AEMC

REVIEW

Australian Energy Market Commission

DRAFT REPORT

Review of regulatory arrangements for embedded networks

12 September 2017

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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 (AEMC or Commission) finds that the current regulatory framework for embedded networks is no longer fit for purpose and is resulting in some customers not being able to access competitive prices or important customer protections. There is also a lack of clarity that embedded network operators are meeting their obligations as suppliers of an essential service.

In this draft report, the AEMC is recommending changes to the regulatory framework for embedded networks to address these issues. This proposed framework improves access to competition, better aligns the minimum obligations for supplying embedded network customers with those for supplying standard supply customers and provides embedded network customers with an appropriate set of customer protections.

Background

Embedded networks are private electricity networks[1] which serve multiple customers and are connected to another distribution or transmission system in the national grid through a parent connection point. A party, other than the registered local network service provider (LNSP), owns and operates the private electricity network that customers connect to. The party is known as an embedded network service provider. Generally, the embedded network service provider also purchases electricity at the parent connection point and on-sells it to customers within the embedded network.

Common examples of embedded networks include shopping centres, retirement villages, apartment complexes and caravan parks. Embedded networks may occur as new developments or retrofits of existing buildings. In addition they may, or may not, have distributed energy resources such as solar photovoltaic (PV) panels, battery storage, or diesel generators located within them.

Embedded network service providers must gain exemption from registration as a network service provider. If this party also wishes to sell energy within the embedded network it must also hold a retailer authorisation from the Australian Energy Regulator (AER), or be exempted by the AER from holding a retailer authorisation.

The growth in embedded networks means an increasing number of customers are being supplied under different regulatory arrangements and consumer protections than customers that have a standard network connection. We estimate there are currently over 200,000 embedded network customers.

The AEMC was requested by the Council of Australian Governments (COAG) Energy Council to undertake a review of the regulatory arrangements for embedded networks in the National Energy Retail Law (NERL) and the National Energy Retail Rules (NERR). In

1 This review primarily relates to electricity embedded networks. 'Embedded network' is used to refer to an electricity embedded network, an embedded network involving gas distribution is referred to as a 'gas embedded network'.

doing this, we were asked to identify and assess any issues for, and the experience of, embedded network customers under the current NERL and NERR and to identify appropriate solutions to any identified problems. We have also been requested to consider broader issues relating to how embedded networks are regulated under the National Electricity Law (NEL), National Electricity Rules (NER), National Gas Law (NGL) and National Gas Rules (NGR).

The regulatory framework is no longer fit for purpose

The number of embedded networks has grown significantly in recent years. A range of business models to provide embedded network services have emerged and developments in technology, including distributed generation and energy storage, also mean the configuration of, and arrangements within, embedded networks are increasingly complex. These developments have brought both opportunities for innovation and new risks for consumers.

The AEMC has found that the exemption framework is no longer fit for purpose in the face of the growth in number and scope of embedded networks. The Commission does not consider an appropriate balance between innovation, consumer protection, and access to retail market competition is being achieved in the two-tiered framework which regulates embedded network service providers and exempt sellers outside of the national framework under the NER and NERR.

We have found embedded networks customers receive a lesser level of consumer protections and a limited monitoring and enforcement regime under the network service provider and retail exemption framework due to regulatory gaps, the growth in the numbers of embedded networks, and diversity in the capacity and resources of embedded network operators.

We have also found significant practical barriers to customers in embedded networks accessing retail market competition, which means that embedded network customers have limited ability to change supplier if they are unhappy with the price they are paying or level of service that they are receiving. In addition, there are a number of provisions of the NERL and NERR that do not operate effectively for embedded networks.

The recommendations in this draft report are not intended to create a barrier to the continued operation and establishment of embedded networks where they offer benefits to consumers. Instead, the intention is to provide customers in embedded networks with appropriate consumer protections and increased access to retail competition.

Provided that they are appropriately regulated, the Commission considers that embedded networks can provide benefits to consumers by way of discounted prices and non-price benefits such as multi-service offerings, more environmentally sustainable housing and improved access to embedded generation. However, due to a lack of competitive pressure and appropriate consumer protections, the Commission considers that many embedded network consumers are not currently receiving benefits from these arrangements.

Consequently, we agree with the view of many submitters that the existing regulatory framework should be changed so it remains fit for purpose in the face of the growth in number and scope of embedded networks. This would also promote greater alignment of regulation for retailers and network service providers of standard supply customers and embedded network customers.

A new regulatory approach

As suppliers of an essential service, the Commission is of the view that the embedded network service providers and on-sellers that serve small residential and business customers should meet a set of minimum standards and be subject to an appropriate level of enforceable consumer protections.

Consumer protections, including monitoring and enforcement of those protections, are not costless but are necessary in respect of the provision of an essential service. Similarly, there are costs involved in establishing market rules and systems to allow businesses to compete for customers. However, access to competition is also an important form of consumer protection and any approach taken must consider how this can be improved to benefit consumers.

The Commission does not see retaining the current framework as an option. For example, the current gaps in enforcement options and the regulatory gaps that exist due to the increasing role of authorised retailers in embedded networks should not go unaddressed.

To address the issues that have arisen in relation to access to retail market competition, consumer protections and monitoring and enforcement regimes we have made draft recommendations for changes under three objectives:

(a) ***Improving access to retail market competition*** in legacy embedded networks to the extent possible.

(b) ***Elevating embedded networks into the national regulatory and competitive market framework*** under the NER and NERR, which will involve significant reform of the two-tiered regulatory framework for new embedded networks arrangements and reserve network service provider and selling exemptions for a narrow set of circumstances.

(c) ***Better consumer protections for new and legacy embedded networks*** including information disclosure; access to dispute resolution; improved monitoring and enforcement; and making the NERL/NERR effective for embedded networks for customers supplied by an authorised retailer.

Consultation on the draft recommendations

This draft report has been prepared to facilitate consultation on the AEMC's draft recommendations.

Written submissions form stakeholders are requested by 17 October 2017.

A stakeholder workshop will be also be held in Sydney on Wednesday 4 October 2017.

The Commission would be particularly interested in stakeholder views on the following issues:

- The exemption process has flexibility which has been utilised in new, innovative business models. The Commission has proposed moving some of this flexibility to the retailer authorisation process. Will the proposed approach allow an appropriate level of flexibility? What elements should be flexible in the authorisation process?

- Of the current obligations on authorised retailers under the NERL and NERR, which should be included in the list of minimum obligations that would apply to authorised retailers supplying embedded network customers under the proposed framework?

- The Commission has not recommended, at this stage, that consumer benefits be demonstrated to gain approval to establish an embedded network. This is on the basis that the regulatory framework is designed to promote efficient decisions. Do stakeholders agree?

- Under the proposed framework most new embedded networks involving permanent residential or commercial tenants would require the embedded network service provider to be registered and the on-seller to be an authorised retailer, while exemptions would be available in limited situations such as temporary supply and temporary accommodation. There may also be merit in allowing exemptions for small embedded networks such as caravan parks with a small number of permanent residents. Would a flexible authorisation process be able to have similar benefits and regulatory burdens as the exemption process? What types of embedded networks should continue to be able to obtain exemptions?

Next steps

The final report is due to be published on 28 November 2017.

The Commission intends to recommend that the COAG Energy Council:

- endorse the new regulatory framework set out in the final report

- if they endorse the new framework, task the AEMC to provide detailed advice on the implementation of the framework, including a description of the law changes required and a draft rule change request.

Draft recommendations

1. Improving access to competition for customers in legacy embedded networks:

(a) Improve access to competition for legacy embedded network customers by making the process for switching to a market offer as simple as possible. This can be achieved through two main changes:

- Where there is an embedded network manager (ENM) appointed, child embedded network customer connections should be issued with National Metering Identifiers (NMIs), registered by the Australian Energy Market Operator (AEMO) in their market settlement and transfer solution (MSATS) system and discoverable by retailers, regardless of whether the customer is on- or off-market.

- Allowing a retailer of an on-market embedded network customer to pay the exempt embedded network service provider a network tariff that is equal to the standard published LNSP network tariff that would apply if there was no intermediate embedded network.

2. Elevating new embedded networks into the national framework:

(a) Any person who engages in the activity of owning, controlling or operating an embedded network must be registered as a registered embedded network service provider (with a sub-set of the requirements of a network service provider) with AEMO, or exempted by the AER according to a narrow set of circumstances.

(b) Any party who sells energy to a consumer in an embedded network must hold a retailer authorisation from the AER, or be exempted by the AER from holding a retailer authorisation according to a narrow set of circumstances.

(c) The Commission also recommends that:

- an embedded network service provider be required to appoint an ENM for all its embedded network connection points

- the ENM be required to:

  - apply to AEMO for NMIs for all off-market metering installations

  - provide the Metering Coordinator with the NMI for the metering installation

  - register the NMI for off-market metering installations with AEMO (i.e. in MSATS)

  - maintain information in the metering register (i.e. NMI standing data in MSATS) about the metering installations.

(d) The NER be amended to provide more guidance to the AER on the criteria for network service provider exemptions which would restrict these exemptions to narrow circumstances.

(e) The AER be provided limited discretion under the authorisations framework to exempt retailers that on-sell electricity in embedded networks from specific conditions under the NERR where the cost of meeting the obligation is disproportionate to the benefit, and does not impede access to retail market competition.

- The AER would not be permitted to exempt authorised retailers from complying with a minimum set of conditions including, for example:
  - providing access to independent dispute resolution through Ombudsman schemes
  - explicit informed consent when entering into a contract
  - life support requirements
  - disconnection requirements.

(f) Remove the current exempt seller factors from the NERL and replace these with principles that clarify the purpose of retail exemptions are to address circumstances where:

- the costs of retail authorisation, facilitating retail competition and retail churn would outweigh the benefits to customers, and
- the need for regulatory oversight is low.

(g) More guidance be provided in the NERR to the AER on the criteria for selling (retail) exemptions.

3. Better consumer protections for new and legacy embedded networks:

(a) The AER, Ombudsmen and jurisdictional governments continue to develop required changes to the retail exemption guidelines and state regulations to increase access to independent dispute resolution services for exempt customers.

(b) Jurisdictions should consider options for improving awareness of entitlements and concessions and access to these for embedded network customers.

(c) To facilitate greater transparency of activities within embedded networks related to exempt customers, the NERL should specify a role for the AER to monitor embedded network service provider and exempt selling behaviour. Such a role should include flexibility so that the AER can examine the conduct of particular sellers as required. In the interim the AER should consider how monitoring can be increased under its

current functions and powers. The AER should also consider whether the reporting requirements under the exemption framework should be increased.

(d) Review the penalty amounts for infringement notices and act upon previous COAG Energy Council work in this area.

(e) Enforcement options for network exemption breaches, including breaches of conditions, should be more closely aligned with the enforcement powers for retail exemption breaches.

(f) Consider the costs and benefits of extending the requirement on designated retailers (i.e. local area retailer in most circumstances) to provide a standing offer to include embedded network customers, or alternatively whether another party could take on the obligation to offer.

(g) Make the NERL/NERR work for retail customers in embedded networks, including by addressing the following consumer protections:

- Consider extending the standing offer price cap for exempt customers to cover retail customers in embedded networks as well.
- Amend the NERR to align the de-energisation and re-energisation rules for retail customers in embedded networks with standard supply customers.
- Amend the NERR to align the life support rules for retail customers in embedded networks with standard supply customers.

(h) Improve information provision by:

- Amending the NERR to require authorised retailers to provide additional information and obtain explicit informed consent prior to a customer entering an embedded network or other non-traditional selling arrangements. The AER should update the exemption guidelines to reflect that change.
- Jurisdictional governments should consider whether there is sufficient provision for disclosure of the cost, benefits and risks of embedded networks in state based laws at the time of purchase or lease of a property.
- Authorised on-selling retailers be required to publish their prices in line with other authorised retailers, though the AER should have some flexibility to exempt some parties from inappropriate obligations.
- Many exempt sellers should also be required to publish price information to allow customers considering moving into an embedded network an informed choice and to allow greater monitoring of exempt selling activity. The AER should consider whether some embedded networks should be exempt from this requirement due to their size or nature.

4. Improve regulatory framework for gas embedded networks:

(a) We recommend the COAG Energy Council:

- agrees to establish a clear and jurisdictionally harmonised regulatory framework for gas embedded network operators which is consistent with the regulatory framework for embedded network service providers in the national electricity market
- decides whether to establish this framework through jurisdictional legislation or under the national gas law and rules
- if this framework is to be established under the national gas law and rules, requests the AEMC to provide advice on changes to the law and rules that would be required to implement it.

Abbreviations and key terms used in this report

Network related terms

Embedded network: The NER defines an embedded network as a distribution system, connected at a parent connection point to either a distribution system or transmission system that forms part of the national grid, and which is owned, controlled or operated by a person who is not a network service provider.

Embedded network operator: A term commonly used to describe the party that owns, controls or operates an embedded network, and commonly also on-sells electricity to customers within that embedded network, under exemptions from the AER from being a registered network service provider or holding a retailer authorisation.

Embedded network manager: The *National Electricity Amendment (Embedded Networks) Rule 2015* introduces a new accredited provider role, the embedded network manager, into the NER to be responsible for performing market interface services for embedded network customers. This rule comes into effect on 1 December 2017.

Exempt embedded network service provider: Section 13 of the NEL and clause 2.5.1(d) of the NER defines an exempt embedded network service provider as a person who engages in the activity of owning, controlling or operating an embedded network under an exemption granted or deemed to be granted by the AER .

Local network service provider: The NER defines a local network service provider as a network service provider to which a respective geographical area has been allocated by the authority responsible for administering the jurisdictional electricity legislation in the relevant participating jurisdiction.

Network service provider: Chapter 2 of the NER defines a network service provider as a

person who engages in the activity of owning, controlling or operating a transmission or distribution system and who is registered by AEMO as a network service provider.

Registered embedded network service provider: A person who engages in the activity of owning, controlling or operating an embedded network and who, under the changes proposed in this report, is registered by Australian Energy Market Operator (AEMO) as an embedded network service provider.

Retail related terms

Authorised retailer: A retailer authorised by the AER under the NERL to engage in the activity of selling energy (electricity or gas) to a person for premises.

Authorised on-selling retailer: Authorised retailer on-selling energy purchased at a parent connection point to customers in an embedded network.

Exempt seller: The NERL[2] defines an exempt seller as a person who is exempted by the AER from the requirement to hold a retailer authorisation.

Market retailer: An authorised retailer that purchases electricity in the national electricity market and sells it to an embedded network customer.

Market offer: As defined in section 2 of the NERL, a market offer is an offer by an authorised retailer to a small customer to provide customer retail services under a market retail contract.

Customer related terms

Exempt customer: The NERL[3] defines an exempt customer as a person to whom an exempt seller sells energy and who would be a retail customer of the seller if the seller were an authorised retailer.

Retail customer: The NERL[4] and the NERR[5] define a retail customer as a person who is a customer of an authorised retailer.

Small customer: As defined in section 5(2) of the NERL, a 'small customer' is a customer

2 clause 2(1) of Division 1 of Part 1.

3 section 109.

4 s. 109.

5 s. 148.

6 Version 5 is available here: https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/network-service-provider-registration-exemption-guideline-december-2016

7 Version 4 is available here: https://www.aer.gov.au/retail-markets/retail-guidelines-reviews/retail-exempt-selling-guideline-march-2016

who is a residential customer; or who is a business customer who consumes energy at business premises below the upper consumption threshold.

Standard supply customer: A customer whose electrical supply is connected to a distribution system that is owned and operated by a distribution network service provider (DNSP) and whose retail services are provided by an authorised retailer

Other terms and definitions

Off-market activity: Under an off-market arrangement an exempt seller or authorised retailer on-sells electricity purchased at a parent meter from the NEM to an embedded network customer. This is known as "off-market" activity because there is no financially responsible market participant at the customers' connection point and the customer's electricity consumption is not settled in the national electricity market.

On-market activity: Under on-market arrangements within embedded networks, an authorised retailer purchases electricity in the national electricity market and sells it to the embedded network customer. The authorised retailer provides retail services, and metering services are arranged by the financially responsible market participant (the Metering Coordinator from 1 December 2017). This type of arrangement is known as "on-market" activity because there is a financially responsible market participant at the customer's connection point and the customer's metered consumption is settled in the market.

On-selling: On-selling is an arrangement where a person purchases electricity from the national electricity market and they, or a person acting on their behalf, sells the electricity to others. On-selling is an off-market activity.

Network exemption guideline: The *Electricity Network Service Provider - Registration Exemption Guideline* published by the AER.[6]

Retail exemption guideline: The *AER (Retail) Exempt Selling Guideline* published by the AER.[7]

Contents

1 Introduction

This chapter sets out:

- the terms of reference for this review
- background
- other related work
- the structure of the draft report.

1.1 Terms of reference

In December 2016, the AEMC received a terms of reference from the COAG Energy Council for a review of arrangements for embedded networks under the NERL and NERR, in response to the Commission's recommendations in the final rule determination on the *Embedded networks* rule change request.

The purpose of the review is to identify and assess any issues for embedded network customers under the NERL and NERR and identify appropriate solutions. This includes an analysis of barriers in the NERL and NERR in relation to embedded network customers accessing offers from competing retailers. The COAG Energy Council asked the AEMC to determine whether current regulatory arrangements under the NERL and NERR for embedded network customers remain appropriate and recommend whether any further work, including rule changes, are necessary to address the identified issues.

The COAG Energy Council also stipulated that the review should consider the broader issues, and consequential changes, related to embedded networks in the NEL, NER, NGL and NGR set out in the AEMC's final rule determination on the *Embedded networks* rule change request. These broader issues include the appropriateness of the two tiered regulatory framework for embedded networks, arrangements for gas embedded networks, the potential for embedded network customers to currently receive lesser consumer protections than standard supply customers, and issues raised by consumer groups.

The AEMC was asked to have regard to the national energy retail objective (NERO) and the broader work being undertaken by the COAG Energy Council on energy market transformation.

The terms of reference require the AEMC to consider options that:

- support competition where effective
- take into account the cost of regulation and support for a range of supply and service models
- take into account the impact of current arrangements on vulnerable consumers

particularly in situations where other retail offers are not accessible

- aim to ensure regulatory frameworks are fit for purpose and sufficiently flexible to cope with the effects of emerging technologies and market innovation
- enable consumers to benefit from innovative services while mitigating any risks.

Finally, the terms of reference required a draft report be published by 15 September 2017 and a final report by December 2017.

1.2 Background

Embedded networks have been considered in other reviews completed by the AEMC, including the *Energy market arrangements for electric and natural gas vehicles*[1] and the *Power of choice review*.[2] In regard to embedded networks, the reports recommended changes to clarify the relevant metering and other arrangements, and reduce the barriers to embedded network customers accessing retail market offers.

Following these recommendations, AEMO submitted a rule change request on embedded networks to the AEMC. The AEMC made a final rule on 17 December 2015 in response to this rule change request.

The changes to the NER set out in the National Electricity Amendment (Embedded Networks) Rule 2015 (the *Embedded networks* rule) create a new accredited provider role – the embedded network manager – to perform the market interface functions that link embedded network customers to the NEM systems. The market interface functions assigned to the embedded network manager relate to the access and maintenance of standing data in the Market Settlement and Transfer Solutions (MSATS) system, which in turn affects B2B procedures. Addressing these issues through the new embedded network manager role will reduce these barriers for embedded network customers accessing competitive retailer services from authorised retailers.

The AEMC was limited by its rule making power to make changes only to the NER because the rule change request had been made under the NEL and set out proposed changes to the NER. The rule change request did not propose any changes to the NERR. Consequently, the Commission was unable to address any issues in relation to the NERR.

Accordingly, the Commission's final rule determination set out a number of issues regarding embedded networks in relation to the NERR that may potentially benefit from amendment. These issues arise because the NERL and NERR are designed on the basis of the tripartite relationship that typically exists between a customer, its retailer and its local network service provider. This relationship does not exist for embedded network customers because the customer does not have a relationship with the local network service provider.

1 AEMC, *Energy market arrangements for electric and natural gas vehicles*, final advice, December 2012, p. 38.

2 AEMC, *Power of choice review - Giving consumers options in the way they use electricity*, final report, November 2012.

Instead the customer has a relationship with the embedded network operator.

The final rule determination also outlined a number of other problems with the regulatory arrangements for embedded networks. These had been identified by stakeholders during the course of the rule change process, in submissions to the Commission's annual retail competition reviews and in reports by consumer groups. Some of these issues related to the NERL and NERR, while others related to the NEL, NER, NGL, NGR and jurisdictional instruments.[3] These broader issues include:

- issues with the two tiered regulatory system of registered network service provider/authorised retailer and exempt network service provider/exempt retailer
- issues regarding gas embedded networks
- the potential for lesser consumer protections for off-market embedded network customers and problems accessing hardship schemes and ombudsman services
- issues raised by research undertaken by consumer groups surveying the experience, outcomes and problems of consumers within embedded networks.

These issues were beyond the scope of the *Embedded networks* rule change request. The Commission therefore recommended the COAG Energy Council request the Commission to undertake a review of the NERL and NERR to identify and assess the issues regarding the arrangements for embedded network customers. The Commission also recommended the COAG Energy Council consider whether the recommended AEMC review should also consider, and provide recommendations on, broader embedded network issues.

