage with multiple FRMPs by establishing a second connection point.[112]

As identified by Energeia, a significant portion of the cost of establishing a second connection point at a premises related to the charges levied by DNSPs to establish a new NMI and install a new meter. The competition in metering rule change will create a competitive metering environment by allowing other parties to install meters, potentially placing downward pressure on these costs. Greater competition in the provision of metering may also reduce the timeframes for obtaining a new meter for a second connection point. The availability of more timely and less expensive services to establish a second connection point may enable and encourage more customers to engage with multiple FRMPs in this way.

AEMO suggested that the metering coordinator could also potentially play a role in enabling customers to engage with multiple FRMPs. AEMO suggested that metering coordinators could manage the technical aspects of metering solutions needed to enable these arrangements, allowing retailers and other FRMPs to focus on the provision of services.[113]

*Embedded networks*

Several stakeholders suggested that the embedded networks framework could theoretically be used to support customers who want to engage with multiple FRMPs at a premises.

Embedded networks are private electricity networks which serve multiple premises and are located within, and connected to, a distribution or transmission system through a parent connection point in the NEM. Common examples of embedded networks include shopping centres, retirement villages, caravan parks, apartment blocks and office buildings.

Integral to the definition of an embedded network is that as a network, electricity is supplied to multiple customers on potentially multiple premises. Conversely, MTR requires multiple retailers for each customer. The embedded networks framework is not able to accommodate MTRs. Even if it were, it would likely be impractical or costly for a number of reasons.

Firstly, the establishment of an embedded network would require the customer to incur the costs of obtaining a network service provider exemption from the AER.

112 AEMC 2015, Expanding competition in metering and related services, Rule Determination, 26 November 2015, Sydney

113 AEMO, rule change request, p.9.

Secondly, in some NEM jurisdictions, child connection points in an embedded network are not eligible for retail contestability. Until such restrictions are lifted, an alternative FRMP could not be appointed.

Finally, in other jurisdictions, the embedded network framework requires an embedded network operator to appoint an embedded network manager if any of the child connection points are to go "on market". In the context of enabling multiple trading relationships, this would mean that a customer may be required to appoint an embedded network manager if it wished to establish an embedded network at a premises.

The combination of these requirements suggests that an embedded network would not be a practical solution for a customer seeking to engage with multiple FRMPs at a premises. Given these issues, the Commission considers that the embedded networks framework cannot realistically be used to enable customers, especially small customers, to engage with multiple FRMPs at a premises.

## 3.5 Conclusion

The efficiency benefits associated with the proposed framework are likely to be limited. Current arrangements already enable customers to engage with multiple FRMPs at a premises, and the proposed framework is likely to deliver only minor direct cost savings to a small number of customers, relative to the current arrangements.

Private, off market arrangements may also deliver similar benefits to customers as these arrangements, at a lower cost.

Additionally, a range of other market developments, such as the commencement of cost reflective network pricing and the introduction of contestable metering appear capable of delivering some of the benefits otherwise potentially provided by the proposed framework.

There are also significant costs associated with implementing the proposed framework. The nature of the changes required to implement the proposed framework indicate that the implementation costs are likely to be recovered from all customers through higher electricity prices, not just those customers seeking to establish and benefit from engaging with multiple FRMPs. The Commission has weighed these costs against the relatively small incremental benefits provided by the proposed framework. These costs are discussed in Chapter 4.

# 4 Implementation costs

There are significant costs associated with the implementation of the rule change request.

This chapter sets out the Commission's assessment of:

- the regulatory issues that would need to be addressed to implement the proposed framework; and
- the various costs for customers and participants related to implementation.

The limited incremental benefits associated with the rule change request have been weighed against the costs associated with addressing regulatory issues and implementation processes. The Commission considers that these costs are likely to outweigh the incremental efficiency benefits identified in Chapter 3.

## 4.1 The rule proponent's view

The rule change request identified that implementation of the proposed framework would require a number of significant changes to the NEM regulatory frameworks.[114]

These included a number of changes to the NER:[115]

- Chapter 2: multiple clauses including registration of different classes of market participant.
- Chapter 3: multiple clauses including loss factors, financial responsibility, adjusted gross energy and spot market transactions.
- Chapter 6: multiple clauses related to tariff classes and distribution service billing.
- Chapter 7: multiple clauses including participant obligations to establish metering installations, shared meters (joint metering installations), NMI issuance, changes to the link between connection point and metering installation, location of settlement points, qualifications and registration of metering providers and participant entitlement to metering data and access to metering installation.

A number of potential changes to the NERR were also identified, including:[116]

- Division 3, Part 1: customer classification;
- Part 5: shared customers;

114 AEMO provided some limited proposed drafting for amendments to the NER. No proposed drafting was provided for changes to the NERR.

115 AEMO, rule change request, pp.14-23.

- Part 6: de-energisation; and
- Part 7: life-support equipment.

It was also identified that implementation of the proposed framework would require changes to several AEMO and Information Exchange Committee (IEC) procedures, including the MSATS, metrology, B2B, NMI and service level procedures.[117]

The rule change request did not examine the potential implications that these new regulatory frameworks would have in terms of required changes to participant systems. It did, however, note that cost benefit analysis undertaken by Jacobs SKM delivered a negative result based on participant costs required to adapt systems to support a large number of potential metering configurations.[118]

The rule change request stated that the proposed framework could present a number of "incremental savings", relative to the original high level design. In particular, by including the operational details of the proposed framework in AEMO's procedures (rather than in the NER) would "provide MTR with the flexibility to evolve and meet the needs of participants and consumers at an optimal cost".[119]

The rule change request considered that "the timing and implementation of the wider Power of Choice package represents a potential for beneficial synergies, particularly in relation to the costs of amending software systems." In particular, it considered that "participants will need to modify their metering and billing systems to support other reforms from the AEMC's Power of Choice review, such as embedded networks, metering competition, and demand management mechanisms. The necessary related changes to the sub-systems could likely be timed for concurrent implementation, resulting in overall savings in system development and testing costs".[120]

## 4.2 Stakeholder views

A number of stakeholders suggested that the NER and NERR changes identified by AEMO would impose significant costs on market participants. These costs related to the development and testing of new IT systems and processes, as well as ongoing operational costs to support arrangements where multiple FRMPs are active at a premises.

Stakeholders also suggested that inclusion of the operational detail of the proposed framework in AEMO and IEC procedures would actually increase the costs of implementing the proposed framework.

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116 ibid, pp. 23-24.

117 ibid, p.25.

118 AEMO, Multiple Trading Relationships and Embedded Networks - High Level Design, December 2013. Available at www.aemc.gov.au.

119 ibid, p.9.

120 ibid, p.26.

Several stakeholders also suggested that coordinated implementation of the proposed framework with other Power of Choice reforms was unlikely to reduce implementation costs. The nature and scale of changes required to implement the proposed framework would likely be different and additional to modifications being undertaken for other Power of Choice reforms.

These issues are discussed below in the context of their potential impacts on DNSPs, retailers, meter service providers and customers.

### 4.2.1 DNSP implementation issues

*Changes to IT systems and processes*

A number of DNSPs identified that their IT systems and operational processes are currently based around a one to one relationship between connection point, FRMP, NMI and metering installation. The proposed framework would break this relationship by introducing the concept of a separate settlement point, and allowing for each connection point to have multiple settlement points with multiple FRMPs and NMIs. DNSPs advised that allowing such an arrangement would require significant changes to IT systems and operational processes in addition to changes required to implement metering contestability.[121] Due to the integrated nature of these systems, DNSPs identified that breaking the link between connection point, FRMP, NMI and metering installation would require a number of systems to be simultaneously overhauled.

While it can be difficult to estimate the cost of such significant system changes, the range of DNSP IT systems and processes that would likely be affected by such a change include:[122]

- billing systems;
- standing data systems;
- meter data management systems;
- meter management systems;
- works management systems;
- faults management systems;
- geographic information systems;
- supervisory control and data acquisition systems which remotely monitor and control the distribution network assets, including zone substations and feeders;

121 Draft rule determination submissions: CitiPower Powercor, p. 1; Energex, p.1; ENA, p.1. NSW DNSPs, Consultation paper submission, p.8.

122 Consultation paper submissions: CitiPower and Powercor, p.3; SA Power Networks, p.2; Ergon Energy, p.4; United Energy, p.9.

- reporting (including operational, managerial and regulatory reporting); and
- IT integration systems which manage communications between IT systems and business process management.

DNSPs also stated that the proposed framework would require changes to the following operational processes:[123]

- processes supporting connections and disconnections;
- life support equipment registrations;
- the development of new tariff structures to reflect the presence of multiple FRMPs active at a premises, through a reopening of the tariff structure statement process;
- B2B and B2M processes;
- solar feed-in tariff management;
- reliability performance measurements (related to the service target performance incentive scheme); and
- processes for NMI creation and allocation, and the management of associated NMI standing data.

DNSPs stated that increasing the number of FRMPs and NMIs active at a premises could create additional complexity, potentially resulting in increased risk of errors. To reduce the risk of these errors and to develop processes for resolution, some DNSPs stated that they would need to undertake additional system testing, training, and exceptions management processes.[124] The development of these processes would add to the costs faced by the industry and would ultimately be passed on to customers.[125]

New operational processes would be needed to support the proposed framework. These could include a process to track the number of customer connections (rather than NMIs as is the current practice) and new systems to capture information on total demand at each connection point.[126]

A number of estimates of the actual cost to adapt DNSP systems and processes to enable the proposed framework were provided by DNSPs. These ranged from $8 million and $20 million per business.[127]

123 Consultation paper submissions: CitiPower and Powercor, p.3; Ergon, p.4; United Energy, p.9.

124 United Energy, Consultation paper submission, p.9.

125 Ergon, Consultation paper submission, p.7.

126 Consultation paper submissions: Ergon Energy, pp. 6-11; Energex, p 7; United Energy, p.12.

127 CitiPower and Powercor, Draft rule determination submission, p.1. Consultation paper submissions: United Energy, p.6; CitiPower and Powercor, p.3; SA Power Networks, p.2; Energex, p.5.