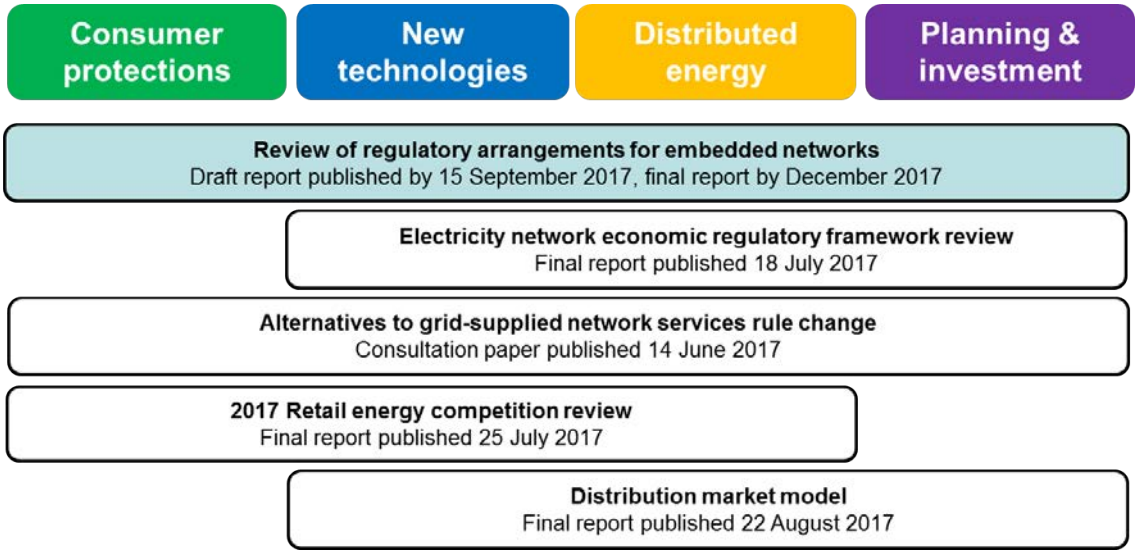
1.3 Other related work

The terms of reference asked the AEMC to have regard for the broader work being undertaken by the COAG Energy Council on energy market transformation. This subsection notes related work being undertaken under this banner and other related work by the Commission and other bodies.

There are a number of rule changes and reviews being undertaken by the Commission that are ongoing and related to this review. Figure 1.1 displays these projects, the topics they cover and their timing.

3 AEMC, *National Electricity Amendment (Embedded Networks) Rule*, final rule determination, 17 December 2015, p. 68.

Figure 1.1: Related projects



The Commission closely coordinated and linked policy and legal issues across these projects.

The COAG Energy Council is also progressing a work program to consider appropriate policy and regulatory responses to addressing key issues in the electricity market relating to new technology, innovation and market change.

The Victorian Government is also reviewing their exemption framework under their jurisdictional legislation.

A summary of each of these projects is set out below.

2017 retail energy competition review

The report on the AEMC's 2017 retail competition review[4] was published on 25 July 2017 and included analysis relating to the growth in embedded networks and the different business models which have evolved to provide services under the exempt network service provider and exempt seller framework. The evidence base produced through this analysis informed this review.

Distribution market model

On 22 August 2017, the AEMC published the final report on its Distribution Market Model project. The report sets out the key characteristics and enablers of a future where investment in and operation of distributed energy resources to be optimised to the greatest extent possible, as well as a number of findings representing short-term actions that can be taken to advance the development of distribution systems and more readily incorporate distributed energy resources into our market. The Commission considers that any evolution

4 AEMC website, project webpage, http://www.aemc.gov.au/Markets-Reviews-Advice/2017-Retail-Energy-Competition-Review, Final report.

of distribution systems needs to be driven by consumers (or their chosen energy service providers).

Electricity network economic regulatory framework review

In August 2016, the COAG Energy Council tasked the Commission with monitoring developments in the energy market, including the increased uptake of decentralised energy services. The Commission is required to publish its findings annually.

The Commission published its report on 18 July 2017.[5] The Commission used the first report to review the operation of the economic regulatory framework, how it has evolved against the backdrop of change in the past decades and identified areas that may require further investigation in future reports. As the first report of the annual review, the 2017 report provides a foundation for assessing the performance of the framework, rather than recommending changes. Areas that warrant further investigation and monitoring in future editions of the review include:

- network service providers' financial incentives in delivering economically regulated services
- continual implementation of network pricing reform
- the changing role of distribution networks, as outlined in the Commission's work on the distribution market model project.

Alternatives to grid-supplied network services rule change

In September 2016, Western Power submitted a rule change request[6] that seeks to allow DNSPs to provide electricity services that are not physically connected to the network, and to receive regulated revenue for these services. The request relates to microgrids and individual power systems (as defined in *section 4.1*) and does not cover embedded networks. It proposes amendments to the definition of 'distribution service' which will affect how these services are classified. The AEMC published a consultation paper on 14 June 2017 and is due to publish a draft determination at the end of September.

Projects in implementation phase

AEMO is currently implementing the *Embedded networks* and *Expanding competition in metering and related services* rule changes that were made by the Commission, and which are closely linked to this review. Information on these completed rule changes is available on our website.[7] Of particular relevance to this review is the *Embedded networks* rule, which was made on 17 December 2015 and will commence on 1 December 2017.

5 ibid.

6 AEMC website, project webpage, http://www.aemc.gov.au/Rule-Changes/Alternatives-to-grid-supplied-network-services, Rule change request.

7 AEMC website, project webpages, http://www.aemc.gov.au/Rule-Changes/Embedded-Networks and http://www.aemc.gov.au/Rule-Changes/Expanding-competition-in-metering-and-related-serv.

COAG Energy Council's Energy Market Transformation work program[8]

In December 2015, the Energy Council endorsed an Energy Market Transformation work program to consider appropriate policy and regulatory responses to addressing key issues in the electricity market relating to new technology, innovation and market change. This work is complementary to the other work being done by the Energy Council to better integrate energy and climate policies and seeks to address four key areas:

- enhanced competition and innovation
- empowering consumers
- ongoing power system security
- efficient investment and operation of electricity infrastructure.

As part of this work program, the COAG Energy Council released three consultation papers in August 2016 on stand-alone systems, consumer protections and energy (battery) storage. The Commission made submissions on each of these papers.[9]

In August 2017 the Energy Market Transformation Project Team published a work program update noting outcomes and further work in these areas.[10]

As required by the terms of reference for this review, the Commission has been informed by the COAG Energy Council's work on these issues.

The Victorian Government General Exemption Order (GEO) review

The Victorian Government is currently undertaking a review of the GEO, which provides for exemptions from the requirement to hold an electricity licence for certain activities in Victoria, including embedded networks. A final position paper and draft GEO for stakeholder comment were published by the Department of Environment, Land, Water and Planning on 28 August 2017.[11] The final positions include that "embedded networks serving multiple strata title lots should cease to be protected by the GEO, and should be transitioned to an appropriately designed licensing framework administered by the ESC [Victorian Essential Services Commission]".

8 COAG Energy Council website, Energy market transformation webpage, http://www.coagenergycouncil.gov.au/council-priorities/energy-market-transformation.

9 AEMC website, Corporate publications webpage, http://www.aemc.gov.au/About-Us/Resources/Corporate-publications, *AEMC submission on consumer protections behind the meter consultation*, *AEMC submission on energy storage registration consultation paper*, *AEMC submission on stand-alone energy system consultation paper*, 4 November 2016.

10 COAG Energy Council website, Publications webpage, http://www.coagenergycouncil.gov.au/publications/energy-market-transformation-bulletin-no-05-%E2%80%93-work-program-update.

11 Victoria State Goverment, Department of Environment, Land, Water and Planning, General exemption order review webpage, accessed 29 August 2017: https://www.energy.vic.gov.au/legislation/general-exemption-order-review

1.4 Structure of the report

The draft report is set out as follows:

- Chapter 2 outlines the approach to the review and assessment framework
- Chapter 3 explains the evolution of embedded network business models and regulation
- Chapter 4 provides a background of the regulatory framework for embedded networks
- Chapter 5 sets out the issues we have identified concerning embedded networks
- Chapter 6 summarises our findings and proposed new regulatory approach
- Chapter 7 explains our recommendations for further improving access to retail competition within legacy embedded networks
- Chapter 8 explains our recommendations for elevating embedded networks into the national framework
- Chapter 9 explains our recommendations for improving customer protections for new and legacy embedded networks.

2 Assessment framework

This chapter discusses the objectives and the criteria we used to assess the current framework for regulating embedded networks and design a proposed new framework.

2.1 Relevant aspects of the national energy objectives

We decided to have regard to the objectives under all three sets of national energy laws because the review involved considering potential changes to them all: the NEL and NER for electricity, the NGL and NGR for gas, and the NERL and NERR for retail energy services.

Although the objectives of these laws and rules have some differences, at the heart of them all is the promotion of the long term interests of consumers.

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."

In addition, under the NERL the Commission must, where relevant:[13]

> "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."

This is referred to as the consumer protection test.

The NEO is:[14]

> "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."

12 NERL, s. 13.

13 NERL, s. 236(2)(b).

14 NEL s. 7.

The NGO is:[15]

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

Based on our assessment of the terms of reference for the review, the relevant aspects of the NERO, NEO and NGO are the promotion of efficient investment in, and operation of energy/electricity/natural gas services for the long term interests of consumers of energy/electricity/natural gas with respect to price, quality, safety and reliability. For example, the regulatory arrangements for embedded networks may affect the price consumers pay and the quality of service they receive. Safety and reliability are also relevant, particularly where embedded networks include large amounts of generation and energy storage. We also considered the consumer protection test in developing our recommendations.

For a detailed discussion on the Commission's approach to applying these overarching objectives to reviews and rule making processes, such as this one, refer to *Applying the energy objectives: A guide for stakeholders*.[16]

2.2 Criteria derived from the objectives

We adopted the following criteria to assess the regulatory arrangements for embedded networks and determine if further work, including law and rule changes, are necessary to address identified issues:

- Do the regulatory arrangements facilitate competition and consumer choice in energy services and products?
- Are the regulatory arrangements clear, consistent and transparent?
- Do appropriate consumer protections and compliance mechanisms apply within embedded networks?
- Do the regulatory arrangements promote efficient investment and allocation of risks and costs?
- Are the regulatory arrangements proportional to the risks they seek to mitigate?

2.2.1 Facilitating competition and promoting consumer choice in energy services and products

Competition is a key driver of productivity and efficiency in markets, driving lower prices and improved choices for consumers in the long run. This is because, where competition is

15 NGL, s. 23.

16 AEMC, *Applying the energy objectives: A guide for stakeholders*, 1 December 2016.

effective, over time businesses have incentives to innovate, minimise costs, provide competitive prices, provide a quality of service matching customer expectations and a choice of services consistent with consumer preferences.

An effective regulatory framework should be sufficiently flexible to encourage emerging technologies and services, thus promoting competition. Consequently, our assessment of options has considered:

- the degree to which the regulatory framework for embedded networks promotes or hinders innovation and competition in the retail market for electricity and gas services
- whether changes are necessary to assist embedded network customers' ability to access competitive retail offers.

2.2.2 Clarity, transparency and predictability

The regulatory framework for embedded networks needs to be transparent and result in predictable outcomes for all participants. The regulatory framework for embedded networks should provide a clear, understandable set of rules to encourage effective participation in the market.

Consumers and businesses need to understand what their protections and obligations are and what others' obligations are with respect to the transactions they undertake. This should promote confidence in the regulatory framework and encourage effective participation.

Consumers should have access to sufficient information to make informed and efficient decisions. For example, for consumers within embedded networks to exercise choice between retailers and embedded network operators they need access to relevant information to compare prices between each. Also, clear information around the consumer protections which apply when being supplied within an embedded network would assist consumers in making decisions about entering an embedded network or consenting to their existing arrangements being converted to an embedded network.

A clear and transparent regulatory framework creates confidence in the market which should also encourage investment and innovation in providing embedded network services.

2.2.3 Appropriate consumer protections

The NERL states that exempt customers should, as far as practicable, not be denied consumer protections afforded to retail customers under the NERL and NERR.[17]

Therefore, our assessment of options has considered:

17 NERL, s. 114(1)(c).

- the extent to which the regulatory arrangements for embedded networks provide for equivalent consumer protections to be extended to customers in embedded networks
- whether additional protections are appropriate for embedded network customers given the choices they have available
- the appropriateness of the current mechanisms for compliance and enforcement of consumer protections within embedded networks.

2.2.4 Efficient investment and allocation of risks and costs are promoted

The regulatory framework for embedded networks should encourage innovation and promote efficient investment in network infrastructure and the supply of energy services. Efficient incentives usually arise where risks and costs are appropriately allocated. The placement of risk should lead to:

- *mitigation of risk* - the consequences of that risk should it materialise (that is, the potential for loss - either in a financial or a physical sense) being avoided or lessened
- *incentives to improve risk management over time* - this involves allocating risk to a party who can, relative to others, better manage the consequences of that risk.

As a general rule, risks should be borne by, or allocated to, parties who are in the best position to manage them and have the incentives to do so. Therefore, our assessment of options has considered how costs and risks are allocated between exempt network service providers, exempt sellers and consumers and options that might improve the appropriateness of risk allocation.

2.2.5 Proportionality and regulatory burden

Competition and market signals often help protect and provide the best outcome for consumers. However, regulation may be necessary in the case of market failure or to safeguard safe, secure and reliable supply of energy to consumers. Therefore, we considered whether the existing regulatory framework appropriately addresses any market failures or risks arising from the evolution and growth of embedded networks and the extent to which increased regulatory oversight and intervention might be necessary.

Where arrangements are complex to administer, difficult to understand, or impose unnecessary risks, they are less likely to achieve their intended ends, or will do so at higher cost. Therefore, our assessment of options has considered whether the administrative and compliance burden created by our recommendations is likely to be proportional to the benefits it is seeking to achieve.

3 Evolution of embedded networks

Embedded networks have become an increasingly popular way for energy to be distributed and sold to consumers in the NEM. The number of embedded networks in residential developments has grown considerably in recent years reflecting a shift in preferences for housing towards higher-density living within 'smart cities' and 'smart communities.'[18] Technologies such as distributed generation and energy storage are also being leveraged into the design of many embedded networks to promote these 'smart' developments. The growth in this market segment has potential to provide opportunities for innovative new service offerings for consumers, but also present some risks.

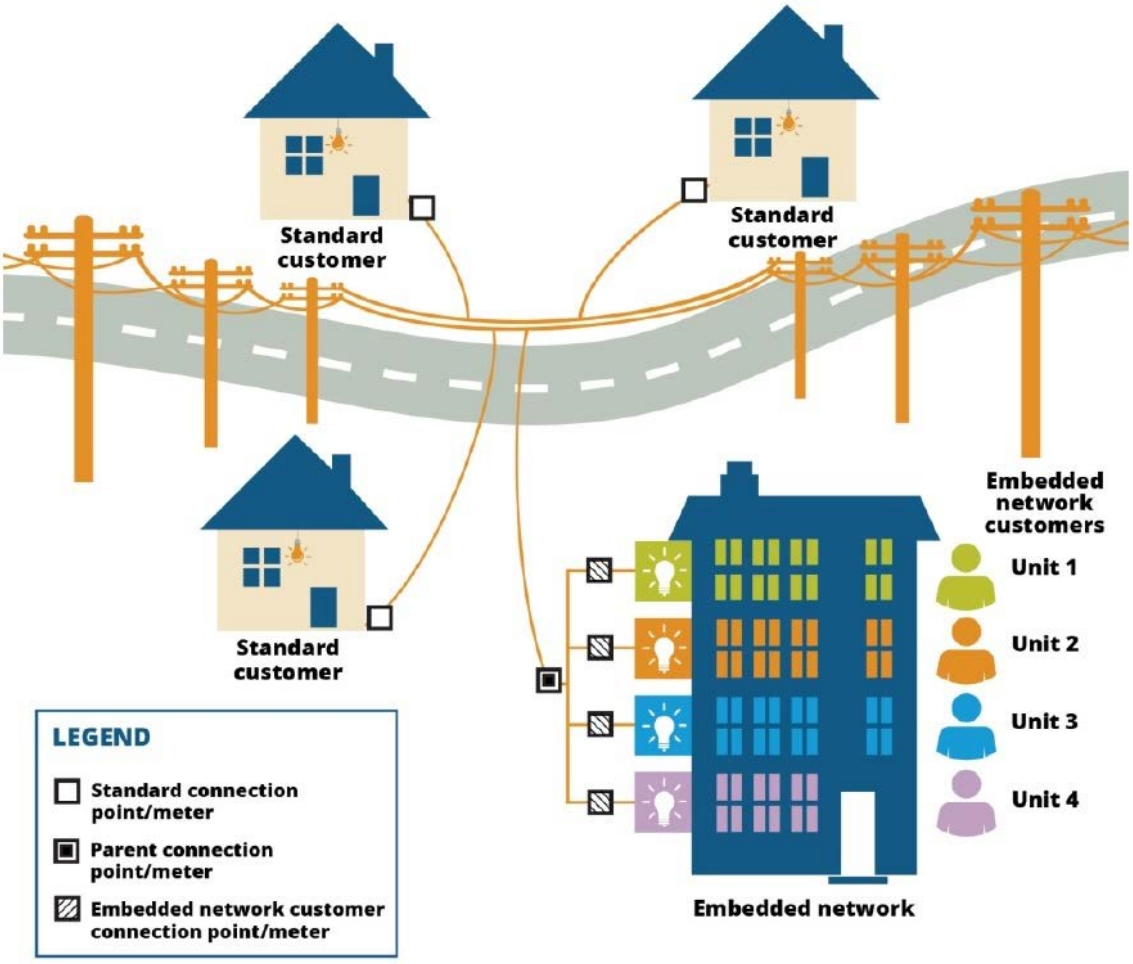
This chapter provides an overview of the evolution of the embedded networks sector and the exemptions regime over time. It sets out findings on the scale and nature of embedded networks in the NEM and emerging business models.

3.1 Embedded networks

An embedded network is a privately owned, operated or controlled electricity or gas network. In an embedded network a party other than a local network service provider (LNSP) owns and operates the private network that customers connect to. That party is known as an embedded network service provider. In many instances the embedded network service provider or a related party also sells energy to consumers on the embedded network. Instead of individual consumers in the embedded network buying energy from an authorised retailer, commonly the embedded network service provider purchases all the energy at a bulk rate (typically at a lower cost than would be available to individual small consumers) from an authorised retailer and then sells this energy to the individual downstream consumers (on sold energy).

18 Smart cities and communities refers to an urban development vision to better integrate information technologies into long-term investment and coordinated planning decisions to promote positive outcomes in environment, employment, housing, and transport. See: Department of the Prime Minister and Cabinet website, Smart cities plan webpage, https://cities.dpmc.gov.au/smart-cities-plan.

Figure 3.1: Embedded electricity network connection points



The configuration of an embedded network with on sold energy differs from the traditional model of retail supply for a standard customer (see Figure 3.1).

The standard customer in Figure 3.1 has an individual meter and a connection point that connects them directly to the LNSP's network. The standard customer is able to choose their energy retailer. Their chosen retailer sells them energy and, in the same bill, passes on the LNSP's charges.

In contrast the embedded network has a parent meter and a single 'parent' connection point that connects the embedded network to the LNSP's network. The embedded network service provider also commonly on sells energy to multiple consumers within the private (embedded) network through separately metered connections.[19] Typical examples of

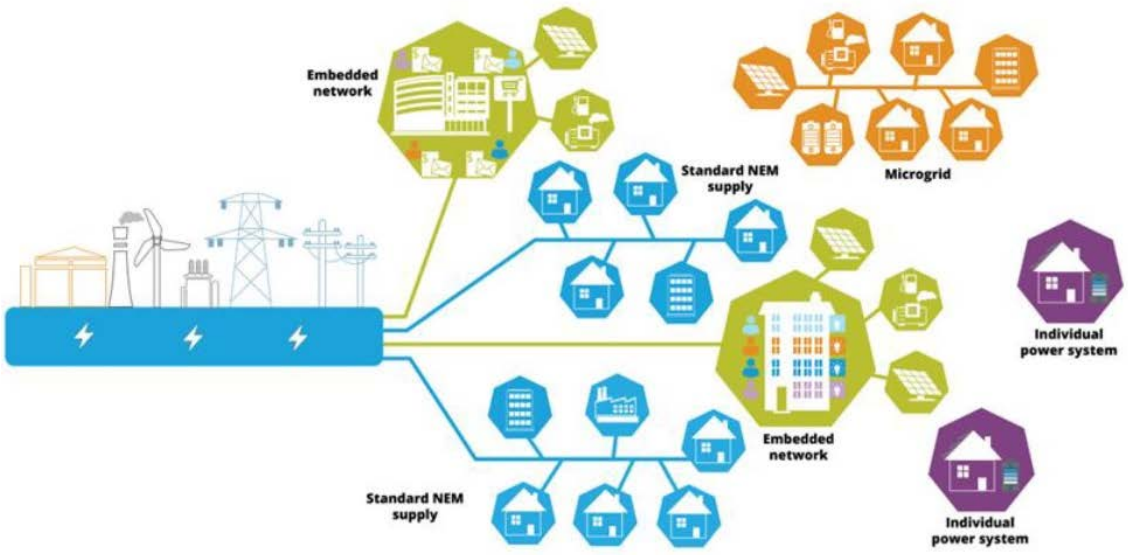
19 Section 11(2) of the NEL specifies that a person must not engage in the activity of owning, controlling or operating, in the relevant jurisdiction, a transmission system or distribution system that forms part of the interconnected national electricity system unless the person is a Registered participant in relation to that activity, or the person is the subject of a derogation that exempts the person, or is otherwise exempted by the AER from the requirement to be a Registered participant in relation to that activity. In 2015, the AEMC made a final rule to introduce new definitions into Chapter 10 of the NER. It defined an *embedded network* as 'a *distribution system*, *connected* at a *parent connection point* to either a *distribution system* or *transmission system* that forms part of the *national grid*, and which is owned, controlled or operated by a person who is not a *Network Service Provider*.' It also defines a *parent connection point* as 'the *connection point* between an *embedded network* and

embedded networks include some caravan parks, retirement villages, shopping centres and apartment buildings.