*Implementation process*

In the consultation paper, stakeholders were asked to identify whether cost reductions could be achieved through combined implementation with other projects, including the expanding competition in metering and related services, embedded networks and the demand response mechanism (DRM) rule changes.

Energex stated that coordinated implementation with these other projects would not result in cost savings. It considered that that the changes required for DNSP systems and processes to support the proposed MTR framework are more fundamental than those being considered for these other projects.[128]

Some stakeholders noted that there are limited, or no, synergies with implementing this rule change concurrently with other Power of Choice reforms. The other projects being considered do not involve fundamental changes to the one-to-one relationship between connection point, FRMP, NMI and metering installation.[129]

However, AusNet Services and United Energy suggested that the DRM rule change could offer some implementation cost synergies, as both could require adjustments to AEMO and B2B procedures to account for complex metering data arrangements at a single NMI.[130] Most DNSPs agreed that other projects, including metering contestability, shared market protocol and embedded networks should be completed and implemented prior to any implementation of the proposed framework.

Stakeholders were also asked if implementation costs could be reduced if the proposed framework could be introduced in a staged manner, with systems being changed over an extended time period. Energex stated that this could in fact increase costs, due to potential inconsistencies and inefficiencies from a staged implementation.[131]

Other DNSPs estimated that there would be an approximate 18-24 month lead time for a single implementation of the systems changes required to support the proposed framework.[132] CitiPower and Powercor stated that this is due to the extent of the changes required and the requirement for the DNSPs to engage with multiple system vendors who work on separate release schedules.[133]

DNSPs broadly agreed that other projects, including metering contestability, shared market protocol and embedded networks should be completed and implemented prior to any implementation of the proposed MTR framework.[134]

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128 Energex, Consultation paper submission, p.10.

129 Consultation paper submissions: Energex, p.10; Ergon, p 5.

130 Consultation paper submissions: AusNet Services, p.12; United Energy, p.15.

131 Energex, Consultation paper submission, p.10.

132 Consultation paper submissions: CitiPower and Powercor, p.3; United Energy, p.9; Energex, pp.10-15.

133 CitiPower and Powercor, Consultation paper submission, p.3.

134 Draft rule determination submission: NSW DNSPs, p.1, ENA, p.1.

Energy Consumers Australia, however, considered that the implementation costs that DNSPs listed were overstated. It stated that is it is 'not surprising that DNSPs are not embracing changes that require more complex relationships with retailers.'[135] It argued that there would likely be synergies with other reforms under way, and that the actual costs to implement the proposed framework would be substantially smaller than those detailed in submissions. It also argued that these system upgrades would occur in any case, and that 'the strategic choice is not between updating systems or not updating systems, it is only the timing of the update.'[136]

***DUOS charging***

Several DNSPs stated that the allocation of DUOS between multiple FRMPs at a premises could be problematic and costly to implement. In their view this would require the development of a methodology for DUOS allocation and new tariff structures for sites with multiple settlement points, with AER approval required for these tariffs.

Different stakeholders suggested various approaches to the allocation of DUOS charges. CitiPower and Powercor suggested that the allocation could be evenly split between NMIs, while ERM Power and Origin Energy suggested that DUOS could be allocated on a pro rata basis reflecting the demand or load at each settlement point. Energex noted that allocating DUOS charges between multiple settlement points may impede the customer's ability to benefit from time-of-use or other demand based tariffs in the longer term.[137]

DNSPs also advised that the proposed framework could require the development of new network tariffs. DNSPs argued that they could incur significant costs associated with developing a new tariff structure statement (TSS) and gaining AER approval of these new tariffs. As the criteria for opening a TSS within a regulatory control period is fairly limited, some stakeholders were concerned that the introduction of new network tariffs consistent with the proposed framework may not qualify. For instance, Ergon Energy considered that it would be "extremely difficult for the required changes to be made until the start of Ergon Energy's next regulatory control period in 2020."[138]

***Details of the proposed framework in AEMO procedures***

In its rule change request, AEMO stated that it intended to provide a framework in the NER with matters related to the detailed operation included in AEMO procedures.[139] It argued that this approach would be flexible and allow the industry to determine which specific metering configuration options to support.

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135 Energy Consumers Australia, Draft rule determination submission, p.6.

136 ibid.

137 Consultation paper submissions: Energex, p.7; CitiPower and Powercor, p.3; ERM Power, p.7; Origin Energy, p.6.

138 Ergon Energy, Consultation paper submission, p.10.

139 AEMO, rule change request, p.8.

DNSPs argued, however, that leaving the detail of the proposed framework to AEMO and IEC procedures could require their systems to be capable of supporting all possible metering configurations and related service models. Although there may be some synergies if IT system and operational process adaptations were implemented concurrently, there are separate costs associated with supporting each type of metering configuration. DNSPs argued this would be likely to result in significantly higher IT system costs and more complex processes compared to if only one metering configuration was specified.[140]

### 4.2.2 Retailer implementation issues

***Changes to IT systems and processes***

A number of retailers advised that their IT systems and operational processes would need to be upgraded in order to support the proposed framework. As with DNSPs, many retailer systems and processes are based on a one to one relationship between connection point, FRMP, NMI and metering installation. Changing this arrangement to allow for multiple settlement points and NMIs per connection point could therefore create significant costs for retailers.

Submissions to the consultation paper identified a range of retailer processes that would be needed to be modified in order to enable the proposed framework:[141]

- billing processes;
- processes to recognise where multiple FRMPs were active at a premises;
- changes to NMI discovery processes;
- development of new tariffs;
- software licensing costs;
- increased compliance costs related to jurisdictional safety regulations;
- management of customer concessions and hardship;
- processes for customer classification; and
- retailer of last resort obligations.

Retailers also identified that increasing the number of FRMPs at a premises could make it more difficult to manage that premises. ERM Power stated that dispute resolution

140 Consultation paper submissions: United Energy, pp.8-9; NSW DNSPs, p.8; AusNet Services, p.12; CitiPower and Powercor, p.3

141 Consultation paper submissions: ERM Power, p.5; ERAA, p.2.

mechanisms would need to be adapted to address this increased complexity and that customer disputes would take longer to resolve as more parties would be involved.[142]

*Implementation process*

Some retailers indicated costs could be reduced by implementing the proposed framework with other market reform projects, including the demand response mechanism and contestable metering.[143]

It was also suggested that the implementation of the proposed framework could have implications for competitive neutrality between participants, particularly if customers were able to elect to install any metering configuration and participants were obligated to support that configuration.[144] ERAA noted that in the situation where a customer engaged with a new FRMP at a premises, the incumbent retailer would bear the majority of the cost to adapt systems while the new FRMP would not. The incumbent retailer would have no option to avoid these costs. ERAA stated that the new FRMP may also not bear the same customer protection obligations as the incumbent FRMP, creating further competitive neutrality issues.

Noting similar issues as those raised by the ERAA, the ESAA noted that COAG Energy Council is developing a framework for the regulation of alternative energy service providers.[145] They argued that the proposed MTR framework should not proceed until such time as this process has been completed.

*Details of the proposed framework in AEMO procedures*

Retailers raised similar concerns to DNSPs regarding the final MTR design being left open in the NER and the detailed operational design to be included in AEMO's and the IEC's procedures. AGL argued that it would be difficult to determine any potential cost savings from coordinated implementation with other reforms, if the detailed design of the proposed framework was included in these procedures.[146] It therefore recommended that, if the Commission were to proceed with the proposed framework, it should prescribe in the NER the specific metering configuration that participants would be required to support.[147]

### 4.2.3 Metering service provider implementation issues

Metering service providers stated that the proposed framework was likely to result in them incurring increased costs.

142 ERM Power, Consultation paper submission, p.5.

143 ibid, p.5.

144 Competitive Energy Association, Draft rule determination submission, p.1, Consultation paper submissions: ESAA, p.2, ERAA, p.2.

145 Consultation paper submissions: ESAA, p.2; Energy Working Group, New Products and Services in the Electricity Market, July 2015.

146 AGL, Consultation paper submission, p.4.

147 ibid, p. 6.

Metropolis stated that a number of its systems and processes would need to be modified in order to support the proposed framework, including:[148]

- meter configuration data;
- metering installation configuration data;
- field staff training;
- logistics processes;
- review of all IT systems;
- metering data provider validation and substitution processes; and
- compliance processes.