Traditionally, in situations like apartment buildings, with multiple tenants or residents, there were few network exemptions and most installations had no parent meter. Rather, the wiring in such buildings has been said to connect those customers directly to the LNSP's network.[20] That wiring has commonly been treated as 'connection assets' and not as constituting an embedded network[21], with end use consumers treated by retailers and LNSPs in the same way as other standard customers. This traditional arrangement has been standard industry practice since the commencement of the NEM.[22]

An embedded network's connection to the national grid distinguishes it from two other types of electricity supply, namely microgrids and individual power systems (IPS), which are not grid-connected (see Figure 3.2). A grid connection results in embedded networks being regulated under the NEL and the NER, while off-grid supply arrangements are not regulated under either the NEL or the NER.

Figure 3.2: Various models of electricity supply



a *Network Service Provider's network*' and defined a *child connection point* as 'the agreed point of *supply* between an *embedded network* and an electrical installation, *generating unit* or other *network* connected to that *embedded network*, for which a *Market Participant* is, or proposes to be, *financially responsible*.' These definitions came into effect 17 December 2015.

20 AER, *AER Electricity Network Service Provider - Registration Exemption Guideline*, Version 5, December 2016, p. 14, footnote 4.

21 ibid.

22 ibid.

3.2 Scale of embedded networks in the NEM

The number of embedded networks in the NEM has grown rapidly in recent years. Embedded networks in the residential apartment market is the primary driver of this growth.[23]

Across the NEM, the total number of (registered) network exemptions at the start of August 2017 was 3,390, while the number of retail exemptions was 2,733.[24] This includes all commercial, industrial and residential activities, excluding retail exemptions from Victoria. This number, and the information in the table below, only includes registered exemptions and does not include embedded networks that receive deemed exemptions, meaning that the the total number of embedded networks in the NEM is expected to be much greater than this. The exemption arrangements mean that no information is available about embedded networks operating or selling energy under deemed exemptions, and this lack of information is a significant drawback of the current exemption system.

Table 3.1 - Registered exemptions as at 2 August 2017[25]

Jurisdiction	Exempt Sellers	Network Exemptions
Queensland	1,858	1,767
New South Wales	601	485
ACT	161	16
Victoria	Not available	774
South Australia	548	348
Tasmania	145	5
Total	2,733	3,390

Source: AER public register of network exemptions and retail exemptions

The number of embedded network sites with a residential component accounts for just under half of all network exemptions. The other exemptions relate to commercial and industrial sites such as airports, mines, hotels, hospitals, and shopping centres. These involve no residential activity, and all energy consumers in the embedded network are commercial entities.[26]

The AEMC has obtained advice on the numbers of embedded networks and embedded network customers sourced from strata title searches, building consent approvals, and from parties representing or delivering embedded network services (for instance, Caravan Industry Association and the Australian Shopping Centre Industry). The advice contains the following estimates:

23 AEMC, 2017 Retail Energy Competition Review, 25 July 2017, pp. 160-161.

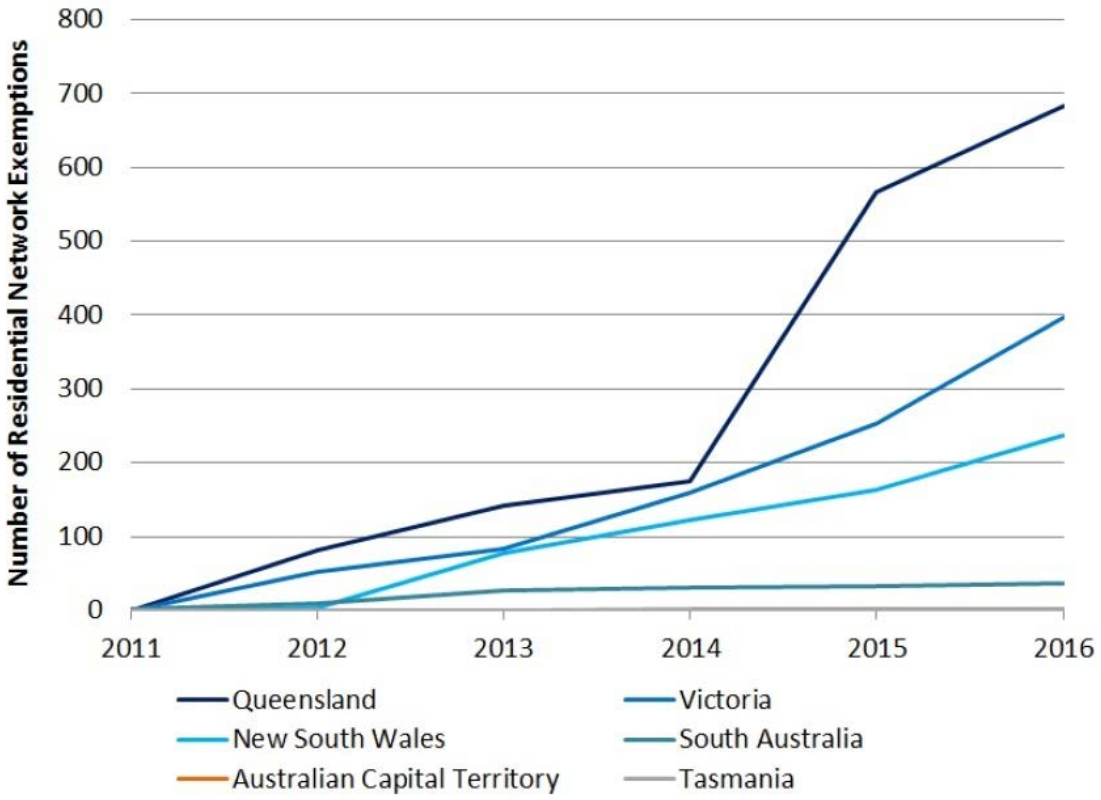
24 AER website, public register of network exemptions webpage, https://www.aer.gov.au/networks-pipelines/network-exemptions/public-register-of-network-exemptions; public register of retail exemptions webpage, https://www.aer.gov.au/retail-markets/retail-exemptions/public-register-of-retail-exemptions.

25 ibid.

26 AEMC, *2017 Retail Energy Competition Review*, 25 July 2017, p. 162.

- the number of embedded networks is in the order of 3,000 to 4,000, which is greater than the number registered with the AER and suggests many network exemptions are unregistered
- there are 213,000 to 227,000 embedded network customers that they are aware of, based on billing data provided by embedded network operators
- 65 per cent of these customers are residential (including retirement villages, caravan parks) and 35 per cent are commercial
- there are 110,000 sites that could be configured as an embedded network, which would capture a total of about 1.5 million customers.[27]

Figure 3.3: Jurisdictional residential network exemption registrations (cumulative)[28]



Source: AER, AEMC analysis

Figure 3.3 plots jurisdictional residential network exemptions registered with the AER over time. Between 2011 and 2014, there was modest growth in Queensland, New South Wales and Victoria. However from 2014 residential embedded network exemptions significantly increased in Queensland. In 2015 alone there were 391 network exemptions granted in Queensland, accounting for around 74 per cent of all network exemptions that year. Over the entire period embedded networks in Queensland accounted for more than 50 per cent of all network exemption registrations across the NEM. Many of these registrations may be

27 Advice from Energy Options Australia to the AEMC, August 2017.

28 AEMC, *2017 Retail Energy Competition Review*, 25 July 2017, p. 163.

related to an increase in existing embedded networks registering for the first time, coinciding with the introduction of the NECF in Queensland from 1 July 2015.[29]

Victorian network exemption registrations also grew between 2011 and 2014, however, Victoria only accounted for around half the number of embedded networks compared to Queensland. In 2014 and 2016 Victoria had the most new residential network exemptions (75 and 145, respectively) accounting for around 48 and 43 per cent of all exemptions in those respective years.

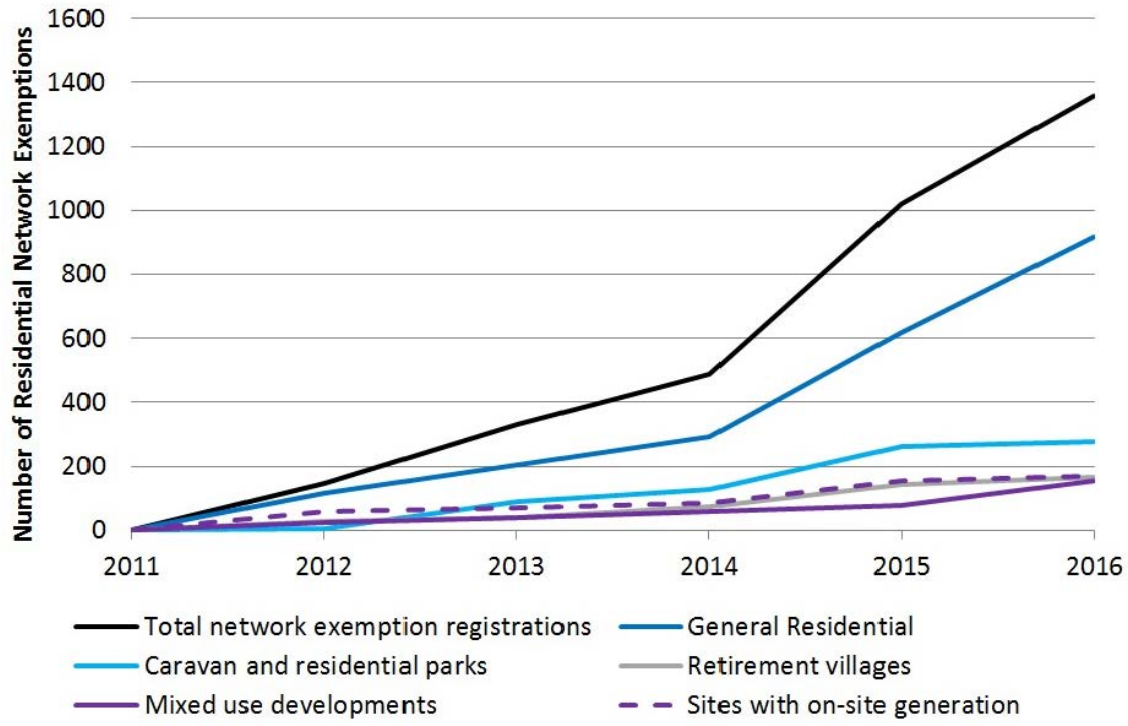
Registered network exemptions in New South Wales appear to have commenced later than in Victoria and Queensland, but have had sustained growth since then, averaging around 60 registrations annually. Other jurisdictions have seen only limited growth in residential embedded networks since 2011.[30]

Figure 3.4 shows how the number of network exemption registrations has grown over time. It highlights that the overwhelming majority of network exemptions across NEM jurisdictions are related to general residential activities such as apartment buildings. This exemption category has grown significantly since 2014, increasing 215 per cent. It reflects the changing preferences in demand for housing over this period, and also potentially a greater awareness of the network exemption process resulting in more legacy embedded networks registering.

29 AEMC, 2017 Retail Energy Competition Review, 25 July 2017, p. 163 (footnote 181) and p. 224.

30 For more comprehensive analysis see AEMC, *2017 AEMC Retail Energy Competition Review*, 25 July 2017, chapter 9.

Figure 3.4: Total NEM residential network exemption registrations (cumulative)



Source: AER, AEMC analysis

Figure 3.4 also shows that the number of sites with embedded generation is low. However the data relates only to generating units larger than 30 MW that are required to be registered with AEMO, and sites with smaller generation units that are used for network support or demand management purposes. It is likely that significantly more embedded network sites exist with non-registrable small-scale generators such as solar PV.

3.3 Types of embedded network businesses

The embedded networks sector has a large range of businesses providing a range of services. These businesses include:[31]

- **Owners Corporations** which are involved in the embedded networks market when the buildings they manage are established (or converted) to an embedded network. This means that the Owners Corporation is not only responsible for the maintenance of the common areas of property and levying appropriate fees to owners of the units, they are also responsible for the delivery of electricity, gas and sometimes other products to consumers. Many owners corporations have registered as exempted parties for both network and retail activities at their sites, or engage others to act on their behalf.

- **Developers** which are primarily responsible for establishing greenfield buildings, and/or conversion of existing building stock into embedded networks. Outside of the

31 For a more detailed discussion see AEMC, *2017 Retail Energy Competition Review*, 25 July 2017, section 9.4.

development to property sale process, some developers are now involved in the ongoing management of the embedded network through subsidiary companies. Some of these subsidiaries and developers are registered as exempted on-sellers and engage with consumers in embedded networks directly with, or on behalf of, the owners corporation.

- **Market intermediaries** which are businesses that operate to provide services to other businesses supplying this segment of the retail energy market. These can include developers, other commercial embedded network managers, residential owners corporations, and consumers. The services that market intermediaries can provide can be vast. They can range from planning and engineering advice to developers at project feasibility stages about establishing embedded networks, through to regulatory advice and exemptions process management, customer management functions such as billing, metering, customer calls and complaints, and other related services. Many market intermediaries now operate in this market and compete with each other to deliver various services for their clients. Market intermediaries can sell to and gain prospective clients at various points in the development including the initial planning stages, through to end-use customer management services. Market intermediaries can seek exemptions for themselves and their clients to operate at specific sites.

- **Retirement village, residential park and caravan park operators** all provide a range of specialised services to their clients, including the provision of electricity. These participants can register as exempted parties for both network and retail activities at their sites, or engage others to act on their behalf.

- **Businesses that on-sell to other commercial entities** which include a range of commercial arrangements where a common property owner (or agent for the owner) sells energy to commercial entities operating on site. These sellers operate across facilities such as airports, shipping ports, hotels and shopping centres.

4 Background

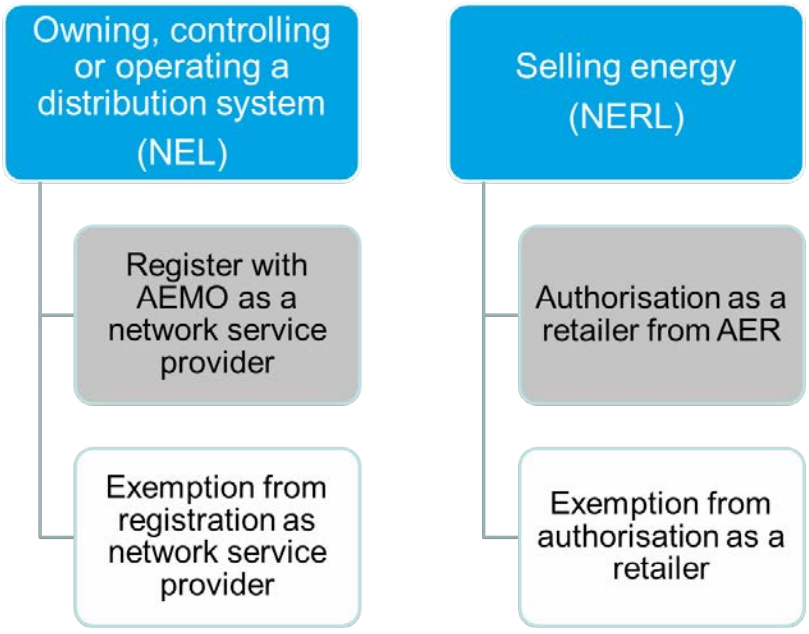
This chapter sets out background information related to:

- the two tier regulatory framework
- the history of the regulatory framework
- the exemption framework
- access to competition for embedded network customers
- consumer protections
- gas embedded networks.

4.1 Two- tier regulatory framework

Under the NEL and NER in order to own, control or operate a distribution system a party must either be registered by AEMO as an electricity network service provider or be exempted from the requirement to register as a network service provider (Figure 4.1). Similarly, under the NERL, if a party wishes to sell energy to a consumer, it must hold a retailer authorisation from the AER or be exempted by the AER from the requirement to hold a retailer authorisation.

Figure 4.1: Current two-tier regulatory framework



The exemptions framework exists because in some circumstances applying the set of regulatory obligations placed on distribution network businesses and authorised retailers to

smaller private network operators was considered excessive or inappropriate.

While there are potential benefits to be gained by a range of parties, including consumers, from embedded network solutions, there are risks borne by consumers with respect to consumer protections. The two tiered regulatory framework can result in substantially different obligations in providing network and retail services between those entities supplying embedded network customers and those supplying standard supply customers. It can also limit access to competitive energy market offers for embedded network customers.

Exempt customers in embedded networks are not covered by the provisions in the NER and NERR. Instead, the AER's network and retail exemption guidelines mimic parts of the NER and NERR. However, the AER has less visibility of performance and compliance for exempt sellers and exempt embedded network service providers and enforcement of the conditions in the network exemption guideline is more difficult (see Chapter 5).

4.2 History of the regulatory framework

Embedded networks are not a new form of electricity supply. The network exemption framework was initially developed under the National Electricity Code (Code).

First published in 1998, the Code contained provisions to enable the exemption of persons or classes of persons from the requirement to register as a network service provider, and from specified network access and connection requirements. General exemptions granted under the Code applied to parties such as caravan parks, office buildings, shopping centres and apartment complexes that reticulated electricity as part of their operations, but where it was incidental to the core business activity. Organisations that fell within one of these general exemptions were not required to make an application for a specific network exemption. The general exemption framework was thus established to address a limited set of risks arising from these limited sets of activities.

The general network exemption process was administered by the National Electricity Code Administrator (NECA).[32] The authorising framework for on-selling activity, however, was determined by various jurisdictional regulations. Some jurisdictions had explicit provisions in various state laws and regulations with respect to the retailing of energy through embedded networks, while others did not. For instance, in Queensland, retail contestability for consumers in an on-supply arrangement was excluded and provisions in the Electricity Act 1994 (the Act) reflect this position.[33]

In 2005 the network exemption framework transitioned to the NEL and NECA's powers and functions in relation to providing network exemptions transitioned to the AER at this

32 National Electricity Code Administrator, *General exemptions from the requirement to register as a network service provider*, National Electricity Code Administrator, 1998, https://www.aer.gov.au/system/files/General%20exemptions-%20NECA.pdf.

33 However, state-based legislation (including the Electricity Act) is under review: Queensland government website, Legislative review webpage, https://www.dews.qld.gov.au/electricity/regulation/initiatives/legislation.

time. The various jurisdictional retail exemption provisions were substantially consolidated into the NERL some time later.[34] In addition, the AER gained regulatory power and functions with respect to energy retail licensing and on-selling on 1 July 2012 when the NERL came into effect for jurisdictions that had adopted the NERL.

4.3 The exemption framework

The AER has discretion over whether or not to grant an exemption and the kinds of exemptions that it can grant.

The NERL includes policy principles that the AER must take into account when exercising its exemption functions and powers in relation to sellers of both electricity and gas. The NERL also provides the AER with guidance on the exempt seller and customer related factors it may wish to consider. However, the NEL and the NER do not guide the AER regarding the conditions that apply to each class of exemption.

Under these limited constraints and guidance, the AER develops and applies two exemption guidelines:

- *Electricity Network Service Provider Registration Exemption Guideline* (the network exemption guideline)
- *(Retail) Exempt Selling Guideline* (the retail exemption guideline).

Once exempted from being registered as a network service provider or holding a retail authorisation, embedded network operators must comply with the terms and conditions of these exemptions under the AER's network exemption guideline and retail exemption guideline.[35]

Network and retail exemptions are categorised into three types: deemed, registrable and individual.[36] Deemed and registrable exemptions are called 'class exemptions', because they apply to certain groups (or 'classes') of people who supply or sell energy.

Each exemption type has a different set of eligibility requirements and is subject to particular conditions:[37]

- *Deemed exemptions*: Small networks and small scale selling arrangements are generally eligible for a deemed exemption. Deemed network and retail exemptions apply automatically to certain types of networks and energy sellers respectively. These do

34 The NERL commenced in various states at differing times (the Australian Capital Territory and Tasmania in 2012, New South Wales and South Australia in 2013, and Queensland in 2015).

35 For embedded networks that require an individual exemption, the terms and conditions are set out in the individual exemption specific to the embedded network operator instead of the network and retail exemption guidelines.

36 The NERL requires that retail exemptions are categorised into deemed, registrable and individual classes whereas the NEL does not set out classes of exemptions.

37 A full list of deemed and registrable retail exemptions and conditions can be found in the AER's network and retail exemption guidelines.

not require application or registration with the AER, but the exempt party must still comply with the conditions of the exemption, which vary depending on the type of embedded network and selling activities. Deemed exemptions apply to a range of energy selling activities including caravan parks which meter energy to people in short-term holiday accommodation, businesses that sell to a related business and persons that sell energy to fewer than 10 small businesses or residents.

- *Registrable exemptions*: Larger networks are required to register a registrable exemption with the AER. In relation to retail exemptions, registrable exemptions are usually required where the scale of energy selling is larger. Similar scale criteria apply to network exemptions. The AER publishes these registered exemptions on their website but it does not assess or approve them. Although these exemptions are self-assessed, the AER has a somewhat greater awareness and oversight of these networks and selling arrangements. Examples of energy sellers that can register an exemption include parties that sell to ten or more small tenants or residents within an embedded network, retirement villages or caravan parks that sell metered energy to permanent residents and parties selling energy to large customers.

- *Individual exemptions*: Networks which do not fit within one of the specified classes of deemed or registrable exemptions must seek an individual exemption from the AER. An individual exemption usually applies to the supply or sale of energy at a particular site and/or to a particular customer or group of customers. Individual exemptions apply to more bespoke or one-off arrangements and allow the AER to tailor the conditions of the exemption.

The majority of exemptions provided by the AER fall into the deemed and registrable categories, which are not assessed or approved by the AER. Within the deemed and registrable types of exemptions there are different classes of exemption for embedded networks with different characteristics.

The network exemption conditions are for electricity networks only and relate to: general sub-conditions; metering requirements; access to retail competition; distribution loss factors; network pricing; appointment of embedded network managers; information provision; and conversion of existing sites (brownfield conversions).

The retail exemption conditions are for both electricity and gas selling and relate to five key areas: information provision; dispute resolution; pricing; access to retail competition; and consumer protections.

A breach of a condition under a retail exemption is a breach of the NERL, and is a civil penalty provision.[38] This is not the case for breaches of conditions under a network exemption.[39] The AER also has the power, in certain circumstances, to revoke exemptions.

38 NERL, s. 112.

39 Section 2.4.8 of the network exemption guideline provides that an exemption can be revoked if there is a breach of any condition of the exemption. Section 11(2) of the NEL then makes it a civil penalty provision to operate a distribution system if not registered or if no exemption. A civil penalty would only apply if the embedded network continued operating following the revocation of an exemption.

The AER has no visibility of embedded networks operating under deemed exemptions and limited visibility of embedded networks operating under registrable and individual exemptions. Unlike registered network services providers and authorised retailers there are no compliance reporting requirements on exempt network service providers or exempt sellers.

Appendix A provides further detail on the regulatory framework.

As set out in Section 3.2, the numbers and scale of embedded networks and the diversity in the business models of the entities working with embedded networks are growing. Developments in technology, including distributed generation and storage also mean the technical configuration of embedded networks are increasingly complex.

The growth in the number of exemptions and the scale of the network and selling arrangements covered by these exemptions means that increasing numbers of customers are being supplied their electricity by embedded network operators under a retail and network exemption, which has implications for access to retail competition and consumer protections. An enduring lack of competition would be undesirable as it could drive a need for more intrusive regulation, which may constrain innovation and technology neutrality.

Given the greater scale and complexity of embedded networks, we questioned whether the two tiered regulatory framework and the exemption framework remain fit for purpose. This is discussed further in Chapter 5.

4.4 On and off-market arrangements

In the standard arrangements for customers in the national electricity market (NEM) the registered local network service provider (LNSP) owns and operates the distribution network which connects directly to the customers' premises. Customers choose between retail market offers from authorised retailers. Metering services, including installation, maintenance and meter reading are provided by accredited providers, as arranged by the responsible person – the retailer or LNSP – relevant to the specific connection point. From 1 December 2017, when the metering aspects of the *Expanding competition in metering and related services* (*Competition in metering*) final rule commence, metering services will be arranged by the metering coordinator, not the responsible person.

The network arrangements and the responsibilities of market participants within embedded networks are different to this standard arrangement. While the LNSP is responsible for electricity supply to the parent connection point (as it is on the LNSP's network), it is not responsible for supply to customers within the embedded network. Instead, any assets beyond the parent connection point are controlled and operated by the embedded network service provider. Embedded network service providers are not AEMO registered network service providers or authorised retailers and fall generally outside of the network and retail provisions in the NER, NERR and NGRL.

There are two possible arrangements for the provision of retail and metering services to

customers within embedded networks. One arrangement is that retail and metering services are provided by the embedded network service provider, who holds a retail exemption and so is not an authorised retailer. This type of arrangement is known as "off-market" activity because there is no financially responsible market participant at the customer's connection point and the customer's metered electricity consumption is not settled in the national electricity market. The Commission understands this is currently the arrangement for the majority of embedded network customers.

In the second arrangement, customers have chosen an authorised retailer for their retail services. The authorised retailer provides retail services, and metering services are arranged by the responsible person (the metering coordinator from 1 December 2017). Customers are still provided with network services by the embedded network service provider. This type of arrangement is called "on-market" activity because there is a financially responsible market participant at the customer's connection point and the customer's metered consumption is settled in the market .

The embedded network service provider pays the local network service provider's (LNSP's) charges for all energy delivered to the parent connection point. If an off-market customer within an embedded network elects to become an on-market customer (i.e. purchase retail services from an authorised retailer), the customer must pay the embedded network service provider its share of the LNSP's cost to provide network services to the parent connection point. Typically this will occur by the customer paying the embedded network service provider directly, but the authorised retailer and the embedded network service provider could allow the customer to pay a single invoice to the authorised retailer for both network (LNSP) and energy services. The authorised retailer then passes on the network (LNSP) component to the embedded network service provider.

Embedded network service providers are not permitted to charge for provision of the embedded network through electricity charges.[40]These costs are generally recovered through body corporate fees, up front property purchase prices and/or lease payments.

4.5 Access to competition for embedded network customers

The NERL stipulates that exempt customers should, as far as practicable, be afforded the right to a choice of retailer in the same way as comparable retail customers in the same jurisdiction have that right.[41] There are a number of significant benefits in providing embedded network customers access to retail market offers. These benefits relate to price, variety of products, quality of service and access to government schemes and consumer protections. Access to competitive market offers helps protect consumers from receiving poor prices or services.

However, in order for embedded network consumers to be able to access retail competition,

40 Except where the parties have entered into an agreement on mutually agreed terms and both parties are large customers or large corporate entities. See AER, *Electricity Network Service Provider - Registration Exemption Guideline* Version 5, 1 December 2016, pp.58-59.

41 NERL, s. 114(1)(b).

consumers need to be 'market-facing'. For a consumer to be able to access retail market offers, the consumers metering installation must be NEM complaint, meaning is must be able to be assigned a National Metering Identifier (NMI), and registrable in AEMO's systems. Only once a NMI has been assigned, and the consumer's meter been registered with AEMO can the consumer's metering data be accessed by the consumers authorised retailer for settlement. Not all metering equipment is capable of this, and many existing embedded network metering installations do not meet this requirement.

4.5.1 Recent reforms promoting retail contestability

A number of recent reforms have been made to promote retail contestability for consumers within embedded networks. However, further work is required to lower the remaining barriers to retail contestability for embedded network customers.

The *Embedded networks* final rule determination found the NER did not allocate responsibility for performing the market interface functions required to link embedded network customers to retailers in the national electricity market systems (for example, assigning customer a National Metering Identifier (NMI)) to a specific party.

The *Embedded networks* rule addressed this barrier above by creating a new accredited provider role – embedded network manager (ENM)– to perform the market interface functions that link embedded network customers with the national electricity market systems.

The *Embedded networks* rule sets out the detailed functions, responsibilities, and governance arrangements for embedded network managers and specifies the circumstances under which embedded network operators are required to appoint an ENM. Where an embedded networks customer goes on market, an ENM will have clear responsibilities to performing the market interface functions, including assigning customer a NMI. The rule also triggered changes in the relevant AEMO procedures and the AER's network exemption guideline.

The AER's current network exemption guideline also goes some way to addressing the issue of non-compliant metering for embedded network consumers. For example, in previous iterations of the network exemption guideline, the AER required parties seeking network exemptions in South Australia, Victoria and New South Wales to install NEM compliant metering for small consumers. The current network exemption guideline now requires all metering installations to be NEM compliant in all jurisdictions where the network exemption guideline applies.[42] This will help some residential consumers in newly-built embedded networks (and proposed retro-fit embedded networks) to access retail market offers, if they choose.

Together, these reforms lower the barriers to embedded network customers accessing retail market offers.

However, we identified other barriers to embedded networks customers accessing retail

42 AER, *Electricity network service provider - registration exemption guideline*, version 5, 1 December 2016, p. 44.

competition during the *Embedded networks* rule change process. These barriers, which could not be addressed within the scope of the rule change request, included:

- Jurisdictional regulations that govern embedded network customer access to retail market offers are inconsistent and some prevent embedded network customers accessing retail market offers.
- The NERR do not provide clear obligations and relationships between authorised retailers, embedded network operators and embedded network customers.

4.6 Jurisdictional differences

Victoria, New South Wales, South Australia and the Australian Capital Territory have regulatory frameworks which allow for embedded network customers to access retail market offers.

In Queensland and Tasmania, embedded network customers need a direct connection to the local distribution network if they want access to retail market offers. This may require significant changes to the wiring within the embedded network, the costs of which would be borne by the customer. Queensland is reviewing these and other arrangements as part of its review of state-based energy legislation.[43]

In the *Embedded networks* final rule determination the Commission set out the legislative instruments and policy decisions in each jurisdiction that influenced embedded network customer access to retail market offers at the time. These jurisdictional arrangements continue to evolve.

In Victoria, parties seeking to supply or sell electricity to residential or business consumers must be either licensed or be exempted from the requirement to obtain a licence.[44] Victoria's General Exemption Order (GEO) provides for exemptions from the requirement to hold an electricity licence for certain activities. The GEO currently contains classes of activity for distribution and retailing that are subject to 'deemed' exemption for embedded networks. This means that embedded network operators do not require an application or registration for an exemption under the GEO, but must satisfy themselves that they fall within the activities covered by the GEO. However, in addition to the GEO, the AER's network exemptions framework still applies to parties operating private networks in Victoria.[45] Parties seeking to undertake network activities in Victoria must still abide by the AER's requirements.

In Tasmania, we understand the exemption framework does not apply to embedded networks, such as caravan parks, shopping centres, and apartment buildings, but does

43 Queensland government website, Legislative review webpage, https://www.dews.qld.gov.au/electricity/regulation/initiatives/legislation.

44 *Electricity Industry Act 2000* (Vic), s. 16.

45 Victoria state government, General exemption order, *Draft Position Paper,* 2016, p. 8, available on Victoria state government website, General exemption order review webpage, https://www.energy.vic.gov.au/legislation/general-exemption-order-review.

allow for individual exemptions, for example, for solar power purchase agreement providers.[46]

At present, the AER is the sole agency responsible for the development and implementation of network and retail exemptions in all NEM jurisdictions except Victoria and Tasmania.

In its consultation paper the Commission sought information from stakeholders on arrangements that are impacting on embedded networks.

4.7 Consumer protections

The NECF

The National Energy Customer Framework (NECF) is a suite of legal instruments that regulate the sale and supply of electricity and gas to customers, and includes work that harmonises most energy consumer protections across participating states and territories.

The main legal instruments of the NECF are the NERL, the National Energy Retail Regulations (Regulations) and the NERR. The NECF:[47]

- establishes the consumer protections and obligations regarding the sale and supply of electricity and natural gas to consumers, with a particular focus on residential and small customers
- defines the rights, obligations and protections relating to the relationship between customers, energy retailers and energy distributors
- complements and operates alongside the generic consumer protections in the Australian Consumer Law[48] and state and territory safety and concession regimes.

The NECF was developed in the context of the Australian energy retail markets having been recently opened up to competition with the view that all consumers would be supplied through the interconnected electricity system, supported by a retail contract (the exception being embedded network customers supplied under the exemption framework). The objective of fostering and developing trust and confidence in competitive markets, such as Australia's energy retail market, is a key reason for introducing energy specific consumer protections. Where consumer protections enhance the trust that consumers have in markets, consumer participation increases.[49]

Accordingly, in markets newly opened up to competition, such as retail energy markets in

46 AER, *AER (Retail) exempt seller guideline*, version 4, March 2016, p. 52.

47 The NECF currently applies, with jurisdictional specific amendments, in Queensland, New South Wales, South Australia, Tasmania and the Australian Capital Territory. The NECF only applies in a limited manner in Victoria.

48 The ACL offers protections for consumers in the areas of consumer rights when buying goods and services, product safety, unsolicited consumer agreements including direct marketing, unfair contract terms, and enforcement remedies amongst others. The ACL prohibits misleading, deceptive and unconscionable conduct.

49 Dr C Decker, *Regulatory implications of new products and services in Australian electricity markets*, final report, 17 July 2015, pp. 14-15.

Australia, additional consumer protections are often premised on a need to:

- inform consumers of risks, and their rights, in a new, unfamiliar context
- address the incentives of suppliers in the changed context, and
- address the differential impacts on consumers of opening a market to competition.[50]

The types of consumer protections provided under the NECF can be grouped under a number of themes:

- *Energy as an 'essential service'*: for example the right to access energy services, the ability to enter into a retail contract to energise the connection and obligations towards life support customers.
- *Empowering consumers*: for example, retailers and distributors must inform consumers of the risks and their rights in the context of the competitive retail market, including through: informed consent requirements, requiring businesses to have dispute resolution procedures and mandating access to free and independent dispute resolution schemes.
- *Minimum standards*: for example, obligations relating to the pre-contractual duties of retailers
- *Billing, tariffs and payment*: for example, minimum requirements regarding the contents of bills, notification requirements on tariffs and charges applicable to consumers, obligations in relation to overcharging and undercharging and payment methods.
- *Vulnerable customers*: for example, retailers must have hardship policies and payment plans.

Since the NECF was developed the energy market has undergone significant transformation due to new technology, innovation in products and services and changes in consumer preferences. The evolving nature of the market and the technology changes provide an opportunity to consider whether or not the existing energy specific consumer protection framework should continue to apply, what needs to be amended, and what could be removed.

In August 2016, as part of the Energy Market Transformation project, the COAG Energy Council published three consultation papers on stand-alone systems, consumer protections for products and services 'behind the meter', and energy (battery) storage.[51] In August 2017, the Energy Market Transformation Project Team published a work program update

50 ibid.

51 COAG energy council website, Publications webpage, http://www.coagenergycouncil.gov.au/publications/energy-market-transformation-%E2%80%93-consultation-processes.

noting outcomes and further work in these areas.[52] The terms of reference ask the AEMC to have regard to this work.

Retail authorisation

The NERL sets out three entry criteria that must be satisfied to obtain a retailer authorisation:

- *organisational and technical capacity*: the applicant must have the necessary organisational and technical capacity to meet the obligations of a retailer
- *financial resources:* the applicant must have resources or access to resources so that it will have the financial viability and financial capacity to meet the obligations of a retailer
- *suitability*: the applicant must be a suitable person to hold a retailer authorisation.

There is no flexibility in the law to depart from the criteria to suit the circumstances.

The AER's retail exemption guideline

Exempt sellers are not subject to the NERR. Instead, energy specific consumer protections are provided to exempt customers under the exemption framework through the AER's retail and network exemption guidelines. Consumer protections for embedded network customers are intended to reflect the protections provided to the customers of authorised retailers under the NERL and NERR as far as is practicable.[53]

The retail exemption framework is built on three core policy principles:

- the regulatory arrangements for exempt sellers should not unnecessarily diverge from those applying to retailers
- exempt customers should, as far as practicable, have the right to choose a retailer
- exempt customers should, as far as practicable, be afforded the same consumer protections to retail customers under the NERL and NERR.[54]

The AER has the power to impose conditions on exempt sellers under the NERL.[55]The AER must take the above policy principles into account when exercising its exempt selling powers and functions.[56] Each kind of exemption is subject to particular conditions. The AER sets out the conditions of exemption for deemed, registrable, and individual exemptions in the retail and network exemption guidelines.

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52 COAG Energy Council website, Publications webpage, http://www.coagenergycouncil.gov.au/publications/energy-market-transformation-bulletin-no-05-%E2%80%93-work-program-update.

53 NERL, s. 114(1); AER, *Electricity network service provider - registration exemption guideline*, version 5, 1 December 2016, p. 12.

54 NERL, s. 114(1).

55 NERL, s. 112.

56 NERL, s. 114(1).

Consumer protections may also be available to embedded network customers under other legislative frameworks; for example, the Australian Consumer Law (ACL) and jurisdictional tenancy legislation. ACL offers protections for consumers in the areas of consumer rights when buying goods and services, product safety, unsolicited consumer agreements including direct marketing, unfair contract terms, and enforcement remedies amongst others. Most residential and small business embedded network customers also have some protections under their respective tenancy legislation including access to tenancy tribunals.

The AER takes these additional protections under ACL and tenancy legislation into consideration when determining the conditions to attach to retail exemptions. The AER states in the retail exemption guideline that protections under the tenancy legislation "when complemented by exemption conditions, will go some way to matching the consumer protections provided by the Retail Law".[57]

The conditions that the AER has considered necessary to specifically apply to retail exemptions relate to the following key areas:

- *Essential service provision*: conditions include obligations to supply, requirements for life support customers, prohibition of disconnection in certain circumstances and disconnection notification requirements
- *Information provision*: the exempt seller is required to provide information to customers at the commencement of a tenancy, residency or agreement regarding the customers' access to retail markets, contact details for complaints and inquiries, the terms and conditions of the exemption and the rights the customer has within the exemption
- *Dispute resolution*: where disputes arise the exempt seller must make reasonable endeavours to resolve the dispute and advise the customer of rights to access the energy ombudsman schemes and other relevant external dispute resolution bodies in the relevant jurisdiction
- *Hardship*: an exempt seller has obligations towards customers that have payment difficulties
- *Billing and payment*: an exempt seller has obligations in relation to regularity of bills, application of government concession and rebate schemes, estimation of bills and reasonable payment periods.

Consumer protections for embedded network customers supplied by authorised retailers

Some embedded network customers are the customer of authorised retailers. These authorised retailers are subject to the NERL and NERR and not the conditions of the AER's retail exemption guideline.

The NERL and NERR are designed on the basis of the tripartite relationship that typically

57 AER, *AER (Retail) exempt selling guideline*, version 4, March 2016, p. 57.

exists between a customer, its authorised retailer and its LNSP. This relationship, however, does not exist for embedded network customers because there is no LNSP at the child connection point. Instead, there is an embedded network service provider. This different circumstance raises a range of retail market issues that require consideration and possible changes to the NERR, and potentially the NERL. These issues are discussed further in Chapters 5 and 9.

4.8 Gas embedded networks

A gas embedded network can operate in a similar way to an electricity embedded network, where a party is purchasing gas metered at a parent or bulk connection point then distributing and selling this to customers behind this connection point.

The regulatory framework for gas embedded networks differs from electricity embedded networks. The national retail exemption framework applies to the on-selling of gas and includes deemed exemptions for people who sell unmetered gas where gas is used for limited purposes. However, there is no national exemption framework for the distribution of gas through an embedded network. Jurisdictional arrangements apply to gas embedded network service providers.

The network exemption guideline notes that "the AER does not regulate an exemption framework for gas distribution. This remains a local matter in the relevant States and Territories."[58] However, the Australian Energy Markets Agreement lists the functions relevant to the regulation of embedded gas networks as "National Functions".[59]

We considered whether the regulatory framework of gas embedded networks is currently appropriate and what changes may be necessary. We also considered whether it is desirable for regulatory clarity and predictability that the framework of obligations and customer protections for embedded network operators and customers are similar for gas and electricity.

58 AER, *Electricity network service provider - registration exemption guideline*, version 5, 1 December 2016, p. 9.

59 COAG Energy Council, *Australian Energy Markets Agreement*, 9 December 2013.

5 Issues

This chapter outlines the following key issues we have identified in relation to the current regulatory regime for embedded networks:

- problems with the two-tiered framework
- difficulties achieving equivalent access to competition
- difficulties achieving appropriate consumer protection under the exemption framework
- harmonisation of the framework for gas embedded networks.

5.1 Problems with the two-tiered framework

5.1.1 Submissions

Feedback to our questions about the continued suitability of the regulatory framework revealed a broad range of responses:

- some embedded network operators considered that the existing framework was fit for purpose and should continue
- a variety of stakeholders supported the existing framework but with some suggested improvements
- a variety of stakeholders including the AER suggested more substantive changes.

The Shopping Centre Council submission contained the strongest support for the status quo:[60]

> In summary, it is our strong view that the current two-tiered regulatory framework is fit-for-purpose, adaptive, and should continue. There is no evidence of an existing structural failure, or inherent failure with detailed regulatory mechanisms and conditions.

Similarly, on the matter of the exemption framework, the Shopping Centre Council believes the AER is responsive and adaptive in exercising its regulatory functions and the AER has appropriate powers, as evidenced by its issuing of infringement notices. It suggested that a risk-based approach to monitoring and enforcement which prioritises and resources higher risk customers and operators.[61]

Flow suggested the *Embedded networks* rule change be given time to work before an

60 Shopping Centre Council, Submission on the consultation paper, p. 1.

61 ibid.

alternative framework is considered.[62] Energy Queensland, Flow, Living Utilities and ATA supported the current regulatory framework but thought it could be improved. The Caravan, Camping & Touring Industry & Manufactured Housing Industry Association of NSW Ltd acknowledged that improvements could be made but they were opposed to any changes in the regulatory framework that might make an already complex regulatory situation worse.