Metropolis and Vector stated that implementing the proposed framework with other market reforms may increase complexity and costs.[149]

It was also suggested that other Power of Choice reforms could facilitate several of the services that could otherwise enabled by the proposed framework. Vector noted that the 'ongoing Power of Choice reforms in the NEM may deliver similar benefits to consumers, such as the Competition in Metering Rule Change and more innovative tariffs, which may enable consumers to engage with multiple retailers under existing arrangements.'[150] Metropolis stated that the 'meter coordinator role, with the ability to offer services to multiple parties, provides the possibility of different approaches, potentially reducing the cost of MTR, or offer alternative avenues to gain the same benefits.'[151]

Vector also noted that efforts to unpack DUOS charges can be complex. It stated that the 'unbundling of metering services from DUOS charges is also a highly complex process; overlaying MTR on this ongoing process creates greater regulatory burden, cost and uncertainty without overriding benefits for consumers.'[152]

### 4.2.4 Customer implementation issues

In general, consumer groups did not support the proposed framework, stating that it was likely to benefit only a small number of customers. SACOSS stated that 'while a small number of customers may benefit, other customers that do not wish to enter into MTR arrangements are likely to face increased electricity retail prices due to the high

148 Metropolis, Consultation paper submission, p. 5.

149 Vector, Draft rule determination submission, p.2, Consultation paper submissions: Metropolis, p. 5, Vector, p. 2.

150 Vector, Draft rule determination submission, p.2.

151 Metropolis, Consultation paper submission, p. 2.

152 Vector, Consultation paper submission, p.4.

costs of implementing the proposed framework.'[153] CALC stated that the proposed framework introduced 'complex metering arrangements that may only appeal to a limited number of highly technical consumers.'[154] PIAC suggested that 'MTR would create further complexity within the NEM for consumers, and the research from KPMG, Energeia and Jacobs SKM does not provide strong evidence of benefits for low income and vulnerable consumers.'[155]

Most consumer groups broadly agreed that the costs of implementing the proposed framework would outweigh any benefits, particularly for low income or vulnerable small energy customers. The ATA and CUAC noted that the proposed framework is not an 'accessible solution for most small energy users.'[156] SACOSS argued that 'the proposed framework is unlikely to reduce the cost incurred by most consumers that wish to engage with multiple retailers.'[157]

PIAC suggested that various market reforms currently underway make it uncertain as to how the market will operate in the future. This creates uncertainty regarding the roles, responsibilities and relationships of energy market participants, including customers.[158]

If the Commission decided to make a rule, consumer groups also stated that the AEMC would need to consider how best to maintain adequate consumer protections and provide customers with sufficient information to enable effective decision making.[159]

***Life support***

Stakeholders identified that the operation of the proposed framework could create risks for customers with life support equipment.[160] This issue arises particularly under subtractive or net metering arrangements if an upstream meter is disconnected, affecting supply to life support equipment connected at a downstream meter. Inadvertent disconnection may also arise under parallel or multi-element metering configurations if life support equipment registrations are incorrectly registered to the wrong settlement point.

Ergon suggested a procedural solution could be for life support information to be held at the connection point and "registered with both the DNSP and a primary retailer" and "any new requests involving the connection point must request life support information from this registry."[161] Alternatively, ENA and AGL suggested that all

153 SACOSS, Draft rule determination submission, p.1.

154 CALC, Consultation paper submission, p. 1.

155 Consultation paper submissions: PIAC, p. 2; CALC, p. 2.

156 ATA CUAC, Consultation paper submission, p.6.

157 SACOSS, Draft rule determination submission, p.1

158 PIAC, Consultation paper submission, pp.2 - 3.

159 Consultation paper submissions: PIAC, p. 2; CALC, p. 2.

160 Origin, Draft rule determination submission, p. 4. Consultation paper submissions: AusNet Services, p. 2; Ergon Energy, p. 9; Energex, p. 14; United Energy, pp. 11, 15.

161 Ergon Energy, Consultation paper submission, p. 9.

retailers at each settlement point would need to notify all other retailers of life support requirements.[162]

***Disconnections***

Stakeholders also identified that the disconnection processes for the various metering configurations under the proposed framework may create complexities for consumer protections. Under subtractive and net metering configurations, the disconnection of an upstream settlement point would also disconnect any downstream settlement points.[163] Under parallel or multi-element meter configurations, the increased complexity at the metering switchboard such as shared fusing, may also lead incorrect disconnections.[164]

Other stakeholders suggested that disconnections should occur at the settlement point, and that DNSPs should retain the ability to disconnect all settlement points at a premises for safety or network security purposes.[165]

Stakeholders considered that a parent meter in a subtractive or net metering configuration should be able to be disconnected without liability for downstream settlement points.[166] Metropolis and United Energy stated that the consumer protections frameworks may not need to extend to customers with subtractive or net metering options.[167] These metering options would likely be taken up by "consumers with a high level of understanding and engagement with their energy services, and that they are making an informed commercial decision."[168]

The NSW DNSPs suggested that having multiple parties involved in a disconnection request may increase disputes and additional administrative costs.[169]

***Retailer of last resort***

Some stakeholders stated that the proposed framework would require amendments to retailer of last resort arrangements in the NERL, including changing the liability from

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162 Consultation paper submissions: AGL, p. 8; ENA, p. 3.

163 Consultation paper submissions: Energex, p. 14; Metropolis, p. 7; AGL, p. 8; ENA, p. 6; ATA and CUAC, pp. 10-11.

164 United Energy, Consultation paper submission, p. 15.

165 Consultation paper submissions: ENA, pp. 2 - 6; Ergon Energy, p. 9; Energex, p. 14; AGL, p. 8; Origin Energy, p.3.

166 Consultation paper submissions: ENA, pp. 2 - 6, Metropolis, p. 7; Energex, p. 14; Ergon Energy, p. 9; NSW DNSPs, pp. 9 - 21; ESAA, p. 2; Origin Energy, p. 7; United Energy, p. 15; ATA and CUAC, pp. 10 - 11.

167 Consultation paper submissions: Metropolis, p. 7; United Energy, p. 15.

168 Metropolis, Consultation paper submission, p. 7

169 NSW DNSPs, Consultation paper submission, pp. 9.

the connection point to the settlement point and establishing clearer roles and responsibilities.[170]

Origin Energy stated that the details of what amendments would be required should be left until after a particular form of metering configuration was determined for inclusion in the proposed framework. It also noted that the AER's process for registering a default or additional retailer of last resort may also need amendment.[171]

## 4.3 Analysis

The rule change request acknowledged the need for extensive changes to several chapters of the NER. Implementing the proposal would also likely require significant changes to the NERR, AEMO's and the IEC's procedures, jurisdictional instruments and potentially the NERL.

The Commission considered the following in assessing the potential regulatory and implementation issues associated with the proposed framework:

- the potential changes to the NER and NERR necessary to enable the proposed framework;
- implications for participants' IT systems and processes; and
- consequences for consumers of possible increased complexity.

### 4.3.1 Changes to the NER and NERR to enable the proposed framework

The NER currently makes a clear link between the connection point and the concept of financial responsibility,[172] spot market transactions,[173] and the requirement for a FRMP to establish a metering installation.[174] The NMI is not directly linked to the connection point, but is linked to the obligation for a FRMP to establish a metering installation.[175]

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170 Draft rule determination submissions: Vector, p.2; Origin p.2. Consultation paper submissions: United Energy, p. 15; NSW DNSP, p. 21.

171 Origin Energy, Consultation paper submission, p. 9

172 NER clause 3.15.3(a) states "For each market connection point there is one person that is financially responsible for that connection point.

173 NER clause 3.15.6(a) states that spot market transactions occur with reference to the connection point: "In each trading interval, in relation to each connection point ... for which a Market Participant is financially responsible, a spot market transaction occurs, which results in a trading amount for that Market Participant."

174 NER Clause 7.1.2(a) requires a FRMP, before participating in the market in respect of a connection point, to ensure that: "the connection point has a metering installation and that the metering installation is registered with AEMO."

175 Clause 7.3.1(e) of the NER requires that: The Local Network Service Provider must issue for each metering installation a unique NMI.

The rule change request proposed a fundamental departure from these arrangements. It proposed an entirely new regulatory framework for financial responsibility, market settlement and the provision of metering, by moving these from the connection point to a new and separate settlement point. The NER changes necessary to implement such a concept are extensive, and are in addition to other changes required for other Power of Choice rule changes that have recently been made by the Commission.

Implementation of the proposed framework would therefore require a broad, wholesale review of the NER, to provide transparency and certainty that the regulatory frameworks would remain effective. It is likely to result in more specificity in the NER than initially proposed by AEMO to achieve this.

The rule change request also identified a number of potential changes to the NERR. This included changes to the arrangements for disconnection, customer classification and hardship arrangements. The Commission considers that a number of other clauses would also potentially require amendment, including the arrangements for standard and deemed retail contracts, disconnection, and life support.

As a result, implementation of the proposed framework would require a wholesale review of the NERR. This would determine whether the rights and obligations established in the NERR were transparent and functioned effectively in light of amendments to the NER to accommodate the proposed framework. This would help to maintain market confidence and consumer protections across a range of possible energy service arrangements.

### 4.3.2 Implications for participant systems

The Commission recognises that the costs of upgrading IT systems and operational processes may not be a sufficient justification, in and of itself, to not make a rule. As originally identified by Jacobs SKM in its analysis of AEMO's original high level design, "there is a broader issue of whether high system costs should be allowed to block reforms such as [MTR]. As upgrades will always involve high costs especially for market participants with highly integrated systems, it is probable that any changes that involve upgrades of systems are not likely to proceed. This lock-in to current arrangements would entrench current levels of competition."[176] It may therefore be efficient to require incumbent participants to adapt IT systems and operational processes, where the benefits of doing so are likely to outweigh the costs, particularly when this may support an increase in competition.

As noted in section 4.2, various stakeholders stated that changes to the NER and NERR frameworks would require changes to IT systems and operational processes. Further costs would be incurred in testing these new systems, while managing the increased complexity of retail arrangements at premises with multiple FRMPs would add to ongoing operational costs. Section 4.2.1 identified that IT systems and operational

176 Jacobs SKM, Benefits and Costs of Multiple Trading Relationships, May 2014, p.38.

processes had been developed around a one to one, direct link between connection point, FRMP, metering installation and NMI.[177]

As identified by a number of retailers and DNSPs, breaking this link would create significant costs for participants to adapt IT systems and operational processes. The interrelated nature of these systems means that adapting one would require changes to all other interrelated IT systems and processes. Significant costs would also be incurred in testing these new systems.[178]

Comments received from some DNSPs indicated that the direct link between metering installation and FRMP utilises the meter serial number. United Energy and Energex advised that these serial numbers are used in quality assurance testing, to determine whether field crews have installed meters correctly against the relevant NMI. They advised that breaking this link would mean that these serial numbers could no longer be used in quality assurance, potentially increasing the scope for meter installation and customer billing errors and requiring the development of new processes for quality assurance.[179] Based on this information, the Commission considers that the impact of the proposed framework on participants are likely to be significant, different to, and in addition to, the substantial changes already underway with other recent Power of Choice rule changes.

In response to issues around participant costs raised by Energy Consumers Australia, the Commission notes that incumbent participant submissions regarding implementation costs have been assessed with appropriate caution given that the impact of the proposed framework could lead to increased competition. The Commission has therefore considered a range of material including the independent Jacobs SKM cost benefit analysis, submissions regarding the nature and extent of the required changes, as well as carrying out an assessment of the nature and extent of the required changes. Based on this information, the Commission considers that the impact of the proposed framework on participants are likely to be significant, different to, and in addition to, the substantial changes already underway with other recent Power of Choice changes.

The Commission is also concerned that the nature of these costs means that they are likely to be borne by all customers through higher retail electricity prices, not just those who potentially benefit by appointing two FRMPs. The costs to implement the proposed framework borne by participants would be significant, and would eventually flow through to retail prices that all customers would face. The Commission does not

177 The Commission notes that the NER does not draw a direct link between connection point and NMI. However, AEMO's NMI Standing Data Schedule appears to draw a clear link between the NMI and the connection point, at least for the provision of Standing Data. See: AEMO, NMI Standing Data Schedule, July 2012, p.6.

178 This concept of the interrelated nature of participant systems was also identified by Jacobs SKM in its cost benefit analysis of AEMO's high level design. See: Jacobs SKM, Benefits and Costs of Multiple Trading Relationships, May 2014, p.3.

179 Issue raised in telephone conversations with Energex 15 October 2015 and United Energy 19 October 2015.

consider that this is an efficient outcome given that not all customers would choose to take up these arrangements.

### 4.3.3 Consequences of increased complexity

A number of stakeholders commented that the proposed framework would increase the complexity of retail arrangements at premises where multiple FRMPs are active. This could have implications for various participants, while increasing the risk of negative outcomes for small customers.

*Complexity for participants*

An increased number of FRMPs active at a premises will increase the number and complexity of potential interactions between those market participants. For example, Part 5 of the NERR sets out communication and notification requirements between retailers and DNSPs, as well as disconnection processes. Where multiple FRMPs are active at a premises, DNSPs would need to develop more complex processes to meet these requirements. Similarly, retailers may need to develop new systems to support communication with each other, such as for managing complaints and enquiry referral.

A number of stakeholders identified that they would incur costs in developing systems to support these more complex interactions.[180] This would involve both upfront costs to establish new systems, as well as ongoing costs to manage these relationships.

Stakeholders also identified that increasing the number of participants active at a premises was also likely to increase the risk of errors or disputes between parties. Management of these errors and disputes as they arose would also result in greater operational costs for participants.[181]

The Commission has considered the issues raised by stakeholders and has concluded that the proposed framework is likely to increase the complexity of relationships between market participants and a customer at a premises. As a result, participants would likely incur upfront costs in developing new systems to manage this complexity, as well as ongoing operational costs. Ultimately, at least some of these costs would be passed on to consumers as higher retail electricity prices.

*Competitive disadvantage*

A number of retailers argued that the proposed framework could have implications for competitive neutrality in retail markets. It was claimed that retailers could be placed in a position of unfair competitive disadvantage if they were required to support certain metering configurations and related energy services.[182] The ESAA also stated that if other parties were able to engage with customers but avoid various customer

180 Consultation paper submissions: CitiPower Powercor, p.3; Ergon, p.4; United Energy, p.9; Metropolis, p. 5.

181 ERM Power, Consultation paper submission, p.5.

182 ERAA, Consultation paper submission, p.2.

protection obligations, this may create unfair disadvantage for those retailers who do face those costs.[183]

The extent to which this scenario could occur may depend on whether retailers could elect to support different metering configurations, or whether this was mandatory. For example, if retailers were obligated to support subtractive metering configurations, this could impose significant costs for incumbent retailers to update billing and customer management systems. However, the incoming FRMP at the "downstream" subtractive meter would not face these costs if they were not the incumbent retailer.

This type of situation could also occur where NERR obligations do not fall equally on all FRMPs active at a premises. Meeting these requirements requires retailers to establish operational systems and to actively manage obligations such as hardship and life support arrangements. If one FRMP did not face equivalent NERR obligations to another FRMP at a premises, this could reduce its costs and potentially provide a competitive advantage. Such circumstances could also give rise to gaps or inadequate coverage of consumer protections.

***Impact on customers***

Increasing customer choice can provide beneficial outcomes. More competition can place downward pressure on prices. Customers may also be able to source energy products and services that better match their needs and circumstances.

However, increased complexity can also create new costs and risks for customers. Customers may face increased search and transaction costs associated with selecting and managing more complex retail market offerings. Increased complexity of arrangements at a premises may also create an increased risk of detrimental impacts on customers, such as inadvertent disconnection. These may have particularly significant impacts on vulnerable customers.

These increased risks require robust and effective protection frameworks be developed so that customers can continue to engage effectively and drive competition in the market.

The changes required to best support consumer protections are likely to be extensive. It would be necessary for a thorough re-assessment of the existing customer protection frameworks to determine their appropriateness for the new relationships arising from the proposed framework.[184] Compliance with new or modified consumer protections would add to the costs of supporting the proposed framework, including for the AER, and has the potential to further reduce any net consumer benefits.

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183 ESAA, Consultation paper submission, p.2.

184 The Commission notes the ongoing work of the COAG Energy Council regarding New Products and Services in the Electricity Market. COAG Energy Council, New Products and Services in the Electricity Market - Advice to Ministers, July 2015.

### 4.3.4 Changes to AEMO procedures

AEMO proposed that much of the detail of the proposed framework would exist in various AEMO and IEC procedures.[185]

There would be costs associated with amending these procedures. AEMO and the IEC would incur costs in developing the procedures and consulting with market participants. These would add to the overall costs faced by participants to implement the proposed framework. Additionally, participants would also incur costs in engaging with AEMO to develop these new procedures.

If the Commission decided to make a rule implementing the proposed framework, it would decide on the matters that would be included the NER and NERR and those that would be included in AEMO's procedures. This would affect the extent of the potential costs incurred by AEMO and market participants in developing new procedures and the cost of participants in complying with these new procedures. As the Commission has decided not to make a rule, these matters have not been considered any further.

## 4.4 Conclusion

The issues discussed in this chapter demonstrate the extent of the costs likely to be incurred by market participants and customers to implement the proposed framework. The analysis identifies that the costs of implementing these changes are expected to be significant and are likely to result in higher electricity prices for all customers, not just those taking up MTR arrangements. Given the limited incremental benefits identified in Chapter 3, the Commission does not consider that the proposed framework is a proportionate response to the issue identified. The Commission also considers that current arrangements are appropriate and proportionate to support the limited cases of customers wanting to engage an additional FRMP at their premises, without imposing additional costs on other electricity users.

185 AEMO, rule change request, p.9.

## Abbreviations

| | |
|---|---|
| AEMC | Australian Energy Market Commission |
| AEMO | Australian Energy Market Operator |
| ATA | Alternative Technology Association |
| COAG Energy Council | Standing Council on Energy and Resources |
| CUAC | Consumer Utilities Advocacy Centre |
| DNSP | distribution network service provider |
| DRM | demand response mechanism |
| DUOS | distribution use of system |
| FRMP | financially responsible market participant |
| LNSP | local network service provider |
| MTR | multiple trading relationships |
| NECF | National Energy Customer Framework |
| NEL | National Electricity Law |
| NEM | National Electricity Market |
| NEO | national electricity objective |
| NER | National Electricity Rules |
| NERL | National Energy Retail Law |
| NERO | national energy retail objective |
| NMI | national metering identifier |
| SGA | small generation aggregator |
| TSS | tariff structure statement |

# A The single meter model

The Alternative Technology Association (ATA) and Consumer Utility Advocacy Centre's (CUACs) joint submission to the consultation paper identified an alternative model to AEMO's proposed MTR framework. This alternative model was submitted as being suitable for households with embedded generation and/or battery systems installed that wish to sell their generation output into the NEM. The model utilises a single meter to support a net metering configuration. This could be used to enable a customer to purchase energy from one FRMP and sell any surplus energy produced to a second FRMP. In this document, this model is referred to as the single meter model.

ATA and CUAC consider that the single meter model could potentially enable new energy services at a lower cost than the proposed framework. These new energy services could facilitate competitive outcomes in energy retail markets and drive more efficient outcomes along the energy supply chain.

There are, however, likely to be a number of complex regulatory issues to be addressed to enable this model. This model appears to require breaking the one to one relationship between connection point, FRMP, metering installation and NMI, around which most market participants have developed their IT systems and operational processes. This was a core issue in the assessment of AEMO's proposed framework. For this reason, a number of stakeholders identified that implementation of the single meter model could require participants to incur similar costs to those identified in implementing AEMO's proposed framework to adapt systems and processes (see Chapter 4).[186]

The Commission considers that the single meter model is likely to have extensive and complex implementation issues, similar to AEMO's proposed framework. It may have greater benefits for some consumers but is likely to only benefit a narrower group of consumers that AEMO's proposed model. However, the Commission does not have sufficient information at this stage to assess whether the model is likely to promote the NEO and the NERO. It would, therefore, be more appropriate for any assessment of the single meter model to take place in a stand-alone rule change process.