In contrast, the AER's view was that the regulatory framework is unable to deal with the diversity and complexity of exempt selling arrangements, including selling in embedded networks, and is no longer fit for purpose:[63]

> On-selling through embedded networks has become a core function for many ENSPs rather than being incidental to their broader activities, with many behaving more like retailers than exempt sellers. It is therefore no longer appropriate to distinguish retailers as those whose core business is the sale of energy, and exempt sellers as those for whom energy selling is incidental.

The AER was also concerned about its limitations enforcing conditions of both retail and network exemptions:[64]

> Enforcement of network exemptions provides a range of additional challenges. Section 13 of the National Electricity Law (NEL) contains a power for the AER to issue a civil penalty for failure to hold a network exemption but provides very limited means of enforcing breaches by [ENSPs] of network exemption conditions.

The AER suggested changes that would enable it to vary the penalty:[65]

> We also consider the penalty regime for breaches of the Retail Law and exemption conditions should reflect the fact that ENSPs are diverse entities, which range from individuals running small businesses to sophisticated corporations, and should enable us to apply appropriate and proportionate penalties. The current penalty amount is $20,000 for a breach regardless of the size or nature of the [ENSP]. One model that could provide guidance is the Australian Consumer Law which distinguishes penalty amounts for individuals and corporations.

Furthermore, the AER, ECA and SACOSS et al was concerned about increasing numbers of owners and bodies corporate using outsourced third parties (agents) to manage embedded networks on their behalf.[66]

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62 Flow, Submission on the consultation paper, p. 5.

63 AER, Submission on the consultation paper, p. 2.

64 AER, Submission on the consultation paper, p. 4.

65 AER, Submission on the consultation paper, p. 4.

66 AEMC, *Review of regulatory arrangements for embedded networks*, Consultation Paper submissions: AER, p. 4; ECA,

The ECA was concerned that this business model was "not based not on delivering real value but on identifying the opportunity to exercise and exploit market power".[67] SACOSS also questioned the capacities of theses third parties, and the systems and processes they have in place to ensure compliance with exemption conditions.[68]

The AER noted its limited in its ability to take direct compliance and enforcement action in relation to agents because they are not exemption holders (sellers) and suggested the AEMC consider how to capture third parties in the regulatory framework that on-sell electricity to customers on behalf of embedded network operators:[69]

> The current framework does not allow us to adequately deal with specialist energy on-sellers acting as agents for [ENSPs]. Agents market themselves as expert billing and customer service providers who manage energy sales in compliance with energy laws. They present themselves to the market as responsible for the customer's energy supply and manage customer relations, often with call centres established to respond to customer queries. They usually include their own branding on customer bills. Given their central role in managing energy sales and administering consumer protections, we suggest consideration be given to measures or amendments that could see these service providers specifically captured.

The ATA suggested changing the nature of the regulatory framework:[70]

> Expanding the scope of energy regulation to apply based not solely on the sale of energy but the extent to which a service or product is used to deliver the essential service of a continuous supply of electricity and the impact on the consumer of experiencing payment difficulties and hardship, would encompass these businesses and place them under the oversight of either the exemptions framework or an expanded authorisations framework.

Momentum Energy suggested a more appropriate model would be single tier regulatory framework, paring back the regulatory obligations for authorised entities and focussing on ensuring that all customers have access to an appropriate level of protection.[71] It also said:[72]

> Any divergence between the customer protections enjoyed by the broader body of consumers and those available to off-market customers in embedded networks highlights one of two issues, either;

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p. 10; SACOSS et al, p.8.

67 ECA, Submission on the consultation paper, p.10.

68 SACOSS et al, Submission on the consultation paper, p. 8.

69 AER, Submission on the consultation paper, p. 7.

70 ATA, Submission on the consultation paper, p. 4.

71 Momentum Energy, Submission on the consultation paper, p. 2.

72 Momentum Energy, Submission on the consultation paper, p. 1.

- The regulations placed on authorised retailers are unnecessary to ensure that interests are of customers are protected; or

- Customers within embedded networks are being subject to an unnecessary risk and are potentially vulnerable to exploitation.

5.1.2 Findings

We are satisfied there is a case for making significant changes to the regulatory framework. The two tiered regulatory framework, which requires registration as a network service provider or an exemption, and authorisation as a retailer or an exemption, can result in:

- substantially different obligations in providing network and retail services between those entities supplying embedded network customers and those supplying standard supply customers

- differences in consumer protections for those customers within an embedded network and standard supply customers

- differences in compliance obligations, such as reporting, and enforcement consequences for registered exempt network service providers/exempt sellers.

Differences of this nature may be appropriate in certain circumstances; for example, where there are fundamental differences in the nature of the services that are being provided to the relevant consumers or significant differences between the types of consumers that are supplied under each framework. However, under the current regulatory framework for embedded networks, these differences are primarily the result of matters that relate to the identity of the supplier of the services rather than anything related to the consumers receiving those services. For example, most consumers in embedded networks are likely to consider that the energy services they receive are identical to the services that a standard supply consumer receives from an authorised retailer, but the embedded network customer will receive lesser consumer protections simply because selling energy is not its supplier's core business. This approach is not consistent with a consumer-driven energy market.

While consumers can benefit from embedded networks, we think it is appropriate to make changes to the regulatory framework so that it better protects consumers. Our research shows:

- very high growth in exemptions for embedded networks, which means they are no longer a minor exception to the standard supply model for networks with a small number of customers like caravan parks

- there could be embedded networks that have not obtained an exemption, which suggests there may be confusion among embedded network operators about whether they need to apply for a network service provider exemption

- the current framework with deemed exemptions makes it very difficult to obtain

accurate information about the number and location of embedded networks and assess whether the operators of those networks are complying with their obligations

- the growth in exemptions may also be undermining the efficacy of the compliance framework by placing increasing pressure on the AER's regulatory capacity to enforce compliance with exemption conditions
- the AER's options for enforcing network exemption conditions are unsatisfactory
- as explained in Section 4.5, the *Embedded Networks* rule change will address some but not all of these problems.

Consequently, we agree with the view of many submitters that the existing regulatory framework should be changed so it remains fit for purpose in the face of the growth in number and scope of embedded networks . This would also promote greater alignment of regulation for retailers and network service providers of standard supply customers and embedded network customers.

5.2 Difficulties achieving access to retail competition

5.2.1 Submissions

We split the submissions to our questions on how to improve access to retail competition into four categories:

- support for greater competition in embedded networks
- a view that the ENM role commencing on 1 December 2017 will fix problems with access to competition
- a view that embedded network customers were unlikely to be motivated to seek retail competition
- examples of the barriers to achieving levels of competition enjoyed by standard supply customers.

We received a number of comments on the benefits of improving retail competition within embedded networks. The AER suggested that "true competition in embedded networks is the missing element that would offer the greatest benefit to customers".[73] Energy Australia said something similar: "Competition in the retail space between traditional retailers and emerging business models is the best way to get optimal outcomes for consumers."[74]

Network Energy Services provided the view that it expected the ENM role to resolve most of the competition issues[75] but the AER disagreed:[76]

73 AER, Submission on the consultation paper, p. 3.

74 Energy Australia, Submission on the consultation paper, p. 2.

75 Network Energy Services, Submission on the consultation paper, p. 2.

> In embedded networks customers' access to retail competition is restricted or prohibited (depending on the jurisdiction), for a variety of reasons. While the AEMC's embedded networks rule change . . . will assist customers to receive supply from a retailer of their choice, this change alone will not resolve the issue of access to competition. Few retailers offer energy only contracts as there is little competitive pressure on retailers to offer them and no other incentive to do so. In addition, wiring individual customers out of the embedded network, to allow them to access generally available retail offers, is usually cost prohibitive for customers.

The Caravan, Camping & Touring Industry & Manufactured Housing Industry Association of NSW Ltd represented the view of some embedded network operators that embedded network customers were unlikely to need or want access to other retail offers:[77]

> The likelihood of customers in NSW holiday parks and residential land lease communities seeking to go on-market is low, should it happen at all. Pricing limits imposed by NSW legislation and the AER guidelines on these businesses makes it unlikely that customers will seek retail competition, as the incentive to do so is limited.

Origin, Flow, and AGL commented on the barriers retailers and embedded network customers face trying to achieve retail competition for embedded network customers.

Origin's view was that the "biggest barriers for customers accessing markets has been ensuring that appropriate metering infrastructure is installed and that customers have been discoverable in MSATS".[78]

Flow suggested that the "lack of bundled tariff transparency" (eg no separation between network, retail, and generation costs) remains a barrier to improved competition as exempt embedded network service operators are not able to clearly demonstrate the financial value and competitive advantage they add to consumers.[79]

AGL's view of the practical difficulties retailers face trying to provide embedded network customers with greater access to retail competition was:[80]

> Without certainty over operations sections of the regulatory framework, such as published network tariffs, Use of System charges, data requirements and billing information, the process of providing embedded network customers with retail services could be very difficult and costly.

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76 AER, Submission on the consultation paper, p. 2.

77 Caravan, Camping & Touring Industry & Manufactured Housing Industry Association of NSW Ltd, Submission on the consultation paper, p. 4.

78 Origin Energy, Submission on the consultation paper, p. 6.

79 Flow, Submission on the consultation paper, p. 9.

80 AGL, Submission on the consultation paper, p. 3.

The AER and the Ombudsmen referred to cases they had received about the problems embedded customers had accessing retail competition. Both the Electricity and Water Ombudsman New South Wales (EWON) and the Electricity and Water Ombudsman Victoria (EWOV) provided cases that highlighted the practical problems embedded customers faced. For example:[81]

> **No choice of retailer**
>
> The customer moved into an apartment in Melbourne's CBD and was surprised to find that she did not have the option to choose an electricity retailer. She wanted to know if this was genuine information and if the embedded network was an 'approved electricity retailer'.

5.2.2 Findings

In a competitive market, customers have the ability to choose from a range of suppliers and can reject a supplier's offer. As a result, suppliers in competitive markets face incentives to improve products, offer a variety of products that customers want, and offer products with better prices and conditions so that customers are likely to choose to purchase them. This incentive, not the attractiveness of obtaining a local monopoly, is the efficient driver of product differentiation, innovation, quality improvements and cost reductions in a competitive market.

While the ENM will perform the market interface functions that link embedded network customers to the national electricity market systems, an ENM is only required to be appointed within a subset of embedded networks. We agree with the concerns of consumer advocates and Ombudsmen that significant numbers of embedded network customers are likely to continue to be frustrated by limited access to retail competition.

Stakeholders have also confirmed there are a number of other deterrents to existing authorised retailers providing services to embedded network customers wishing to go on-market in embedded networks that will continue after implementation of the ENM role on 1 December 2017.

First, market retailers can be unable or unwilling to make offers to off market customers because they cannot confirm their existence and cannot access their customer data, even with the customer's consent. Putting the customer on-market is also a manual and resource intensive process. It is not possible for the on-market retailer to use their standard on-market systems in order to make an offer and start the retailer change process. The retailer must make contact with the embedded network service provider, or the ENM where they exist, in order to undertake a manual transfer process. The ESP is often related to the off-market exempt seller/authorised retailer and generally has little incentive to minimise the effort expended and cost consumed by their on-market competitor.

Second, it is costly for retailers to develop and offer suitable services and pricing offers for

81 EWOV, Submission on the consultation paper, p. 3.

embedded network customers seeking to go on-market. The additional complexity of providing retail services is unlikely to deter retailers from offering and negotiating services with large customers. However, the costs associated with this additional complexity is a commercial barrier to retailers developing services for small customers.

Third, for an embedded network customer to be able to go on-market, an embedded network manager needs to be appointed, and the retailer and its Metering Coordinator are likely to wish to enter into an arrangement with the embedded network operator for use of the metering installation. Again, the commercial complexities for the retailer, and/or Metering Coordinator, in entering arrangements with large numbers of embedded network operators deter retailers from making offers to small customers in embedded networks.

The Commission is of the view that these issues present practical barriers to embedded networks customers accessing retail market offers if they are unsatisfied with their embedded network selling arrangement. We have identified two potential scenarios under the current regulatory arrangements that could have significant adverse consequences for off-market and on-market customers.

Scenario 1 - off-market embedded network customer of exempt seller

An embedded network operator sources electricity from a retailer at the parent connection point and then on-sells it to its embedded network customers as an exempt seller. Exempt sellers may be able to negotiate a lower price with an authorised retailer at the parent connection point than each individual embedded network customer is able to negotiate due to the increased total load giving them additional bargaining power and access to lower network tariffs.

Where barriers to embedded network customers accessing retail market offers exist, some embedded network operators face limited incentive or obligation to pass those savings on to customers. This is because the customers cannot easily source energy from an alternative provider. The exempt seller is able to charge tariffs up to the standing offer price for small customers and any price for large customers.

This may result in an outcome where embedded network operators, as an exempt seller, face an incentive to bargain with a retailer to obtain the best price at the parent connection point, but a weaker incentive to pass on any savings made at the parent connection point to embedded network customers.

Scenario 2 - embedded network customer of authorised retailer

With the trend towards larger scale embedded networks, in which there could be more than 1,000 customers, embedded network operators are obtaining a retailer authorisation rather than on-selling electricity under a retail exemption. Some authorised retailers are also entering the embedded network market; on-selling to embedded network customers under their retail authorisation. In this scenario, embedded network customers may face barriers to switching to another retailer because any incoming retailer would have to negotiate network and metering arrangements with its direct competitor in the retail market, the

authorised retailer (embedded network operator or authorised retailer) retailing at the parent node.

As in scenario 1, where barriers to embedded network customers accessing retail market offers exist, some embedded network operators that have become authorised retailers face limited incentive or obligations to pass savings on to customers because the customers cannot easily source energy from alternative providers. Furthermore, in this scenario, the authorised retailer would not be restricted to charging a price up to the standing offer price because the exempt selling conditions would not apply. Customers in these embedded networks will therefore find themselves supplied by a near-monopoly supplier that is not subject to either competitive market pressures or price regulation, resulting in a significant risk of the customer being charged excessive prices.

5.3 Difficulties achieving equivalent consumer protections under the exemption framework

5.3.1 Submissions

Retailers and consumer advocates made submissions that broadly called for significant changes to the regulatory framework for embedded networks that would align consumer protections and regulate embedded networks services in the same way as equivalent services provided to standard supply customers. These stakeholders also suggested a broad review of the NECF and consumer protections are warranted.

Consumer advocates generally agreed "that, as a guiding principle, all energy and water customers should have access to the same consumer protections".[82] They also suggested that customers of embedded networks currently lack the same level of consumer protection afforded to customers of retailers under the NECF.

On the other hand, embedded network operators currently holding network and retail exemptions considered the existing exemption framework provided a cost effective and proportional approach and may only require minor improvements.

At one end of the scale, Caravan, Camping & Touring Industry & Manufactured Housing Industry Association of NSW Ltd did not think any change was necessary and other legislation relating to the primary business of holiday parks (holiday accommodation) and residential land lease communities already provide sufficient consumer protections for embedded network customers. Living Utilities and Network Energy Services both suggested most of the problems for off-market embedded customers should be solved by the *Embedded networks* rule change:[83]

> The provision of an offer within the embedded network (off-market) and some options from Retailers (on-market) should provide the customer sufficient

82 Electricity and Water Obudsman New South Wales, Submission on the consultation paper, p. 3.

83 Living Utilities, Submission on the consultation paper, p. 11.

> ability to have a fair and reasonable offer and also provide the ability to negotiate. With the Rule change coming into effect in December 2017, it is to be seen how Retailers will respond as the implied barriers to competition will be significantly reduced.

The Victorian Caravan Parks Association Inc. (VicParks) contended that the Residential Tenancies Act 1997 already provides comprehensive protection for consumers in an embedded network, for example:[84]

> The RTA (206ZG) specifically requires that a park owner "must not seek payment ….that is more than the amount that the relevant supplier would have charged the site tenant".

However, Active Utilities suggested the "biggest gap under the exemption framework is the lack of or ease of access to Concessions and Ombudsman schemes for consumers."[85]

The Energy and Water Ombudsman South Australia (EWOSA) does "not believe that the current arrangements regarding the ability of small energy consumers within embedded networks to access the dispute resolution services of energy Ombudsmen satisfy the consumer protection test under the National Energy Retail Law".[86]

The AER submitted that the exempt selling conditions have been designed to largely mirror the consumer protections provided to customers of authorised retailers, as required by the NERL.[87] However, it also suggested that equivalent consumer protections may not be realistic given the "diverse collection of individuals or businesses that have markedly different resources, expertise and motivations".[88]

The South Australian Council of Social Service (SACOSS) provided a joint submission with St Vincent de Paul Society, Ethnic Communities' Council of NSW, and the Consumer Action Law Centre. SACOSS and the signatories provided a list of eight recommendations that would modify the existing framework to enhance protections for consumers in these and other types of embedded networks, such as:[89]

> **Recommendation 1:** The AEMC/AER investigate the option to establish a new category of exemption that would apply to exempt on-sellers (and embedded network operators) that have a substantial number of customers and/or a substantial number of sites in total. The underlying principle here is that the exempt seller has a customer base equivalent to a small retailer and should

84 VicParks, Submission on the consultation paper, p. 5.

85 Active Utilities, Submission on the consultation paper, p. 5.

86 EWOSA, Submission on the consultation paper, p. 4.

87 AER, Submission on the consultation paper, p. 3.

88 AER, Submission on the consultation paper, p. 3.

89 SACOSS, St Vincent de Paul Society, Ethnic Communities' Council of NSW, and the Consumer Action Law Centre, Submission on the consultation paper, p. 10.

therefore be subject to the same obligations and consumer protection conditions as a retailer.

Other recommendations included collecting and reporting information on compliance of embedded network operators and exempt sellers, reviewing brownfields conversions, investigating third party service providers, and price control for 'behind the meter' customers.[90]

The Queensland Council of Social Service (QCOSS), the Energy and Water Ombudsman New South Wales (EWON) and the E Energy and Water Ombudsman Queensland (EWOQ) provided cases to illustrate the practical problems embedded customers faced. For example:[91]

Case study: Embedded network customers experiencing frequent outages

EWON was contacted by four customers living in a retirement village which was established as an embedded network. The customers complained about frequent unplanned power outages, up to 20 per day of varying duration, over a period of about a month. They were concerned about the safety of the residents due to the outages and also about the inability to operate the village's powered gates in the event of an emergency. The embedded network operator advised EWON that it was in the process of redesigning the supply across the network, which included an application to the LNSP to increase the supply.

The Electricity Networks Association (ENA) suggested the AEMC consider extending more of the obligations of network service providers to exempt embedded network service providers. For instance, if embedded networks are providing infrastructure as part of the provision of an essential service, it asked if exempt embedded network service providers should be required to provide embedded network customers information about reliability in the embedded network.[92]

Energy Queensland was concerned that life support customers are identified with the DNSP, electrical safety is assured, concessions are applied to the appropriate customers, and prices to end users are equivalent with consumers on the broader network. It recommended that the same protections apply to both on- and off-market customers.[93]

Finally, the 2017 AEMC Retail Energy Competition Review included a chapter on embedded networks.[94] It contained results of a survey of retailers on embedded networks issues, which included the following comments:[95]

90 SACOSS, St Vincent de Paul Society, Ethnic Communities' Council of NSW, and the Consumer Action Law Centre, Submission on the consultation paper, pp. 10-12.

91 EWON, Submission on the consultation paper, p. 2.

92 ENA, Submission on the consultation paper, pp. 6-10.

93 Energy Queensland, Submission on the consultation paper, p. 4.

94 AEMC, *2017 AEMC Retail Energy Competition Review*, Final report, 25 July 2017, chapter 9.

95 AEMC, *2017 AEMC Retail Energy Competition Review*, Final report, 25 July 2017, pp. 170-171

2017 Retailer survey

...A number of comments referred to the strong growth occurring in embedded networks and that such networks can save on network, wholesale and retail costs which can be passed on to consumers. Other retailer comments were more varied, noting both barriers and opportunities.

One view identified that embedded networks are better suited to greenfield high end medium-density housing and therefore the market for retailers to compete is limited. Another set of comments claimed the regulatory and technical complexity of acquiring embedded network consumers seeking on-market offers is significant. This complexity, it is argued, has reduced competition in this growing market segment.

Another view was that network-wide optimisation with embedded generation and storage can deliver network and consumer benefits as this can be more efficient than optimisation at the individual consumer level, and can significantly reduce consumer energy and network costs. There was concern, however, that the benefits of optimisation could be diminished if consumers leave the network by taking up competitive market retail offers. In such cases, consumers exercising individual choice by leaving the embedded network could reduce network-wide optimisation benefits. The resulting reductions in system efficiency and cost savings reduced the benefits to those remaining in the embedded network.

One view also identified that the current exemption regime disadvantages authorised retailers over exempted sellers. Authorised retailers must provide a greater range of consumer protections to consumers, (such as hardship programs and access to dispute resolution schemes) while those requirements are less strenuous for exempted parties.