If stakeholders consider there are potential net benefits associated with the single meter model as suggested by ATA and CUAC, or an alternative version of it, they may develop the concept into a rule change request to be submitted to the AEMC.

This appendix provides a high level overview of the single meter model, including some of the key issues that any future rule change request should consider. Much of the initial technical analysis of how the single meter model might work has been developed by Phacelift Consulting.[187] A copy of the Phacelift report is available on the AEMC's website.

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186 Draft rule determination submissions: NSW DNSPs, p.1, Competitive Energy Association, p.1, United Energy, p.2.

187 Phacelift, Metering arrangements to support multiple trading relationships, 23 October 2015.

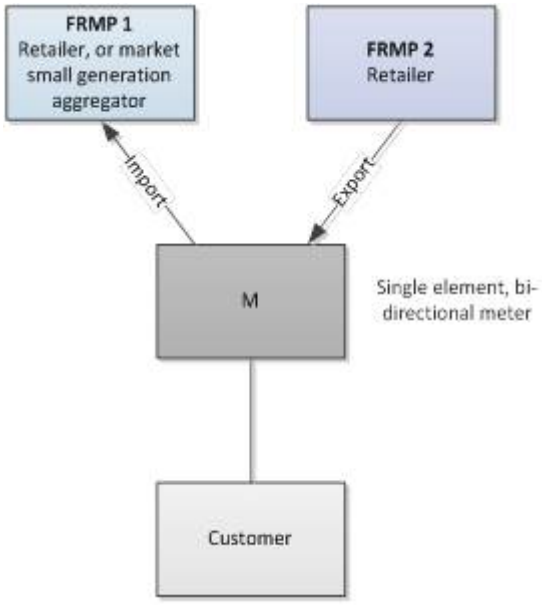
## A.1 The single meter model

The single meter model suggested by ATA and CUAC represents a specialised form of multiple trading relationships. It would support a net metering configuration, allowing a customer to engage with one FRMP for the purchase of energy and a separate FRMP to buy any net energy produced by the customer's embedded generation or battery storage. This model may be particularly applicable in the small customer market as it could potentially facilitate entry of market small generation aggregators into that segment of the retail market. This is discussed in further detail in section A.1.3.

The single meter model would require separate NMIs to be linked to the import and export energy data streams produced by a single element meter.[188]Each of these NMIs could then be allocated to a different FRMP. This would allow different FRMPs to be financially responsible for the import and export of energy at a premises, for the purposes of market settlement and allocation of network charges.

This single meter model is illustrated, at a very high level, in Figure A.1. The mechanics of how this model can be supported are described in further detail below.

**Figure A.1 The single meter model: one meter, two FRMPs**




### A.1.1 Current metering arrangements and data streams

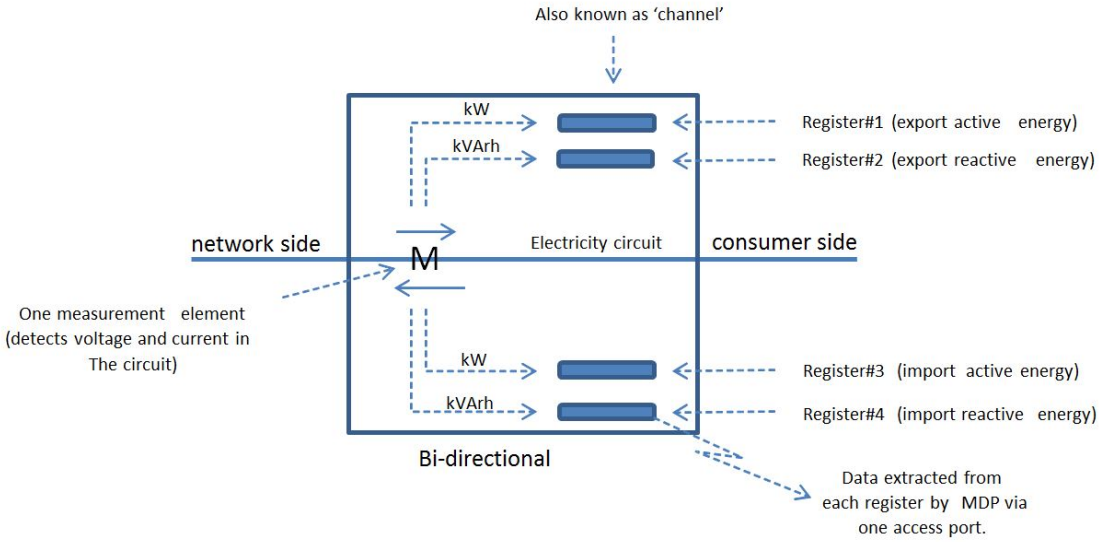
This model differs from the proposed framework in the rule change request in that it can be supported by a typical interval meter. The NER requires all such meters to be capable of measuring bi-directional flow. This means that the meter must be able to

188 Note that the term "export" refers to the export of power from the NEM to the customer, while "import" refers to the import of power produced by the customer to the NEM.

measure flows of energy from the NEM to the customer (export) and from the customer to the NEM (import), using one or more measurement elements.[189]

Interval meters typically use a single element to measure both import and export energy flows.[190] These energy flows are then recorded as separate streams of energy data in separate registers.[191] Interval meters must have two separate registers to record both import and export of active energy data streams, but may have additional registers to record other data (such as reactive energy). An example of a single element, bi-directional meter with four registers is set out in Figure A.2.[192]

**Figure A.2 Single bi-directional meter with four registers**




Source: Phacelift, *Metering arrangements to support multiple trading arrangements*, October 2015.

Under current arrangements, small customer single element meters are associated with a single NMI.[193] The different data streams created in the single element meter are

189 NER clause 7.3.1(a)(7) requires all metering installations to "be capable of separately recording energy data for energy flows in each direction where bi-directional active energy flows occur or could occur". While older, Type 6 accumulation meters may not be capable of measuring and recording energy data flows on a bidirectional basis, all more recently installed interval meters and all future installed meters under the metering competition rule will have this capability.

190 An element is a device that measures energy flow by converting current and voltage into an electronic signal. The Commission notes that multiple element meters exist and that such meters could support the single meter model. However, the focus of this appendix is on the allocation of separate NMIs and FRMPs to import and export energy data streams, rather than on physical metering configurations.

191 These registers are effectively memory storage devices that record the energy data for each direction of flow for a defined period. Interval meters store this energy data broken into half hourly segments.

192 Note that of these registers, only the data stored in the import and export active energy registers would be used to support the single meter model.

193 The NER currently state that a NMI must be associated with a metering installation. For the purposes of most small customers, the single meter that is used to measure energy flow at the meter box is the metering installation.

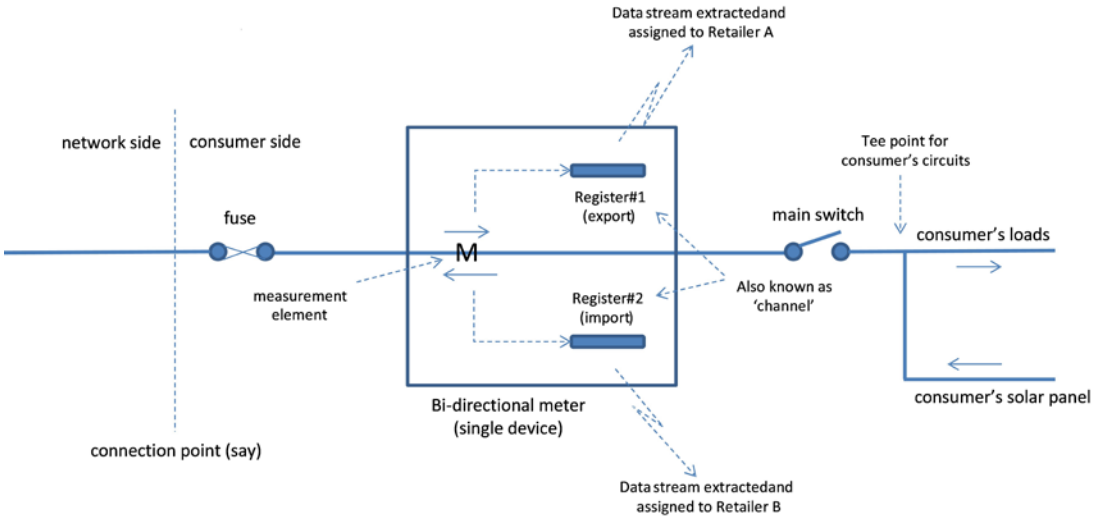
recorded against this NMI, with each defined by attaching a suffix to the relevant NMI.[194] These data streams and the associated NMI code and suffix are processed and delivered by the metering data provider to AEMO for the purposes of market settlement, as well as to the relevant DNSP and retailer for network charging and customer billing respectively.

### A.1.2 Operation of the single meter model

The single meter model would utilise the separate data streams that are created by a single element meter for import and export. It would support a net metering configuration by attaching a separate NMI to each data stream. In effect, one NMI would denote import data flows and a separate NMI would denote export data flows.

Attaching a different NMI to each data stream would allow a different FRMP to be linked to each NMI. Each of these FRMPs could then be settled independently by AEMO in MSATS, with network charges levied only on the relevant FRMP by the DNSP. Figure A.3 illustrates how the single meter model could work.

**Figure A.3 Single meter model**




Source: Phacelift, *Metering arrangements to support multiple trading arrangements*, October 2015.

### A.1.3 Potential benefits of the single meter model

ATA and CUAC suggested the single meter model would allow a customer to sell the net energy it had produced to parties other than the current retailer, without having to

194 A NMI is a 10 digit code. Different data streams are denoted by attaching a different suffix to the same NMI. For example, a metering installation might have the NMI 1234567891, with the export flow denoted as 1234567891E and the import flow denoted as 1234567891B. These different flow data streams, denoted by a different suffix attached to the NMI, are all still considered to be the same NMI.

establish a second connection point. This would enable customers to seek offers for net energy from other retailers that better reflected its value.[195]

The single meter model could theoretically facilitate further efficiency benefits similar to those identified in section 3.4.1. This includes fostering competition in retail markets by supporting the delivery of new energy services, for the benefit of consumers.

The single meter model appears particularly conducive to reducing the costs faced by market small generation aggregators (SGAs) to enter the residential market.[196]

Under current arrangements, SGAs can only engage with customers by establishing a second connection point and metering installation at a premises. This may limit SGAs to engaging with large commercial and industrial customers, where the potential benefits may justify these costs.[197] The single meter model could reduce these costs, by removing the need to establish a second connection point and metering installation, allowing SGAs to more easily enter the residential customer market.[198] This could in turn drive competition in the retail market and provide customers with greater choice regarding the sale of energy produced by embedded generation or battery storage.

Facilitating the development of new energy services from new businesses such as SGAs could deliver efficiency benefits along the supply chain. By coordinating output from embedded generation and battery storage, SGAs could help provide benefits of helping meet wholesale market price peaks, reducing network peak demand and providing network support and control ancillary services.[199]

While the single meter model could help deliver more efficient outcomes in the electricity market, it also appears that implementation of this model is likely to present a number of significant regulatory challenges. In addition, market participants may face costs to adapt their systems and processes to support the single meter model. A high level overview of these potential implementation issues is provided in the next section.

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195 ATA and CUAC, Consultation paper submission, p.2.

196 The NERL currently defines a retailer as a person authorised to sell energy. This definition may prevent a retailer only purchasing net energy at a premises - i.e., acting as the "import only FRMP". More generally, it appears unlikely that the business acting as the import only FRMP at a premises would want to be a retailer, as this would require compliance with the existing obligations under the NERR. Registering as an SGA would allow a business to purchase energy at a premises without having to meet NERR obligations that currently apply to retailers.

197 The Commission understands that there are currently no SGAs active in the residential market.

198 Other factors would also be relevant to SGA entry decisions into the residential market, such as the controllability of energy produced by the customer. The availability of technologies such as direct load control and battery storage may therefore play a significant role in such decisions.

199 For more discussion on how these kinds of services might provide efficiency benefits along the supply chain, see KPMG New Energy Services and Multiple Trading Relationships, July 2015.

## A.2 Implementation issues

The Commission has identified a number of potential implementation issues for consideration prior to the single meter model being proposed as a rule change request. This is not an exhaustive list; the Commission considers that a more thorough assessment of the single meter model is likely to identify additional implementation issues that would need to be addressed.

This section provides a high level overview of some implementation issues, including:

- Customer, participant and AEMO implementation issues:
  - Direct costs faced by customers to implement the single meter model.
  - Costs faced by participants to update IT systems and processes to support the single meter model.
  - Costs faced by AEMO to adapt its MSATS and related systems to support the single meter model.
- Regulatory issues:
  - Chapter 3 of the NER, relating to wholesale market settlement.
  - Chapter 7 of the NER, relating to metering.
  - Parts 1, 5, 6 and 7 of the NERR, dealing with disconnection, classification, hardship and life support obligations.

### A.2.1 Customer implementation issues

Initial consideration of the single meter model suggests that customers may face lower implementation costs relative to either current arrangements or the proposed framework.

Clause 7.3.1(a)(7) of the NER requires all new meters (whether to a new premises or replacing an old meter) to be capable of separately recording bi-directional energy data. This means that, over time, increasing numbers of residential customers will have metering equipment capable of supporting the single meter model. As discussed in Box A.1, the continued uptake of solar PV in the residential sector will also impact the rollout of meters that are capable of supporting the single meter model.

**Box A.1 Solar PV uptake and bidirectional meters**

Over the last decade, various jurisdictions have introduced solar feed in tariff (FiT) schemes that provided payments for energy imported to the grid from rooftop solar PV. Some early FiTs were designed to provide a payment to the customer for energy that was typically in excess of the wholesale spot price - the

so called "premium" FiTs. These schemes were typically structured as either:

- A gross tariff, where the customer received a payment for the total energy produced by the PV unit, regardless of the customer's consumption of any energy produced. This required a second meter to be installed, which measured and recorded the total quantity of electricity produced by the PV unit. Typically, a gross metering arrangement is more attractive to the customer where the FiT payment is higher than the price of electricity.

- A net tariff, where the customer received a payment only for the balance of energy imported to the NEM. This required only one single element meter to be installed, with the import and export flows measured and recorded in separate registers. In this arrangement, solar generation is first used by the customer's load, with the balance (if any) imported to the NEM. Typically, a net metering arrangement is financially attractive to a customer when the FiT payment is lower than the price of electricity used by the customer.

The different tariff structures of these premium FiT schemes has therefore encouraged customers to adopt different metering configurations.[200] However, these premium FiT schemes are now all closed to new customers. New customers may now receive the recommended FiT tariffs payable by a retailer, if the retailer wishes to offer a solar generation purchase product. The retailer is also free to determine the structure of the FiT (that is, to decide whether to offer a net or gross tariff).

Currently, all retailers currently only offer net FiTs; consequently, net metering arrangements are deployed for new solar generation installations as the default arrangement.[201]

The single meter model may offer lower upfront costs than the proposed framework for those customers who already have bi-directional meters installed.[202] ATA and CUAC identified that the framework proposed by AEMO appears capable of supporting net metering arrangements only through installing two separate meters in series. In such an arrangement, each meter would be a separate settlement point measuring one direction of energy flow.[203] A customer would therefore face the cost of installing this second meter, along with any additional costs to adapt the switchboard, meter board and associated wiring. In comparison, the single meter model may support net metering at much lower direct cost to customers than the proposed framework by avoiding the need for a second meter in circumstances where

200 NSW and the ACT did offer some gross premium FiT schemes. Queensland, South Australia, and Victoria have provided net premium FiTs.

201 More information on FiT arrangement is available from: Phacelift, Metering arrangements to support multiple trading relationships, 23 October 2015.

202 Where a customer does not have a bi-directional meter, one would need to be installed in order to support the single meter model.

203 AEMO, Rule change request, Appendix A; ATA and CUAC, Consultation Paper submission, p.7.

the customer already has a bi-directional meter. The nature of the actual implementation costs would need further analysis.

### A.2.2 Participant and AEMO implementation issues

The single meter model may require various participants to update IT systems and develop new operational processes. It may also increase the degree of operational complexity for participants.

A number of stakeholders identified that implementation of the single meter model could require participants to incur similar costs to those identified in Chapter 4 to adapt systems and processes.[204]

As discussed in Chapter 4, these costs relate to changing the one to one relationship between connection point, FRMP, metering installation and NMI in DNSP systems.

Energex suggested the complexities around changing this one to one link could be addressed by defining a "primary NMI" in the single meter model.[205] This would be the NMI that was originally allocated to the meter for measuring load (export), and which would continue to bear all existing jurisdictional and NERL rights and obligations.[206] This primary NMI would remain allocated to the FRMP responsible for export of energy from the NEM to the customer. A secondary NMI would also be defined, with limited, or no, rights or obligations under jurisdictional frameworks and the NERL. This secondary NMI would be allocated to the FRMP responsible for import of energy from the customer to the NEM. While DNSP IT systems may still require some updating, Energex suggested that being required to action NEM obligations and hold meter/customer/billing information for only one primary NMI may reduce the costs and complexities of the single meter model.

Ausgrid, however, stated that a significant portion of the costs of developing new IT systems and operational processes relates to the testing and development of those systems.[207] This testing is necessary to ensure that these highly integrated systems and processes function correctly once changes are made to their design architecture. A significant portion of these costs are fixed, which implies that the DNSP testing processes associated with implementing the single meter model may still be significant.

Similarly, United Energy suggested that the costs of implementing the single meter model would be no less operationally complex for DNSPs that the proposed framework in the rule change request. It identified that it would need to 'develop the

204 Draft rule determination submissions: NSW DNSPs, p.1, Competitive Energy Association, p.1, United Energy, p.2.

205 Telephone conversation with Energex and subsequent email correspondence 15 October 2015.

206 This would include the ability to request disconnection and responsibilities such as hardship and life support arrangements.

207 Telephone conversation with Ausgrid 16 October 2015.

capability to register/provide the second NMI for a single meter and to collect the generation data-streams.'[208]

It is possible that DNSPs may face less operational complexity to implement the single meter model compared to the AEMO's proposed framework. For example, network charges can be levied by the DNSP only on the active energy exported from the NEM to the customer at a premises.[209] A customer with a single meter model would therefore continue to have only one NMI and FRMP associated with this activity. This means that DNSPs may not need to develop new tariff structures as under the proposed framework, as they would not be required to allocate network charges across multiple FRMPs at a premises.

AEMO indicated that its MSATS systems are already based around individual NMIs.[210] It advised that if the data received from the metering data provider for the purposes of settlement continues to be provided on the basis of individual NMIs, then the single meter model may not require significant overhaul of MSATS.