Other retailers see opportunities to operate in the sector through the exemptions regime. EnergyAustralia, for example, operates an exempted business: the Embedded Networks Company. This company acts as an agent for exempted embedded network entities, and operates in the commercial and residential segment. The Embedded Networks Company is involved with developers in the initial feasibility assessment and planning stages, and also at the consumer facing end. It provides consumers with an online platform with account management capabilities, billing, and complements this with local dedicated customer service.

5.3.2 Findings

Submissions have confirmed that, in practice, different consumer protections apply in embedded networks due to gaps, practical difficulties or less onerous obligations under the exemption framework. We consider that exempt customers currently do not receive an

appropriate level of consumer protections:

- Exempt network conditions, while they may mirror those contained in the NERL, do not have the same legal status as the rules
- The AER considers it does not have the powers it needs to enforce exempt network conditions.
- The NERL and NERR cannot be applied to embedded network customers supplied by an authorised retailer because they rely on a tri-partite DNSP-retailer-customer relationship that does not exist for embedded networks.
- There are cases of embedded network customers being disappointed or frustrated because their exempt seller does not provide the same level of service they expect from an authorised retailer or their exempt network service provider does not provide the same reliability of supply they expect from an LNSP.
- It is the smaller and more vulnerable consumers that are most affected by the gaps in consumer protections.

5.4 Harmonisation of framework for gas

5.4.1 Submissions

There was general support for clarifying the framework that applies to gas embedded networks and for greater harmonisation of the gas and electricity framework for embedded networks, although only a small number of submitters commented on this topic.

Energy Consumers Australia[96] supported further harmonisation of gas retail arrangements. Energy Networks Australia[97] supported applying the broad objectives underpinning the regulatory framework for electricity.

The Shopping Centre Council submitted that the law and rules should allow for exemptions for gas embedded networks to avoid imposing wasteful costs on network operators:[98]

> Some gas distributors are now requiring gas meters to be installed at the boundary of properties, which is a particular impost for shopping centres that often have various customers located across a large land area/centre. If followed to a logical conclusion, this would create wasteful long-runs of gas piping (greater than km at some developments). This would be an inefficient deployment of infrastructure, where an alternate embedded gas network would provide for more efficient infrastructure.

96 Energy Consumers Australia, Submission on the consultation paper, p. 13.

97 Energy Networks Australia, Submission on the consultation paper, p. 10.

98 Shopping Centre Council, Submission on the consultation paper, p. 14.

AGL also supported more harmonisation:[99]

> AGL supports greater consistency and clarity with respect to the regulatory frameworks for gas embedded networks. Any national arrangements designed should mirror those for electricity as a way of minimising the complexity for duel fuel operators and, authorised retailers of electricity to on-market customers within embedded networks.

Active Utilities agreed but included a note of caution:[100]

> Gas on selling has a complexity to its regulatory framework that sees it transition over multiple jurisdictions including the AER, AEMO, National Gas Law and Gas Industry Act for example in Victoria. Essentially it is extremely difficult to on sell gas to a larger embedded network site unless you operate under retailer authorisation.

5.4.2 Findings

We find there is a case for clarifying the arrangements that apply to gas embedded networks. The national retail exemption framework applies to the on-selling of gas and includes deemed exemptions for people who sell unmetered gas where gas is used for limited purposes. However, there is no national exemption framework for the distribution of gas through an embedded network.

We also consider that there is benefit in harmonising the regulatory framework of obligations and customer protections for embedded network operators in gas and electricity markets. Jurisdictional arrangements apply to gas embedded network operators and the approach varies significantly between jurisdictions.

99 AGL, Submission on the consultation paper, p. 3.

100 Active utilities, Submission on the consultation paper, p. 6.

6 Overview of approach

This chapter outlines:

- a summary of the AEMC's findings and an overview of our approach and draft recommendations to address the key issues that have been identified with the current regulatory framework in relation to access to retail market competition, consumer protections and monitoring and enforcement regimes in embedded networks
- expected costs to market participants and market bodies of implementing these proposed changes
- expected benefits to consumers in embedded networks
- recommended next steps for reviewing issues in the jurisdictional frameworks for gas embedded networks.

6.1 Overview of approach

6.1.1 Summary of findings

The AEMC has found that the exemption framework is no longer fit for purpose in the face of the growth in number and scope of embedded networks. The Commission does not consider an appropriate balance between innovation, consumer protection, and access to retail market competition is being achieved in the two-tiered framework which regulates embedded network service providers and exempt sellers outside of the national framework under the NER and NERR.

We have come to the view that important policy principles, such as providing appropriate regulatory arrangements for exempt sellers and access to competition and consumer protections, are not met by exempting the operators of embedded networks from important regulatory obligations and market arrangements.

The underlying rationale for the exemption framework is to reduce the regulatory burden where the cost of registering as a network service provider or having a retailer authorisation outweighs the benefits to consumers.

In practice, we have found embedded networks customers receive a lesser level of consumer protections and a limited monitoring and enforcement regime under the network service provider and retail exemption framework due to regulatory gaps, the growth in the numbers of embedded networks, and diversity in the capacity and resources of embedded network operators.

We have also found significant practical barriers to customers in embedded networks accessing retail market competition, which means that embedded network customers have limited ability to change supplier if they are unhappy with the price they are paying or level of service that they are receiving. In addition, there are a number of provisions in the NERL

and NERR that do not operate effectively for embedded networks, as identified by the AEMC's embedded network's rule change.

The recommendations in this draft report are not intended to create a barrier to the continued operation and establishment of embedded networks where they offer benefits to consumers. Instead, the intention is to provide customers in embedded networks with appropriate consumer protections and increased access to retail competition.

Provided that they are appropriately regulated, the Commission considers that embedded networks can provide benefits to consumers by way of discounted prices and non-price benefits such as multi-service offerings, more environmentally sustainable housing and improved access to embedded generation. However, due to a lack of competitive pressure and appropriate consumer protections, the Commission considers that many embedded network consumers are not currently receiving benefits from these arrangements.

6.1.2 Rationale for recommended approach

The Commission agrees with stakeholders that electricity is an essential service. As suppliers of an essential service, the Commission is of the view that the embedded network service providers and on-sellers that serve small customers[101] should meet a set of minimum standards and be subject to an appropriate level of enforceable consumer protections.

Consumer protections, including monitoring and enforcement of those protections, are not costless but are necessary in respect of the provision of an essential service. Similarly, there are costs involved in establishing market rules and systems to allow businesses to compete for customers. However, access to competition is also an important form of consumer protection and any approach taken must consider how this be improved to benefit consumers.

To address the issues that have arisen in relation to access to retail market competition, consumer protections and monitoring and enforcement regimes we have made draft recommendations for changes under three themes:

(a) ***Improving access to retail market competition*** in legacy embedded networks[102] to the extent possible.

(b) ***Elevating embedded networks into the national regulatory and competitive retail market framework*** under the NER and NERR, which will involve significant reform of the two-tiered regulatory framework for new embedded networks arrangements and reserve network service provider and selling exemptions for a narrow set of circumstances.

101 As defined in section 5(2) of the NERL, a 'small customer' is a customer who is a residential customer; or who is a business customer who consumes energy at business premises below the upper consumption threshold.

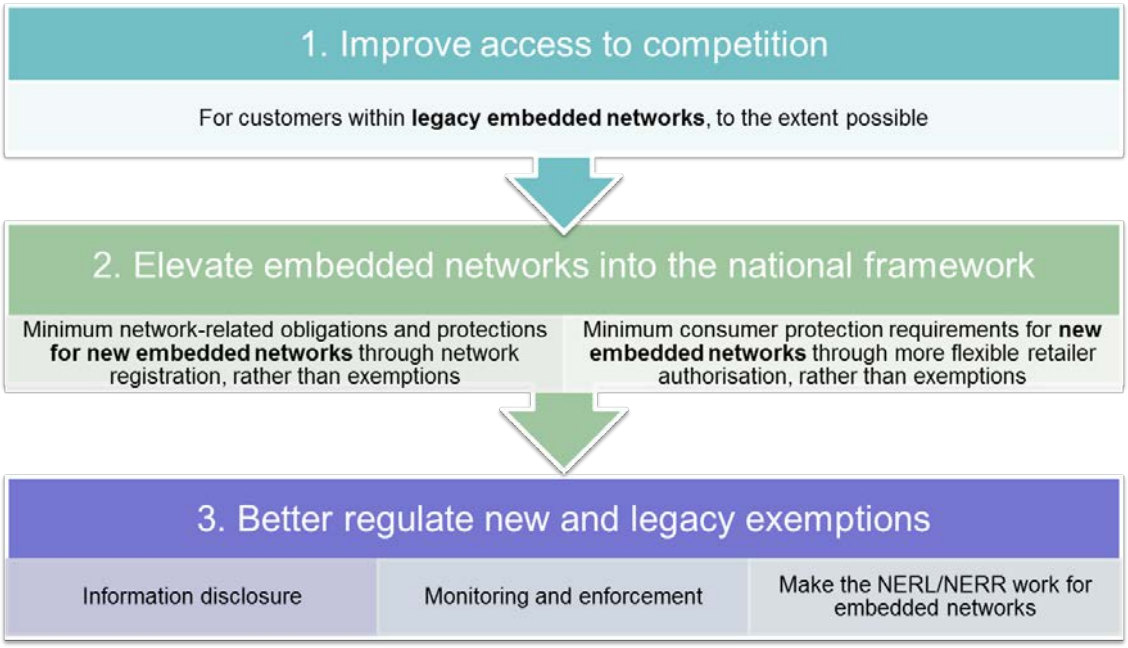
102 In this report, legacy embedded networks refers to embedded networks established under the existing regulatory framework, which are operated by exempt embedded network service providers.

(c) ***Better consumer protections for new and legacy embedded networks*** including information disclosure; access to dispute resolution; improved monitoring and enforcement; and making the NERL/NERR effective for embedded network customers supplied by an authorised retailer.

Figure 6.1 illustrates this approach below.

Separate recommendations have been made in relation to legacy and new embedded networks in the draft report. This is because we are mindful of the implications of retrospectively imposing a significant number of changes on existing embedded network operators given their varying levels of resources and capacity to implement these changes.

Figure 6.1: Approach to improving the regulatory arrangements for legacy and new embedded networks



6.1.3 Improving access to retail market competition in legacy embedded networks

We consider that, where possible, we should develop options to improve access to retail competition for embedded network customers. We agree with the view from submitters[103] that improving access to retail competition would make an important difference to improve the outcomes of embedded network customers.

This report recommends reforms to improve legacy embedded network customers' access to retail competition. These measures include:

103 AEMC, *Review of regulatory arrangements for embedded networks,* Consultation paper submissions: AER, p.3; AGL, p.2; EnergyAustralia, p. 2; Flow, p.9; PIAC, p. 2. Red and Lumo, p.2; SACOSS, p. 6.

- improving the visibility of embedded networks' customers in AEMO's market systems where an ENM has been appointed

- standardising obligations and procedures between an on-market retailer and exempt embedded network service provider relating to the payment of network tariffs for an on-market embedded network customer

- using standard market systems and processes to transfer embedded network customers from their off-market arrangements to an on-market customer relationship with an authorised retailer.

However, while the Commission considers access to competition can be improved to some extent in legacy embedded networks, in practice there is unlikely to be workable competition for these customers. Chapter 7 sets out the recommended measures and limitations in improving access to retail market competition in legacy embedded networks in detail.

6.1.4 Elevating embedded networks into the regulatory framework

We propose that legacy embedded networks would be grandfathered under their existing exemptions with some modifications to exemption conditions and AER functions and powers. These are discussed in the next section.

The recommended reforms in this section aim to improve regulatory arrangements for new embedded networks and provide small customers access to retail market competition.

To redress the balance between innovation, consumer protection, and access to retail market competition the Commission recommends that the regulation of embedded network services in the majority of new embedded networks should be elevated into the national regulatory and market framework under the NER and NERR.

We have recommended elevating embedded networks into the national regulatory framework by:

- Regulating the services provided by embedded network service providers and on-sellers to off-market small customers under the national energy laws and rules. These services may include distribution, selling, metering and market interface functions. The providers of these services would be required to comply with obligations under the NEL, NERL, NER and NERR, with compliance being monitored and enforced by the AER.

- Further integrating embedded networks into AEMO's market systems by increasing the information available to the market about embedded network customers and standardising key market procedures and transactions to facilitate access to competition for embedded network customers.

Embedded network service providers would be required to register with AEMO unless exempted by the AER in a narrow set of circumstances. Parties that wish to sell energy to

embedded network customers would be required to obtain a retailer authorisation, unless exempted by the AER under a narrow set of circumstances.

We consider elevating embedded networks into the national framework will be in the long term interests of consumers consistent with energy objectives and the criteria set out in the assessment framework in Chapter 2:

- Consumers will have greater access to retail market competition and a minimum level of customer protections.
- Elevating the regulation of the majority of new embedded networks into the national framework provides clear regulatory functions to each of the market bodies in relation to embedded network participants, including appropriate monitoring and enforcement functions and powers to the AER.
- A clear and transparent regulatory framework should remove confusion over whether registration/authorisation or an exemption is required, promote compliance and will also provide regulatory certainty for participants wishing to develop innovative off-market services[104].
- There will only be an incentive to establish an embedded network where benefits can be offered to the customers of the embedded network rather than doing so to avoid the costs of important regulatory protections.

The regulatory burden of these changes would be minimised by the following measures:

- Embedded network service providers would only be subject to a sub-set of the obligations under the NEL/NER and NERL/NERR that currently apply to network service providers.
- The retailer authorisation framework would provide the AER with increased ability to tailor authorisations for retailers that sell off-market to embedded network customers by exempting an authorised retailer from particular obligations, or placing additional obligations on an authorisation.
- The Commission agrees with stakeholders that it is important to retain an exemption framework to address situations where the costs of registration as a network service provider or authorisation as a retailer would be high compared to the benefits to consumers and the need for regulatory oversight is low. We have made recommendations on the criteria for exemptions which would, for example, continue to capture temporary supply situations, selling to related entities and large customers.

The Commission is particularly interested in feedback as part of submissions on this draft report on what types of embedded networks should continue to be able to obtain

104 These off-market services may include services such as the on-selling of electricity at a discounted tariff, the sale of electricity supplied by embedded generation, energy demand management services and additional services such as water and telecommunications which are combined with the overall service offering.

exemptions.

The recommended changes will also require detailed changes to the NERL and NERR, related to extending the existing tripartite distributor-retailer-customer relationship to embedded network service providers and addressing consumer protection issues relating to authorised retailers selling to embedded network customers. However, it is important to note that these changes will need to be made, even if regulatory arrangements are not elevated into the NER and NERR, to address the regulatory gaps that already exist due to some embedded network customers going on-market and the increasing growth in authorised retailers on-selling to embedded networks customers off-market.

6.1.5 Better consumer protections for new and legacy embedded networks

As we have outlined above, there are likely to be ongoing barriers to legacy embedded network customers accessing competition. There are also likely to be ongoing challenges in providing appropriate consumer protections and in monitoring and enforcing compliance with related obligations.

For exempt customers (supplied by an exempt seller) in legacy embedded networks, it will be important that the AER continues to updates its network and retail exemption guidelines. Improving access to dispute resolution should be a focus, and is one which the AER and Ombudsmen are currently working on.[105] There is also a role for jurisdictional governments in improving state regulations that affect access to independent dispute resolution and access to concessions.

The ability for the AER to monitor and enforce exemption conditions also needs to be improved. This requires law changes relating to the AER's functions and enforcement options.

A number of issues currently arise for both on-market and off-market retail customers in embedded networks in relation to the growing role of authorised retailers in embedded networks. Significant reform of the NERL and NERR will be required to cover the roles of, and relationship between, exempt embedded network service providers and authorised retailers. In relation to embedded networks, consideration should be given to reforming the obligation to offer/supply, extending the price cap that applies for exempt customers to retail customers, and extending rules that apply for standard supply customers (such as de-energisation rules) to retail customers in embedded networks. Reforms to a number of other rules will also be required.

Clear information is an important enabler of an effectively competitive energy market and is important for customers when entering an embedded network, considering moving to a market retailer or considering converting their property to an embedded network. The AEMC recommends changes to require additional information to be provided prior to a customer entering an embedded network and more information on prices in embedded

105 See AER, *Issues paper: access to dispute resolution services for exempt customers*, June 2017, viewed 24 August 2017, https://www.aer.gov.au/retail-markets/retail-guidelines-reviews/access-to-dispute-resolution-services-for-exempt-customers-june-2017.

networks to be published.

As noted above, many of these changes would be required in any event to address current gaps in the regime even if the more fundamental reforms to the two-tiered regulatory framework proposed above were not made.

6.2 Expected costs to participants and market bodies

Participants and market bodies will incur a number of costs in implementing the proposed changes.

Operators of legacy embedded networks will incur some costs, where they have appointed an Embedded Network Manager to register additional information into MSATS for off-market customers in their network. However we do not consider this will be onerous or disproportionate because an ENM will have already been appointed and will already be carrying out this work for on-market customers. There will also be some minor costs for exempt network service providers and exempt sellers in meeting enhanced information obligations.

Elevating the regulation of embedded networks into the national framework will also involve a number of costs for participants and market bodies. Participants will incur costs in applying for registration and/or authorisation and registered participants must also pay participant fees to AEMO. However, we consider it reasonable that participants be required to demonstrate their capability to meet their obligations and contribute a proportionate amount towards the operational costs of the market.

Registered embedded networks and authorised retailers will also have the costs of complying with obligations under the energy laws and rules. However, we does not expect the cost of complying with the rules to be significantly more than the cost of complying with exemption conditions. The energy laws and rules would be amended to place proportionate obligations on embedded network operators.

A clear and transparent regulatory framework should remove confusion over whether registration/authorisation or an exemption is required and will also provide regulatory certainty for participants wishing to develop innovative off-market services.

The AER and AEMO will also have costs relating to assessing applications for retailer authorisations and registered embedded network service providers.

While there will be costs to participants and market bodies we consider the benefits to consumers, which are outlined in the next section, will outweigh these costs.

6.3 Expected benefits to consumers

We expect consumers in embedded networks to benefit in a number of ways in relation to improved access to retail market competition and consumer protections.

Consumers in legacy embedded networks will have improved access to retail market competition. We expect there will be an increase in the number of retailers that will actively compete for embedded networks' customers which should place downward pressure on prices for embedded networks' customers. Continued work by the AER and jurisdictions and the proposed changes to the AER's functions should enhance consumer protections and monitoring and enforcement of those protections in legacy embedded networks.

However, as we outlined above, there are also likely to be ongoing challenges in legacy embedded networks in promoting competition, in providing appropriate consumer protections and in monitoring and enforcing compliance with related obligations.

The proposed approach to elevating embedded networks into the national framework will provide consumers greater access to retail market competition and equivalent consumer protections to standard supply customers for new embedded networks.

Consumers in new embedded networks should continue to benefit from greater innovation and choice in products and services. New embedded networks would still be able to offer innovative off-market services that provide price and non-price benefits to customers in competition with market authorised retailers .

These off-market services may include services such as the on-selling of electricity at a discounted tariff, the sale of electricity supplied by embedded generation, energy demand management services and additional services such as water and telecommunications which are combined with the overall service offering.

However, we expect that the measures recommended to open up embedded networks to increased retail competition will incentivise authorised on-selling retailers in embedded networks to pass on savings from innovation and efficiencies to customers or risk losing customers to market retailers. This should improve service quality and put downward pressure on prices for consumers in embedded networks.

Elevating embedded networks' regulation into the rules and market procedures means that if off-market embedded networks customers are dissatisfied with their off-market arrangements they will also have improved consumer protections and access to dispute resolution. Consumers in new embedded networks will have a minimum set of protections under the NERR relating to dispute resolution, life support, disconnection and explicit informed consent.

Consumers in new embedded networks will also benefit from a range of existing provisions in the NER and NERR that promote transparency and information provision. For example, elevating embedded networks into the national framework will provide consumers increased access to information on their electricity consumption allowing them to better understand and manage their usage and compare retail offers. Protections under the NER to standard supply customers relating to the confidentiality of data including metering data and NMI standing data will also be extended to consumers in new embedded networks.

6.4 Gas embedded networks

The regulatory framework for gas embedded networks differs from electricity embedded networks. The national retail exemption framework applies to the on-selling of gas and includes deemed exemptions for people who sell unmetered gas where gas is used for limited purposes. However, there is no national exemption framework for the distribution of gas through an embedded network. Jurisdictional arrangements apply to gas embedded network operators and the approach varies significantly between jurisdictions.

The changes we have proposed to the NERL and the NERR relating to the retailer authorisation and selling exemption frameworks and consumer protections will apply to sellers of electricity and gas. We consider the same rationale applies that gas sellers to small customers should not be exempted from holding a retailer authorisation. Appropriate consumer protections are equally important for gas customers. Having harmonised regulatory framework for the selling of gas and electricity will also minimise the complexity for dual fuel operators which we expect would lower prices for consumers.

We have not assessed each of the jurisdictions' regulatory arrangements for gas embedded network operators in detail and how they impact on retail market competition. However, we consider that there is benefit in clarifying and harmonising the regulatory framework of obligations and customer protections for embedded network operators in gas and electricity markets.

We recommend that the COAG Energy Council:

- agrees to establish a clear and jurisdictionally harmonised regulatory framework for gas embedded network operators which is consistent with the regulatory framework for embedded network service providers in the national electricity market
- decides whether to establish this framework through jurisdictional legislation or under the national gas law and rules
- if this framework is to be established under the national gas law and rules, requests the AEMC to provide advice on changes to the law and rules that would be required to implement it.

7 Access to competition

7.1 Introduction

This chapter sets out the Commission's recommendations for further improving access to competition within exempt embedded networks by simplifying and reducing the cost for all authorised retailers to access child embedded network customers, while allowing on-market customers to continue to receive a single, combined network and retail bill.

In summary, the Commission recommends making the process for embedded network customers switching to a market offer as simple as possible. This can be achieved through two main changes:

(a) Where there is an embedded network manager (ENM) appointed, issuing child embedded network customer connections with National Metering Identifiers (NMIs), registered by AEMO in their market settlement and transfer solution (MSATS) system and discoverable by retailers, regardless of whether the customer is on- or off-market.

(b) Allowing a retailer of an on-market embedded network customer to pay the exempt embedded network service provider a network tariff that is equal to the standard published LNSP network tariff that would apply if there was no intermediate embedded network.

7.2 Background

Under the National Electricity Law (NEL) and the National Electricity Rules (NER) a person must not engage in the activity of owning, controlling or operating a distribution system that forms part of the interconnected national electricity system unless:

- the person is registered with AEMO as a Network Service Provider, or
- the person is the subject of a derogation that exempts the person, or is otherwise exempted by the Australian Energy Regulator (AER) from the requirement to be registered.[106]

As required by the NER, the AER has issued an "Electricity Network Service Provider – Registration Exemption Guideline" (network exemption guideline).[107]

The network exemption guideline was most recently updated on 1 December 2016 and incorporates changes resulting from the AEMC's 17 December 2015 Embedded Network Final Rule Determination. It requires exempt embedded network service providers to take reasonable steps to facilitate access to retail competition for child embedded network customers where it is available in a jurisdiction. However, practical impediments to

106 NEL s. 11(2) and s. 13, NER cl. 2.5.1(a) and 2.5.1(d).

107 NER, cl. 2.5.1(e).

competition remain including:

- bespoke embedded network tariffs
- embedded network billing arrangements that require retailers to implement special processes
- lack of visibility of off-market embedded network connections
- transaction costs for the retailer in negotiating access to meters.

Importantly, the AER's network exemption guideline provides that no charge is permitted for internal network services except where the parties have entered into an agreement on mutually agreed terms and both parties are large customers or large corporate entities.[108] This is helpful in facilitating a proposed regime where, for billing purposes, market retailers can effectively 'look through' the embedded network directly to the child embedded network customer.

7.3 Support for competition

The AER strongly supported further improving the level of competition for customers within embedded networks, describing them as inherently monopolistic:[109]

> True competition in embedded networks is the missing element that would offer the greatest benefit to customers.

Retailers, including AGL, EnergyAustralia, Red Energy and Lumo Energy, also supported further changes to improve competition EnergyAustralia suggested "competition in the retail space between traditional retailers and emerging business models is the best way to get optimal outcomes for consumers".[110] AGL said "where possible, competitive markets should be relied upon to facilitate the advancement of customer interests".[111] Red Energy and Lumo Energy said "(g)reater competition will lead to a more efficient allocation for resources delivering greater choice and more competitive offers to consumers in embedded networks".[112]

Other submissions also commented on the benefits of retail competition within embedded networks:[113]

> Flow actively promotes the customers right to select a retailer of their choice.

108 AER, *Electricity Network Service Provider - Registration Exemption Guideline*, version 5, 1 December 2016, p. 59.
109 AER, Submission on the consultation paper, p. 3.
110 EnergyAustralia, Submission on the consultation paper, p. 2.
111 AGL, Submission on the consultation paper, p. 2.
112 Red Energy and Lumo Energy, Submission on the consultation paper, p. 2.
113 Flow, Submission on the consultation paper, p. 9.

The Public Interest Advocacy Centre (PIAC) said:[114]

> PIAC supports access to retail competition. In general, PIAC considers that access to retail competition is likely to lead to lower prices, something that is a good outcome for consumers.

Concerns were also raised about costs and risks of further regulation. The Shopping Centre Council suggested "(t)he cost and risk of further regulation for embedded network owners/operators needs to be properly considered".[115] Red Energy and Lumo Energy noted that "(e)xcess regulation comes at a cost for consumers".[116]

The Commission agrees that competition is desirable in order to achieve better customer outcomes and to lessen the need for potentially costly and prescriptive price regulation.

The Commission also agrees with submissions that a technology neutral regime is beneficial. For example, EnergyAustralia said "(t)he current regulatory framework is not fit for purpose and will remain reactive to emerging technologies and services which will become increasingly difficult to administer and monitor".[117]

Competition provides a level of economic efficiency, technological neutrality and personal freedom that can never be fully replicated through regulation. Consumers' long term interests are usually best served by implementing regulatory frameworks which maximise competition.

7.3.1 Impediments to competition

The existing regulatory framework is intended to encourage retail competition for child embedded network customers, but there are practical complexities that impact the framework's effectiveness.

Section 2.5.1 of the NER provides that:

> (d) The AER may, in accordance with the guidelines issued from time to time by the AER, exempt any person or class of persons who is or are required to register as a Network Service Provider from:
>
> (1) the requirement to register as a Network Service Provider; or
>
> (2) the operation of Chapter 5,
>
> where (in the AER's opinion) an exemption is not inconsistent with the national electricity objective.

114 Public Interest Advocacy Centre, Submission on the consultation paper, p. 2.
115 Shopping Centre Council, Submission on the consultation paper, p. 14.
116 Red Energy and Lumo Energy, Submission on the consultation paper, p. 2.
117 EnergyAustralia, Submission on the consultation paper, p. 2.

Based on this clause the AER prepared the network exemption guideline. The first version was published in 2011 and the current version, which incorporates the AEMC's 17 December 2015 Embedded Network Final Rule Determination, was published on 1 December 2016.

The network exemption guideline already obliges exempt embedded network service providers to facilitate access to competitive market offers:[118]

> An exempt person must … provide ready access to retail competition where it is available in a jurisdiction.
>
> To make access to retail competition work it is essential than an exempt embedded network service provider not impede access to retail competition and take reasonable steps to facilitate access for a tenant.
>
> The AER does not permit an exempt embedded network service provider to impose any measures on a customer, either directly or indirectly, which would impede or penalise a customer seeking access to retail competition.

However, as noted in a number of submissions, competition is nonetheless constrained. The AER said:[119]

> In embedded networks customers' access to retail competition is restricted or prohibited (depending on the jurisdiction) for a variety of reasons. … While the AEMC's embedded networks rule change will assist customers to receive supply from a retailer of their choice, this change alone will not resolve the issue of access to competition.

Red Energy and Lumo Energy said:[120]

> Under the current regulatory framework, the current level of competition available to off-market embedded network consumers is low, as it is not easy to transition a consumer's arrangement from off-market to on-market, leading to inefficient outcomes. As such, the regulatory arrangements that apply to consumers in embedded networks need to change to make them more competitive.

The South Australian Government, Department of Premier and Cabinet said:[121]

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118 AER, Electricity network service provider - registration exemption guideline, version 5, 1 December 2016, p. 15 (section 2.1.1), p. 16 and p. 44 (section 4.2.2.4).

119 AER, Submission on the consultation paper, pp. 2-3.

120 Red Energy and Lumo Energy, Submission on the consultation paper, p. 2.

121 Government of South Australia, Department of Premier and Cabinet, Submission on the consultation paper, pp. 2-3.

> Investigations undertaken by the Energy and Technical Regulation Division identified several barriers to obtaining a market offer of an "energy only" offer. ETR [the Energy and Technical Regulation Division]contacted several retailers seeking information for embedded network customers and experienced mixed responses to queries. Only one retailer was able to make an offer to an embedded network customer. Issues that arose during the investigation include:
>
> - Lack of information or materials readily available to inform customers about the process to transfer;
> - Conflicting information about a meter compliance, new meter installation and costs;
> - Difficulty obtaining quotes with or without a NMI, poor response to questions about energy only offers or quotes without network charges; and
> - Retailers discouraging EN customers from seeking an offer.
>
> ETR has also received similar feedback from embedded network customers.
>
> While the prevalence of these issues may subside when the 2015 Embedded Network Rule Change comes into effect in December 2017, ETR considers the current market retail contract framework is not sufficient to ensure small embedded network customers have visibility of energy retail offers.

Key issues identified in submissions were the lack of access to published embedded network tariffs and a lack of information on the split between network and energy charges, leading to an inability to transparently compare on-market and off-market offerings. According to Energy Networks Australia:[122]

> There are two ways that embedded network customers can access retail services by authorised retailers:
>
> 1. The retailer comes to an agreement with the embedded network operator to bill the retailer for network services and the retailer then bills the customer for network and energy services.
>
> 2. The customer pays two separate bills, one to the embedded network operator for network services and one to the retailer for energy services.
>
> Either method requires that the embedded network operator must inform either the retailer or the customer of the unbundled prices. This additional

122 Energy Networks Australia, Submission on the consultation paper, p. 5.

> complexity of providing retail services may pose a commercial barrier to retailers developing products and services for small customers.

Flow said:[123]

> Lack of bundled tariff transparency remains a barrier to improved competition as EEN [exempt embedded network] operators are not able to clearly demonstrate the financial value and competitive advantage they add to consumers.

In AGL's view:[124]

> Without certainty over operations sections of the regulatory framework, such as published network tariffs, Use of System charges, data requirements and billing information, the process of providing embedded network customers with retail services could be very difficult and costly.

Another key issue, discussed in Chapter 5, was the visibility of embedded network customers to on-market retailers and their metering arrangements:[125]

> The biggest barriers for customers accessing markets has been ensuring that appropriate metering infrastructure is installed and that customers have been discoverable in MSATS.

The Commission considers that child embedded network customers' access to competitive offers would be improved if retailers could:

- have visibility of prices for network services
- discover information on an off-market embedded network customer and their metering installation
- use standard market systems and processes to convert off-market embedded network customers to on-market embedded network customers.

7.4 Proposed change - require ENMs to register off-market meters

The Commission considers that retailers would be better placed to make offers to child embedded network customers if child embedded network customers were issued with NMIs, which were registered with AEMO in MSATS and discoverable by market retailers, regardless of whether the customer is on or off market. This would facilitate child embedded network customers receiving competitive retail offers and would also facilitate

123 Flow, Submission on the consultation paper, p. 9.

124 AGL, Submission on the consultation paper, p. 3.

125 Origin Energy, Submission on the consultation paper, p. 5.

transferring customers from an off-market to an on-market arrangement.

The AER's network exemption guideline already obliges the exempt embedded network service provider to upgrade metering to current NEM standards in certain circumstances:[126]

> A metering installation is non–compliant if the metering installation does not conform to current standards for NEM metering in any material respect...
>
> An existing non–compliant metering installation for a child customer in an embedded network must be upgraded at the cost of the exempt embedded network service provider except where:
>
> (a) the child embedded network customer has not sought to take advantage of a market retail offer; or
>
> (b) the metering installation was in existence on 1 January 2012 and was not altered after that date; or
>
> (c) a metering installation was installed on or after 1 January 2012 and that installation complied with the requirements of this guideline in force on the date of commissioning or first use of the installation; or
>
> (d) a customer, market retailer or other person provides a replacement metering installation of their own volition and at their own cost.

The network exemption guideline also provides that:[127]

> …an exempt embedded network service provider must ensure that all metering installations used in a private network are fit for purpose and compliant with the requirements of the National Measurement Act, which Act is administered by the National Measurement Institute and the regulations in force under that Act.
>
> An embedded network metering installation for which an ENM must be appointed must be installed and operated consistent with the AEMO Metrology Procedure: Part A National Electricity Market."

Within existing embedded networks NMIs are only allocated to metering installations associated with the parent meter and with on-market child embedded network customers. Metering installations for off-market child embedded network customers are not assigned a NMI.

Where there is no NMI customers are not discoverable through AEMO's MSATS system,

126 AER, *Electricity network service provider - registration exemption guideline*, version 5, 1 December 2016, p. 42 (section 4.2).

127 AER, *Electricity network service provider - registration exemption guideline*, version 5, 1 December 2016, p. 43 (section 4.2.2.1)

even with the customer's consent, meaning the process of making an offer and then moving a customer on-market is more complex and more expensive than it could be, and different to the process for standard supply customers.

In order to make customers discoverable and facilitate transfers we propose requiring all child embedded network customer metering installations to be assigned an NMI, regardless of whether those customers are on or off market. We propose that this requirement apply wherever an ENM is appointed - that is, generally on sites with 30 or more child embedded network customers or on sites with 29 or less child embedded network customers where one or more of those customers is on-market.[128]

The Commission does not consider that an additional requirement to assign a NMI to each off-market metering installation and to enter its NMI standing data into the MSATS system is onerous or disproportionate where an ENM has been appointed. We think that an ENM will have the capability to register and manage NMIs, but that requiring small embedded network service providers without an ENM to register and manage NMIs may be an unreasonable impost.

We therefore recommend that ENMs be required to:

- apply to AEMO for NMIs for off-market metering installations
- register the NMI for off-market metering installations with AEMO (i.e. in MSATS)
- maintain information in the metering register (i.e. NMI standing data in MSATS) about whether the meter complies with the current NEM requirements.

Access to metering

Under the competitive framework for metering which comes into effect on 1 December 2017, retailers will become responsible for appointing a Metering Coordinator at their retail customers' connection points. The Metering Coordinator will engage a Metering Provider to carry out the installation and maintenance of the metering installation, and a Metering Data Provider to provide metering data services. The same party may become registered and accredited to perform all three roles.

The Commission expects that retailers will have agreements in place with each of the small number of metering coordinators in the market such that when a retailer wins a new customer the retailer's metering coordinator will obtain access to the existing meter at a reasonable cost and will not need to replace the meter unless it is efficient to do so.

However retailers needing access to child meters for customers moving from off-market to on-market supply in exempt embedded networks are likely to face much higher costs, even where the existing metering installations are NEM compliant. This is because there

128 Not in all cases. See AER, E*lectricity network service provider - registration exemption guideline*, version 5, 1 December 2016, section 4.4 for details

are a large number (currently around 3,400 registrations on the AER's public register of network exemptions) of exempt networks in the NEM. Due to their large numbers and relatively small size retailers are unlikely to have pre-existing metering agreements in place with each existing exempt embedded network to cover retailer changeovers.

Section 4.2.2.3 of the AER's network exemption guideline provides that:

> Where a market retailer accesses an existing embedded network child meter the market retailer or the customer (as the case may be) may:
>
> (a) purchase or lease the existing meter from the owner of the meter; or
>
> (b) at their own cost, replace the meter with a meter of their own choosing.

The same section of the network exemption guideline also requires exempt embedded network service providers to provide access on reasonable terms to all necessary facilities to allow the metering of a customer obtaining supply from a market retailer.

In practice we expect that the cost to the retailer of negotiating a bespoke agreement to purchase an off-market customer's meter may well be greater than cost of replacing the meter.

The Commission does not recommend any measures to further prescribe or standardise retailer access to existing meters. However, we acknowledge the higher metering changeover costs when an off-market customer becomes an on-market customer does present a barrier to competition.

7.5 Proposed change – access to standard network tariffs

The Commission believes that the switching process would be simplified by always allowing a retailer of an on-market embedded network customer to pay the exempt embedded network service provider a network tariff that is equal to the standard published LNSP network tariff that would apply if there was no intermediate embedded network. Under this arrangement, retailers could offer the same retail products to child embedded network customers as they offer to standard supply customers.

Under the AER's network exemption guideline, embedded network costs are not allowed to be recovered through bills, so embedded network service providers do not rely on embedded network tariffs to support the costs of embedded network infrastructure.

Clause 4.6.3 of the network exemption guideline states:

> We do not encourage separate network charges for private networks. Few, if any, situations currently exist where such charges are warranted. The formal determination of network charges by the AER is a complex and involved

process, the costs of which will usually be disproportionate to the scale of a private network.

Where an embedded network exists within a commercial building, shopping centre, airport, residential apartment building, retirement village or the like, the AER considers the network development costs to have been met in the initial establishment of the facility. Such costs are capital in nature and are normally recoverable through lease payments, fit–out charges or the like. A charge for network services is not appropriate as it may result in the customer being charged twice for the same facility.

Accordingly, no charge is permitted for internal network services except where the parties have entered into an agreement on mutually agreed terms and both parties are:

- large customers; or
- large corporate entities.

Under the network exemption guideline, small embedded network customers are charged under two arrangements – charge group A and charge group B.

Charge group A is where there is a bundled energy and external network tariff. It applies in the vast majority of situations where energy is sold to customers within an embedded network. [129]

For charge group A the network exemption guideline provides that:[130]

> If the external network charge is clearly attributable to a specific customer, it may be passed through at cost to that customer. Alternatively, if the charge cannot be readily attributed to a particular customer, the network charge for each customer may be based on a charge no greater than the published regulated charge which the DNSP would have charged that customer, had the customer been served directly by the distributor.
>
> In this guideline we refer to this arrangement as 'shadow pricing' of the network charge. Note that the private network must not charge fees for services which would not be charged by the distributor to a customer in the same circumstances.

Charge group B applies where there is no charge for the network, or the embedded network service provider is billed for network services by a distributor and is passing that cost on to

129 AER, *Electricity network service provider - registration exemption guideline*, version 5, 1 December 2016, p. 55 (table 11)

130 AER, Electricity network service provider - registration exemption guideline, version 5, 1 December 2016, p. 56 (clause 4.6.1.1)

customers in proportion to their metered energy use or, the pass-through of costs incurred to meet customer requirements.

For charge group B the network exemption guideline provides:

> Network only charge. The shadow pricing approach as described in condition 4.6.1.1 applies to an embedded network where customers are receiving an energy only offer from a market retailer and there is no exempt selling occurring. No charge is allowed for the private network assets. Alternatively, externally imposed charges may be applied pro–rata to customers as per condition 4.6.2.

As set out in Chapter 5, stakeholders considered the lack of transparent network charges as a significant impediment to competition.

In order to address this issue the Commission proposes always allowing a retailer of an on-market embedded network customer to pay the exempt embedded network service provider a network tariff that is equal to the standard published LNSP network tariff that would apply if there was no intermediate embedded network. Under this arrangement for on-market customers the exempt embedded network service provider (or their agent) would issue an invoice to the on-market customer's retailer. The invoiced amount would be the same amount that the customer would have paid had they been directly connected to the LNSP's network. The on-market customer would then be issued with a bundled network and energy bill by their retailer in the usual manner.

The fact that retailers have access to the LNSP tariffs would not preclude arrangements where the embedded network service provider could choose to charge lower tariffs if the portion of the LNSP's charges attributable to a particular child customer were lower, but the standard LNSP tariffs would always be available, enabling a retailer to offer its standard on-market rates.

We also anticipate that, to the extent they exist, arbitrage opportunities between network tariffs for large and small customers at the same connection point may diminish over time as network tariffs become more cost reflective. If an embedded network arrangement ceases to be beneficial for its embedded network customers then reversion to the traditional arrangement, described in Sections 3.1 and 8.5.3, remains available.

Where multiple network tariffs are available child embedded network customers would be offered the same choices as a standard supply customers.

Metrology procedures already need to allow for netting off child meter consumption from parent meter consumption.[131]

131 AER, *Electricity network service provider - registration exemption guideline*, version 5, 1 December 2016, sections 3 and 5.4

7.5.1 Embedded Generation

Generators can also be directly connected to embedded networks. We do not propose changing the arrangements applying to them.

We recognise the point made in submissions that, where customers go on-market, this may sometimes result in the LNSP becoming involved in financial transactions for energy that does not physically pass through the LNSP's network, but avoiding this would be necessarily complex and we think that that the costs of doing so and the negative impact on competition would likely outweigh the benefits. Retailers would effectively be forced to purchase energy from the embedded generator. For example, Flow said:[132]

> The framework should require retailers to pay for locally produced generation, although we acknowledge the obvious logistical difficulties this may cause.

132 Flow, Submission on the consultation paper, p. 6.

8 Elevating embedded networks into the national framework

8.1 Introduction

This chapter outlines the Commission's recommendations to elevate the regulatory framework for the majority of new embedded networks into the national regulatory framework and market systems.

As set out in Chapter 5, there are a range of regulatory, consumer protection and competition issues that arise as a consequence of embedded networks being regulated under an exemption framework. The Commission considers access to competition can be improved and gaps in consumer protections can be closed to some extent in legacy embedded networks as set out in Chapter 7 and Chapter 9 respectively. However, the Commission expects the proposed regulatory framework for new embedded networks set out in this Chapter will more effectively address these issues in new embedded networks going forward.

This chapter sets out the AEMC's draft recommendations and rationale for:

- changes to the structure of the two-tiered regulatory framework including elevating the majority of embedded networks into national regulatory framework and market systems
- the allocation of roles and responsibilities in the national regulatory framework for the provision of energy services in embedded networks
- the further integration of embedded networks into market systems to promote access to retail market competition
- the nature of the relationships between the entities involved in establishing and managing embedded networks and providing energy services to embedded networks and their customers
- a registration framework for embedded networks service providers and proposed changes to the retailer authorisation framework
- changes to the exemption criteria for new embedded networks.