In addition, ERM Power stated that its systems are also based on data associated with a NMI. Consequently, it was indifferent as to whether this data comes from separate metering installations, elements, or registers. However, ERM stated it would be necessary that the metering data provider continue to provide metering data in its current form and a full set of NMI standing data would be created for each NMI. This would imply separate network tariff codes for each NMI, and no inter-dependencies or subtractions required between data streams.[211]

Vector identified other costs that may be incurred, in addition to the above. It noted that implementing the single meter model may have additional meter configuration costs. It stated that the' conversion of metering installations to conform with the single meter model, and the development of corresponding regulations involve amending global metering settings' and that this 'would require additional meter programming and configuration, including the introduction of a change management protocol between retailers that potentially provides the settlement owner a right of approval, or veto, in order to safeguard settlement accuracy or timeliness.[212] It also noted that other costs would likely arise in the form of delays in the delivery of services to customers, for example, 'where the FRMP requires permission from the other retailer to change programming, or where agreement of both (or multiple) parties is necessary for a new configuration required by a customer.'[213]

208 United Energy, Draft rule determination submission, p.2.

209 NER clause 6.1.4.

210 Issue raised in meeting with AEMO 12 October 2015.

211 Issues raised in telephone conversation with ERM Power and subsequent email correspondence 29 September 2015.

212 Vector, Draft rule determination submission, p.3.

213 ibid, p.4.

## A.3 Regulatory issues

Various parts of the NER and NERR would require detailed review and potential change prior to implementing the single meter model. This section provides identifies some of these issues, including:

- the rules for market settlement, set out in Chapter 3 of the NER;
- the metering provisions established in Chapter 7 of the NER, particularly the special site and joint metering provisions as well as the definitions of NMI and metering installation; and
- the NERR, particularly Parts 1, 5, 6 and 7 of the NERR, dealing with disconnection, classification, hardship and life support obligations.

There may be other parts of the regulatory framework that would require detailed assessment and possible amendment for the single meter model to be proposed as a rule change request.

### A.3.1 Wholesale market settlement

As described in section 4.3.1, the existing NER framework for market settlement is based around the connection point.

As with the rule change request, implementation of the single meter model would require a fundamental departure from these arrangements. A new regulatory process for financial responsibility and market settlement would be needed, as the point of settlement would be moved away from the connection point to the various NMIs within a single meter. The direct and consequential changes necessary to house such a concept are likely to be just as extensive as those incurred to support the proposed framework set out in the rule change request.

### A.3.2 Metering issues

The single meter model may also have implications for metering, including:

- the role of the metering coordinator; and
- the appropriate definitions of NMI, meter and metering installation.

***Role of the metering coordinator***

The competition in metering rule introduced a new market participant, the metering coordinator. The metering coordinator is appointed by the FRMP at a connection point

and is in turn responsible for the provision of metering assets and management of metering data at that connection point.[214]

The single meter model raises several potential regulatory issues related to the roles of the metering coordinator, the metering provider and metering data provider, where multiple FRMPs are active at a single metering installation.[215]

Some complexities may emerge in terms of how a metering coordinator should be appointed under the single meter model. Under the competition in metering rule, the FRMP at a connection point is responsible for appointing the metering coordinator for small customers. Complexities emerge where more than one FRMP is active at the premises, particularly where those FRMPs are using different data streams produced by the same single element meter and are responsible for settlement rather than connection points. Solutions to this issue could include:

- Each FRMP appointing its own metering coordinator, who then appoints its own metering provider and metering data provider. This does not appear to be a feasible solution under the single meter model, as it is not clear how two metering co-ordinators, metering providers and metering data providers could be appointed to the one physical element.

- One metering coordinator is appointed for the entire metering installation. It may be possible to amend the NER to enable the appointment of a single metering coordinator at a metering installation where multiple FRMPs are sharing the same single element meter.

AEMO also highlighted that the presence of multiple metering coordinators, metering providers and metering data providers at a single metering installation may impact on data quality. For example, metering data providers need access to all the relevant energy data in order to accurately perform functions including data validation and substitution, which may be impeded if there are multiple metering data providers active at a single metering installation.[216]

In addition, AEMO also suggested that the kinds of metering arrangements proposed by ATA and CUAC could result in situations where the metering equipment (and presumably the relevant metering coordinator) is effectively "locked in".[217] In such a situation, while "the market roles can change at the NMI, the metering equipment itself is effectively locked in to facilitate those changes." AEMO suggested that "unbundling the metering devices from the incumbent provider would most likely require some degree of rewiring at the customer's installation, with the short term cost to the

214 AEMC, Expanding competition in metering and related services - final determination, November 2015.

215 ibid, p.2.

216 AEMO, Consultation paper submission, p.3.

217 ibid, p.2.

customer presenting a barrier to change and therefore limiting potential competition in metering."[218]

***Definitions of NMI, meter, metering installation and energy data***

Chapter 7 of the NER currently defines a direct relationship between the connection point and metering installation, as well between the metering installation and NMI.[219] A key component of this relationship is that each metering installation must be associated with a unique NMI.

The single meter model is based on the concept that a different NMI is allocated to each data stream produced by a meter. Under the single meter model, multiple NMIs would therefore exist at a single meter. However, this may not reconcile with the current NER requirement for each metering installation to have a unique NMI.[220]

Phacelift Consulting considered that the current NER frameworks could support the definition of metering installation as a single data stream. Phacelift stated that the NER Chapter 10 definition of metering installation refers to energy data, suggesting that each energy data stream can be considered a separate metering installation. Given that the NER require each metering installation to have a unique NMI, Phacelift advised that this would allow a single data stream to be associated with a unique NMI.[221]

Further consideration will be required to determine if this interpretation of the NER arises or is appropriate, what clarity is necessary regarding these issues, and the relationship between the various terms.

### A.3.3 Implications for the NERR

By allowing for multiple FRMPs to be active at a premises, the single meter model could have implications for the application of various provisions of the NERR.

The NERR place a number of obligations and confer a number of rights on retailers. These include the right to request disconnection for non-payment, as well as hardship and life support notification obligations. The ESAA and ERAA raised concerns in response to the rule change request regarding which retailer active at a premises should bear these rights and obligations.[222] These concerns may be equally applicable to the single meter model, if multiple FRMPs were active at a site.

It is also worth noting that the NERR currently applies only to retailers, not to other FRMPs such as SGAs. This implies that other FRMPs engaging with a customer

218 ibid.

219 Clause 7.3.1(e) of the NER states that "the Local Network Service Provider must issue for each metering installation a unique NMI."

220 For most residential customers the meter is equivalent to the metering installation. However, these are defined as different terms in Chapter 10 of the NER.

221 Phacelift, Metering arrangements to support multiple trading relationships, 23 October 2015, p.11.

222 Consultation paper submissions: ESAA, p.2; ERAA, pp. 1-2.

through the single meter model may not be bound by the NERR. However, it would be necessary to consider what rights and obligations, if any, should be borne by such FRMPs as well as the retailer, in order to maintain appropriate customer protections for the various energy services that may be provided.

# B Other issues raised in submissions

Where relevant, stakeholder comments have been addressed throughout the final rule determination. Appendix B addresses other issues raised by stakeholders, as they relate to the detailed implementation of the proposed framework.

## B.1 First round of consultation

| Stakeholder | Issue | AEMC response |
|---|---|---|
| NSW DNSPs (p. 15), United Energy (pp. 10,13), AusNet Services (p. 11). | **Subtractive metering - DNSPs**<br><br>DNSPs identified that subtractive metering would require less modification to their systems and processes. The parent meter would act as the sole connection to the distribution network and therefore, DSNPs would not have to alter IT systems and processes to support it. Some recognised that internal wiring costs may be incurred by customers to establish this metering configuration, and that participants may need to identify sub-metering sites in NMI Standing Data. | The Commission notes comments from stakeholders that some market participants may face lower costs to adapt systems to support this metering configuration, while others may face higher costs.<br><br>As discussed in Chapter 3, by enabling this particular metering configuration, some customers might face lower direct costs, in specific circumstances. However, the Commission considers that the kinds of costs incurred by stakeholders to adapt systems to support this configuration would outweigh any benefits it provided. |
| ERM Power (p. 6), EnerNOC (pp. 1, 2), AGL (p. 6). | **Subtractive metering - Retailers**<br><br>EnerNOC viewed subtractive metering positively, noting that customers would save on internal wiring costs, however, ERM Power and AGL considered it to be high cost as it raised several issues regarding the responsibilities for hardship customers, life support, and disconnections. ERM | |

| Stakeholder | Issue | AEMC response |
|---|---|---|
| | Power recommended prohibiting this metering option entirely. | |
| Ergon Energy (p. 6), Energex (p. 11), AGL (p. 7), NSW DNSPs (p. 18), AusNet Services (p. 11), ENA (p. 16), Energy Australia (p. 2), Metropolis (p. 6), and Origin Energy (p. 5) | **Multi-element metering**<br><br>DNSPs considered that multi-element metering may be costly to support as the one-to-one relationship between NMI, connection point and FRMP would be broken. If each individual element in the meter had its own NMI and associated FRMP, DNSPs would have to treat each element similar to a separate connection point. This would mean DNSPs would provide the same level of service to each element such as servicing, maintenance, and other regulated obligations and therefore full network costs would be allocated.<br><br>United Energy noted that the added complexity for the MDP or MC to collect and collate data may result in additional costs. | The Commission notes comments from stakeholders regarding the potential cost of supporting this particular metering configuration.<br><br>As the Commission has decided not to make a rule, the costs of this specific metering option relative to other configurations have not been assessed. However, the Commission has considered some of the potential regulatory issues associated with multiple metering coordinators active at a single meter, which could apply to multi-element meters. These issues are described in Appendix A. |
| AusNet Services (p. 11), NSW DNSPs (p. 5), and Jemena (p. 3). | **Parallel metering - DNSPs**<br><br>Some DNSPs considered that parallel metering would increase their implementation and operational costs as the one-to-one relationship between NMI, connection point, metering installation and FRMP would be broken. Stakeholders claimed that each individual settlement point would need to be supported in a similar fashion to additional connection points due to regulatory obligations and may require substantial IT system modifications to support. | This is an issue that would need to be resolved if the rule change request was to be progressed.<br><br>As the Commission decided not to make a rule, the costs of this specific metering option relative to other configurations were not assessed. |

| Stakeholder | Issue | AEMC response |
|---|---|---|
| AGL (p. 4) | **Parallel metering - Retailers**<br><br>AGL noted that this metering configuration would represent the simplest approach and would require the least cost and complexity of changes to implement the proposed framework. | |
| ENA (p. 2), Metropolis (p. 6), Energex (p. 13), Ergon Energy (p. 11), NSW DNSPs (p. 21), AGL (p. 8), United Energy (p. 10), Origin Energy (p. 7). | **Tripartite relationship – DNSPs and retailers**<br><br>Most stakeholders considered that the tripartite relationship would still exist, but would need to reflect the possibility of multiple FRMPs at a premises. The major issue identified was billing coordination, but the Metering Coordinator could potentially coordinate the billing timings. | This is an issue that would need to be resolved if the rule change request was to be progressed.<br><br>As discussed in Chapter 3, the Commission notes that the triangular contractual arrangement between DNSP, customer and retailer at a premises is currently sufficient to meet customer demand for MTR. However, this arrangement may need to be clarified if levels of uptake of MTR were to increase. |
| ATA and CUAC (p. 10). | **Tripartite relationship – Consumer groups**<br><br>ATA and CUAC suggested that the relationship between the DNSP and customer may diminish as the role of the MC takes over metering functions from the DNSP. | |
| Ergon Energy (p. 5), Metropolis (p. 6), CALC (p. 1), AGL (p. 7), NSW DNSPs (p. 18), Origin Energy (p. 5), and ENA (pp. 15, 16), ATA and CUAC (p. 13). | **Role of the FRMP**<br><br>Some stakeholders suggested that any party involved in the sale or purchase of energy to a premises should be a FRMP. Stakeholders stated that the existing framework works well in this regard, and would require only minor amendment to support the proposed framework to ensure that consumer protections remain in place. Some suggested that alternate energy providers wishing | This is an issue that would need to be resolved if the rule change request was to be progressed.<br><br>As the Commission has decided not to make a rule, the requirements regarding the role of FRMPs have not been assessed. |

| Stakeholder | Issue | AEMC response |
|---|---|---|
| | to engage customers through a multiple trading relationship should register as a FRMP.<br><br>Ergon argued that DNSPs should be enabled to engage with customers directly for new technologies such as load control devices or battery storage. | |
| Ergon Energy (p. 7), Energex (p. 13), ENA (p. 2), and ATA and CUAC (p. 9). NSW DNSPs (p. 20). | **Customer classification – DNSPs and Consumer groups**<br><br>Stakeholders argued that customers should be classified according to the size of the load at the premises as the load profile determines the cost impact to the network.<br><br>The NSW DNSPs also suggested that if a customer was also generating and sending power to the NEM, classification may need to be amended to reflect total energy transacted at the premises. | This is an issue that would need to be resolved if the rule change request was to be progressed.<br><br>As the Commission has decided not to make a rule, this issue has not been assessed. |
| AGL (p. 8), Ausnet Services (p. 17), Origin Energy (p. 6). | **Customer classification - Retailers**<br><br>AGL and AusNet Services suggested that customer classification should be determined by each FRMP at its own settlement point, while Origin suggested this could result of 'gaming' of tariffs by customers. | |
| United Energy (p. 15), AGL (pp. 7, 9), AusNet Services (p. 16), Origin Energy (p. 8). | **Standing and Deemed contracts**<br><br>Stakeholders generally viewed that standing offers or deemed contracts would not be necessary as | This is an issue that would need to be resolved if the rule change request was to be progressed.<br><br>As the Commission has decided not to make a |

| Stakeholder | Issue | AEMC response |
|---|---|---|
| | each FRMP at a site may be providing different energy services to the customer. | rule, the need for standing and deemed contracts under MTR has not been assessed. |
| ATA and CUAC (p. 12). | **Standing and Deemed contracts**<br><br>The ATA and CUAC suggested that retailers offering general supply of electricity to a property should still provide standing offers. | |
| NSW DNSPs (p. 11). | **Standing and Deemed contracts**<br><br>Where a customer moves in to a premises already configured for multiple trading relationships, they may revert to a single trading relationship and a standing offer should apply.<br><br>NSW DNSPs also suggested that for existing customers who want to engage with multiple FRMPs at a premises, additional clauses may be needed for deemed connection contracts. | |
| Metropolis (pp.2-5), Energex (pp. 5-11), Energy Australia (p. 2), PIAC (p.2), , NSW DNSPs (p.11), ESAA (p.3), AusNet Services (p.12), Origin Energy (p.5), ENA (p.15), Vector (p.6), Metropolis (p. 2), Energex (p. 11). | **Role of the Metering Coordinator**<br><br>Stakeholders stated that it was unclear exactly what role the metering coordinator could play in supporting multiple trading relationships, but did identify potential benefits including better facilitating innovation in energy services and increased competition.<br><br>Some complexities were identified by stakeholders that could potentially prevent the metering coordinator from facilitating customers engaging | This is an issue that would need to be resolved if the rule change request was to be progressed.<br><br>As the Commission has decided not to make a rule, it has not made a decision on this issue.<br><br>However, the Commission has set out some of the high level issues related to the role of the metering coordinator in the circumstances where multiple FRMPs share one metering installation. These issues are discussed in Appendix A. |

| Stakeholder | Issue | AEMC response |
|---|---|---|
| | with multiple FRMPs, including:<br><br>• a lack of clarity where multiple metering coordinators service a premises;<br><br>• no clear delineation of responsibilities and communication protocols between metering coordinators;<br><br>• possible customer confusion regarding investigations or fault registration; and<br><br>• metering coordinators appointed by single FRMP not facilitating multiple trading relationships.<br><br>Metropolis and Energex also identified that metering coordinators could play a role in assisting customers to obtain similar benefits through other alternative energy solutions. | |
| Reposit Power | **Services other than Energy**<br><br>Reposit Power stated that the AEMC should consider separate trading relationships for energy and ancillary services for a single market load as part of its assessment of the rule change request. | The rule change request from AEMO dealt with the provision of energy services and the Commission's analysis has been focused accordingly. The regulatory frameworks related to the unbundling of energy and ancillary services are being considered in detail in the Demand response mechanism and ancillary services unbundling rule change. |

## B.2 Second round of consultation

| Stakeholder | Issue | AEMC response |
|---|---|---|
| Origin (p. 4), Vector (p. 2) | ***Life Support***<br><br>The proposed framework would add uncertainty around arrangements for Life Support | This is an issue that would need to be resolved if the rule change request was to be progressed.<br><br>As the Commission has decided not to make a rule, this issue has not been assessed. |
| Origin (p.4) | ***Retailer of last resort***<br><br>The proposed framework would add uncertainty around arrangements for retailer of last resort | This is an issue that would need to be resolved if the rule change request was to be progressed.<br><br>As the Commission has decided not to make a rule, this issue has not been assessed. |
| ENA (p.1) | ***Delay***<br><br>Progressing with the proposed framework would delay implementation of other Power of Choice Reforms. | This is an issue that would need to be resolved if the rule change request was to be progressed.<br><br>As the Commission has decided not to make a rule, this issue has not been assessed. |
| AEMO (p.3) | ***Review***<br><br>The three year review of Competition in Metering Rule Change should evaluate whether the benefits proposed under AEMO's proposed MTR framework are being captured. If not, there may be a case to revisit MTR in some form. | There is scope for these issues to be reviewed as part of the scheduled three year Competition in Metering review, however, the terms of reference for this review, nor its timings are confirmed as yet. |

# C Legal requirements under the NEL and NERL

This appendix sets out the relevant legal requirements under the NEL and the NERL for the AEMC to make this final rule determination.

## C.1 Final rule determination

In accordance with s. 102 of the NEL and s. 259 of the NERL, the Commission has made this final rule determination in relation to the rule change request submitted by AEMO.

In accordance with s.103 of the NEL and s. 261 of the NERL, the Commission has determined it should not make a rule.

The Commission's reasons for making this rule determination are set out in section 2.3.

## C.2 Power to make the rule

The Commission is satisfied that the subject matter of the rule change request falls within the subject matter about which the Commission may make rules.

It falls within s. 34 of the NEL as it relates to:

- the operation of the national electricity market;[223]
- the activities of persons (including Registered participants) participating in the national electricity market or involved in the operation of the national electricity system; and[224]
- facilitating and supporting the provision of services to retail customers.[225]

Further it falls within s. 237 of the NERL as it relates to:

- the provision of energy services to customers, including customer retail services and customer connection services;[226]
- the activities of persons involved in the sale and supply of energy to customers;[227]
- the rights and obligations between distributors and retailers who have shared customers;[228]

223 Section 34(1)(a)(i) of the NEL.

224 Section 34(1)(a)(iii) of the NEL.

225 Section 34(1)(aa) of the NEL.

226 Section 237(1)(a)(i) of the NERL

227 Section 237(1)(a)(ii) of the NERL.

- disputes under or in relation to the rules between persons;[229] and
- the energisation, de-energisation or re-energisation of premises of customers.[230]

## C.3 Commission's considerations

In assessing the rule change request the Commission considered:

- the Commission's powers under the NEL and NERL to make the rule;
- the rule change request;
- earlier work undertaken by AEMO including the High Level Design;
- submissions received during the first and second round of consultation;
- the Commission's analysis as to the ways in which the proposed rule will or is likely to, contribute to the NEO and NERO; and
- reports prepared by KPMG, Energeia, and Phacelift.

228 Section 237(2)(a) of the NERL.

229 Section 237(2)(b) of the NERL.

230 Section 237(2)(h) of the NERL.