8.2 Structure of the proposed regulatory framework

This section sets out:

- a brief summary of current two tiered regulatory arrangements for embedded networks

- stakeholder views on potential changes to the two-tiered regulatory framework
- the AEMC's draft recommendations and rationale for making changes to the two-tiered regulatory framework.

8.2.1 Current arrangements

Under the NEL and NER, a person who owns, operates or controls a distribution system must either be:[133]

- registered as a network service provider, or
- exempted by the AER from the requirement to register as an NSP in accordance with its network exemption guideline.

All embedded network operators currently rely on an AER exemption from the requirement to register as a network service provider.

Similarly, under the NERL, if a party wishes to sell energy to a consumer , it must hold a retailer authorisation from the AER, or be exempted by the AER from the requirement to hold a retailer authorisation.

The current exemption framework administered by the AER sits outside the national regulatory framework in the NER and NERR.

For customers this means the sale and supply of electricity to customers is regulated under a 'two-tiered' framework, with:[134]

- standard supply customers being supplied by registered distribution network service providers and authorised retailers who are regulated under the NER and NERR
- the majority of embedded network customers being supplied by exempt network service providers and exempt sellers who are regulated under AER exemptions.

8.2.2 Stakeholder views

Retailers and consumer representatives made submissions identifying a number of issues and risks for consumers in the existing regulatory framework. AGL, for example, submitted:[135]

> The increasing divergence of business models, the complexity of the exemptions categories, and the limited visibility and enforcement powers of the Australia Energy Regulator (AER), may all contribute to an increased risk to embedded network customers. These risks include limited price, product and

133 s.11(2) of the NEL and clause 2.5.1(d) of the NER.

134 s.11(2) of the NEL and clause 2.5.1(d) of the NER.

135 AGL, Submission on the consultation paper, p. 2.

service competition and potential for poor compliance with core consumer protections, such as for customers experiencing payment difficulties.

Stakeholders noted the rapid growth in embedded networks and the increasing trend for exempt sellers and exempt network service providers to outsource to third parties and broadly called for significant changes to the regulatory framework for embedded networks which would align consumer protections and regulate embedded networks services in a similar way to equivalent services provided outside of embedded networks in the NEM.[136]

Some stakeholders including Red and Lumo and the AEC suggested a consistent set of minimum retail standards should apply to all energy sellers.[137] The AEC stated it:[138]

> would like to see the review address consistency in the scope and application of the regulatory frameworks, in particular minimum retail standards, as this is the key to whether the over-arching framework is fit for purpose. The review can assess this by whether the regulatory arrangements for embedded networks can accommodate various business models, can be consistently applied, will limit compliance complexity and cost and will not proliferate further tiers of registration.

Other stakeholders considered the existing exemption framework generally provides a cost effective and proportional approach but could be improved.[139] Some stakeholders including AGL[140] and Caravan, Camping & Touring Industry & Manufactured Housing Industry Association of NSW Ltd (CCIA) commented that the exemption framework can be complex to navigate. CCIA commented that:[141]

> There are also overlapping requirements within the AER's Network and Retail Guidelines and other legislative instruments, which cause duplication and confusion. These include pricing, billing, receipts, dispute resolution and information requirements. Unnecessary layers of regulation should be repealed and regulatory instruments should be consolidated wherever possible.
>
> Each guideline is a complex and lengthy document and is difficult for a less sophisticated exempt embedded network operator to understand and implement. Consideration needs to be given to restructuring these guidelines or to the development of guidelines for each of the classes of activity.

Many stakeholders including exempt sellers, exempt network service providers and third

136 AEMC, *Review of regulatory arrangements for embedded networks*, Submissions on the consultation paper: AGL, p. 2; ATA, p. 2; ENA, p. 5; Red and Lumo, p. 1; SACOSS et al, pp. 4-16.

137 Red and Lumo, Submission on the consultation paper, pp. 1-2.

138 AEC, Submission on the consultation paper, p. 1.

139 Origin, Submission on the consultation paper, p. 3.

140 AGL, Submission on the consultation paper, p. 2.

141 Caravan, Camping & Touring Industry & Manufactured Housing Industry Association of NSW Ltd, Submission on the consultation paper, p. 4.

parties were open to modifications to the regulatory framework, for example:

- Red and Lumo said the Commission "should look to improve the regulatory framework that applies to all consumers, including those in embedded networks to ensure it delivers efficient outcomes in their long term interests"[142]

- Network Energy Services said "... as the structures have evolved we may have reached the stage where a different structure can perhaps work"[143]

- Living utilities said the "two-tier framework is generally fit for purpose but with some tweaks"[144]

- Flow suggested "the substance of the frameworks needs further improvement to meet the frameworks objective".[145]

Active utilities suggested parties providing services to embedded networks should undergo some form of accreditation:[146]

> We feel that the activity on the site is less relevant, rather the parties that conduct the on selling should be the focus. While we feel a site should still be registered (or allocated to a party instead) perhaps a similar accreditation process like that of the embedded network manager role currently under review via the Power of Choice reform might be more appropriate. This change would mean a significant reduction in administration for all parties involved.

8.2.3 Recommended approach for elevating embedded networks into the national framework

As discussed in Chapter 5, a number of problems arise in relation to this two tiered framework, relating to differences in access to retail market competition, consumer protections and monitoring and enforcement regimes.

Notwithstanding the issues and risks that arise for embedded networks customers, the Commission has found some embedded networks may provide benefits to consumers by way of discounted prices and non-price benefits such as multi-service offerings and sustainability rated housing.[147]However, due to a lack of competitive pressure, submissions suggest that price savings exempt sellers obtain in lower network and retail charges and embedded generation are often not passed onto embedded networks customers.[148] Authorised retailers also face limited incentives or commercial pressure to offer competitive

142 Red and Lumo, Submission on the consultation paper, p. 1.

143 Network Energy Services, Submission on the consultation paper, p. 2.

144 Living utilities, Submission on the consultation paper, p. 3.

145 Flow, Submission on the consultation paper, p. 6.

146 Active Utilities, Submission on the consultation paper, p. 3.

147 AEMC, *2017 AEMC Retail Energy Competition Review*, Final, 25 July 2017, pp. 154-155.

148 AEMC, *Review of regulatory arrangements for embedded networks*, Consultation Paper submissions: AER, p.9; SACOSS et al, pp. 22-24.

energy tariffs due to the same difficulties their embedded networks customers have in accessing accessing on-market offers.[149]

Balancing innovation, consumer protection and access to competition

The regulatory framework should promote new and innovative services . However, encouraging new and innovative services should not occur at the expense of an appropriate set of enforceable consumer protections and access to retail market competition.

The Commission agrees with stakeholders that energy is an essential service. As suppliers of an essential service, the Commission is of the view that the embedded network service providers and on-sellers that serve small customers[150] should meet a set of minimum standards and provide a minimum set of enforceable consumer protections under the NER and NERR.

The Commission is of the view that small customers in embedded networks should also be able to expect that compliance with obligations under the law would be monitored and enforced just as if they were a similar customer in a multi-tenanted premises under a standard supply arrangement.

Consumer protections including monitoring and enforcement of those protections are not costless but are necessary in respect of the provision of an essential service. Similarly, there are costs involved in establishing market rules and systems and complying with these. However, access to competition is an important form of consumer protection.

As discussed in Chapter 5, the Commission does not consider the balance between innovation, consumer protection, and access to retail market competition is being achieved in the two-tiered framework in its current form.

Elevating embedded networks into the regulatory and market framework

To redress the balance between innovation, consumer protection, and access to retail market competition the Commission recommends that the regulation of embedded network services to the majority of embedded network customers should be elevated into the national regulatory and market framework under the NER and NERR.

This would be achieved by:

- Regulating the services provided by embedded network service providers and on-sellers to off-market small customers under the NEL, NERL, NER and NERR. These services may include distribution, selling, metering and market interface functions. The providers of these services would be required to comply with obligations under the NER and NERR, with compliance being monitored and enforced by the AER.

- Further integrating embedded networks into AEMO's market systems by increasing

149 AER, Submission on the consultation paper, p. 7.

150 s.5(2) of the NERL defines a 'small customer' as a customer who is a residential customer; or who is a business customer who consumes energy at business premises below the upper consumption threshold.

the information available to the market about embedded network customers and standardising key market procedures and transactions to facilitate access to competition for embedded network customers.

While there will be differences in how embedded network services are regulated, this proposal would not be creating additional tiers of regulation under the regulatory framework. There will continue to be two tiers to the regulatory framework: the exemption framework and the national framework consisting of the NEL , NERL, NER and NERR.

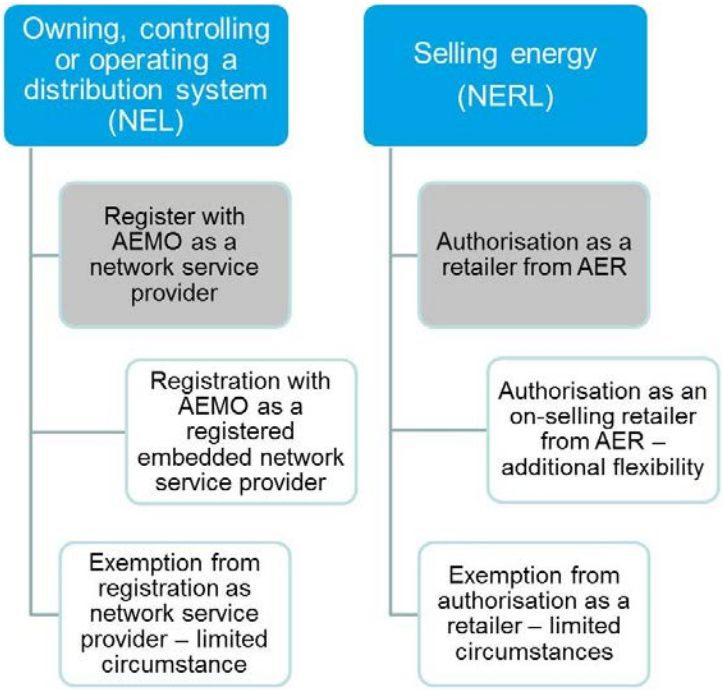
The Commission considers that exemptions remain important in reducing regulatory burden where the benefits of being regulated under the national framework and having access to retail market competition would be low such as in metered premises that provide temporary accommodation such as holiday flats and caravan parks. Section 8.6 and Section 8.8 set out the Commission's recommendations on the criteria for exemptions in detail.

However, under the proposed framework, the vast majority of embedded network service providers and on-sellers that provide services to new embedded networks will be regulated under the national framework, with exemptions being the exception. This contrasts with existing embedded networks. All existing embedded network service providers and the majority of on-sellers are regulated under the exemption framework.

Elevating the regulation of embedded network services to small customers would include:

- requiring the registration of embedded network service providers with AEMOunless exempted by the AER according to a narrow set of circumstances
- requiring any party who sells energy to a consumer in an embedded network, to hold a retailer authorisation from the AER or be exempted by the AER from holding a retailer authorisation according to a narrow set of circumstances

Figure 8.1: Proposed two-tier framework



8.2.4 Policy rationale for the new framework

The Commission has given consideration to whether this proposal is in the long term interests of consumers consistent with energy objectives and the criteria set out in the assessment framework in Chapter 2.

Appropriate consumer protections

Elevating the regulation of embedded networks out of the exemption framework into the national framework and market would mean most new small customers would be provided protections under thenational regulatory framework and have access to retail market competition whether or not they are an embedded network customer or a standard supply customer.

Consumers in new embedded networks will have a minimum set of protections under the NERR relating to dispute resolution, life support, disconnection and explicit informed consent.

Consumers in new embedded networks will also benefit from having the same protections under the NER to standard supply customers relating to:

- confidentiality of data including metering data and NMI standing data
- what parties can access services from their meters such as remote disconnection.

Clear, predictable and transparent framework

As we set out in the assessment framework, a clear and transparent regulatory framework

creates confidence in the role of embedded networks in the market. Consumers, market participants and regulators also require information to make effective decisions. This should also encourage efficient investment and innovation in providing embedded network services and build consumer confidence to enter into embedded network arrangements.

Regulatory functions and powers

Elevating the regulation of the majority of new embedded networks[151] into the national framework provides clear regulatory functions to each of the market bodies in relation to embedded network participants including registered embedded network service providers, authorised retailers, Metering Coordinators and other accredited service providers:

- the AEMC's rule making powers under the energy laws would apply to the regulatory framework for embedded networks
- the AER would have appropriate regulatory, monitoring and enforcement functions and powers
- AEMO would be able to impose obligations under its procedure making powers in the energy rules

Promoting compliance

Having clear requirements to be registered or authorised unless specific exemption criteria apply will promote compliance with these requirements. Requiring registration and means obligations will be placed on the party best able to meet those obligations and manage any associated risks.

The proposed changes to the authorisation, registration and exemption framework should remove confusion over whether registration/authorisation or an exemption is required.

Requiring that authorised retailers and registered embedded network service providers be the accountable party at embedded network child connection points removes the risks to consumers, identified by the AER and other stakeholders,[152] in being supplied by exempt sellers and network service providers with limited capacity and resources to manage unregulated third parties because the authorised and registered service providers will be required to be assessed for their capability to fulfill these obligations before being registered.

Some body corporates, retirement villages and other types entities that wish to supply to tenants and residents as an incidental activity may decide to authorised as a retailer and register as an embedded network service provider. However, we expect the existing trend for outsourcing network and retail activities to continue and the proposed changes will result in many of the existing third parties that currently operate in the sector, for example

151 Legacy embedded networks would be grandafthered under existing exemptions with some modifications as set out in Chapter 7 and Chapter 9 of this draft report.

152 AEMC, *Review of regulatory arrangements for embedded networks*, Consultation Paper submissions: AER, p. 4; ECA, p. 10; SACOSS et al, p. 8.

as agents for exempt embedded network operators, will instead become authorised and registered.[153]

Using a registration and authorisation framework, rather than an exemption framework without any entry tests, means obligations will be placed on the party best able to meet those obligations and manage any associated risks, including the management of third parties and agents. The Commission considers this will be the most effective way of addressing concerns raised by stakeholders regarding the currently limited enforcement powers the AER has in respect to third parties and agents.

Transparency and information provision

Consumers in embedded networks will benefit from a range of existing provisions in the NER and NERR that promote transparency and information provision.

For example, elevating embedded networks into the national framework will provide consumers increased access to information on their electricity consumption. As customers of authorised retailers, consumers in embedded networks will be able to access consumption and billing data in defined formats at no charge to help them better understand their bills and compare offers.[154]

As set out in Chapter 9, additional information provisions will also be included in the NERR to enable consumers to make informed decisions about entering embedded networks and compare offers.

Promoting competition and consumer choice in products and services

Under the proposed framework, embedded networks would still be able to offer innovative off-market services that provide price and non-price benefits to customers in competition with on-market authorised retailers.

These off-market services may include services such as the on-selling of electricity at a discounted tariff, the sale of electricity supplied by embedded generation, energy demand management services and additional services such as water and telecommunications which are combined with the overall service offering.

However, elevating embedded networks into the rules and market procedures means that if off-market embedded networks customers are dissatisfied with their off-market arrangements they will have increased ability to access retail market offers and have improved consumer protections and access to dispute resolution.

Efficient investment in energy services

The supply and sale of energy to small customers in an embedded network will be

153 Some developers and owners' corporations may choose to establish an entity to apply for retailer authorisation and register as an embedded network service provider, if they have the capacity and resources, so that they can etablish an embeddded network and on-sell electricity to customers. In this case, the owners coporation will continue to be accountable under its authorisation and registration for third party compliance.

154 See http://www.aemc.gov.au/Rule-Changes/Customer-access-to-information-about-their-energy for detailed information on the *Customer access to information about their energy consumption* rule change process.

regulated under the national regulatory framework instead of an exemption which the Commission considers will promote efficient investment in the supply of energy services. This is because there will only be an incentive to establish an embedded network where benefits can be offered to the customers of the embedded network, rather than at present where there is a risk that embedded networks are established primarily to avoid the costs of important consumer protections or to limit the ability of consumers to access competition.

Proportionality and regulatory burden

The Commission acknowledges that elevating the regulation of embedded networks into the national framework will involve some costs for participants and market bodies. As we note above, providing consumer protections and providing access to the retail market is not costless. However, the Commission considers these costs will be minimised and proportionate to the benefits or the proposed changes.

We note that the AER does not currently charge fees for assessing or granting retailer authorisations. One of the main additional costs to embedded network service providers and parties wishing to on-sell will be the costs of preparing applications for registration as an embedded network and authorisation as a retailer. However, this is a one-off cost which the Commission considers reasonable in order to demonstrate capacity and suitability to provide the respective services.

Registered participants may also pay participant fees to AEMO. However, we consider it reasonable that embedded network service providers and authorised retailers that register as a customer have the potential to contribute a proportionate amount towards the operational costs of the market.

Registered embedded networks and authorised retailers will also have the costs of complying with obligations under the NERL, NEL, NERR and NER. However, we do not expect the cost of complying with the rules to be significantly more than the cost of complying with exemption conditions. As set out in Section 8.7.3 some discretion will be provided to the AER to exempt authorised retailers that on-sell to embedded networks customers from certain rules in the NERR. And the rules would be amended to place proportionate obligations on embedded network service providers in the NER, which would not be significantly more onerous than those currently included in the exemption conditions.

The key additional requirements include obligations on:

- the embedded network service provider and the authorised retailer to report on compliance to the AER
- the embedded network service provider to appoint an ENM for all new embedded networks, including in embedded network with 29 or fewer customers[155]

155 Currently, an exempt embedded network service provider must only appoint an ENM in embedded networks with 29 or few customers where there is a trigger event.

- authorised retailers selling to off-market embedded network customers to appoint a Metering Coordinator to manage metering services and arrange for the installation and maintenance of NEM-compliant metering.

However, as discussed in the sections below, these obligations are key to:

- enhancing monitoring and enforcement, which will build consumer confidence to enter into embedded network arrangements
- providing access to retail market competition, which will place downward pressure on prices for consumers in embedded networks.

The AER and AEMO will also have costs relating to assessing applications for retailer authorisations and registered embedded network service providers. However, we consider the benefits to consumers of requiring authorisation and registration will outweigh these costs.

Conclusion

In summary, the Commission expects that elevating the regulation of embedded networks out of the exemption framework into the national framework will be in the long term interests of consumers:

- Consumers will have greater access to retail market competition and a minimum level of customer protections.
- Elevating the regulation of the majority of new embedded networks into the national framework provides clear regulatory functions to each of the market bodies in relation to embedded network participants, including providing appropriate monitoring and enforcement functions and powers to the AER.
- A clear and transparent regulatory framework should remove confusion over whether registration/authorisation or an exemption is required, promote compliance and will also provide regulatory certainty for participants wishing to develop innovative off-market services.
- There will only be an incentive to establish an embedded network where benefits can be offered to the customers of the embedded network rather than doing so to avoid the costs of important regulatory protections.

8.2.5 AEMC draft recommendation

The Commission recommends that:

- any person who engages in the activity of owning, controlling or operating an embedded network be registered as a registered embedded network service provider (with a sub-set of the requirements of a network service provider) with AEMO, or exempted by the AER according to a narrow set of circumstances.

- any party who sells energy to a consumer, including in an embedded network, must hold a retailer authorisation from the AER (under a more flexible authorisation framework), or be exempted by the AER from holding a retailer authorisation according to a narrow set of circumstances

8.3 Allocation of roles and responsibilities

Elevating embedded networks into the national framework requires that particular responsibilities relating to the operation of the embedded network, on-selling electricity, market interface functions and metering services be allocated to roles in the national energy laws and/or rules. Third parties may provide services to these regulated entities. However, it will be the entity that is registered, authorised or accredited under the national framework which will be accountable for meeting the relevant obligations under the NER and NERR.

This section sets out the Commission's draft recommendations and rationale in relation to the allocation of responsibilities for providing embedded network services to existing and new roles in the national regulatory framework.

8.3.1 AEMC position and draft recommendation

Most responsibilities related to the provision sale and supply of energy to small customers in embedded networks can be allocated to existing roles in national regulatory framework.

In summary, the Commission recommends utilising existing and new roles in the national regulatory framework as follows:

- The operation of the embedded network including cooperating with the LNSP and meeting many of the distributor obligations under the NERR be undertaken by an embedded network service provider registered with AEMO. The embedded network service provider would also be responsible for recovering the external network charges from the authorised retailers of on-market customers in accordance with the NER and AEMO procedures.

- The existing role of embedded network manager (ENM) would provide market interface functions such as assigning NMIs to both on-market and off-market embedded networks customers.

- On-selling of electricity within embedded networks be undertaken by authorised retailers, who would also be responsible for appointing a Metering Coordinator for their off-market customers.

- Metering services would be provided by competitive Metering Coordinators registered with AEMO and accredited Metering Providers and Metering Data Providers.

Under the competition in metering rule, the financially responsible market participant has

an obligation to appoint a Metering Coordinator, unless a large customer wishes to appoint their own.[156] Where an embedded network customer goes on-market by accepting a market offer from an authorised retailer outside of the embedded network, that retailer becomes the financially responsible market participant for the child connection point and appoints a Metering Coordinator consistent with the NER arrangements for embedded networks from 1 December 2017.

The Commission recommends the obligation to appoint a Metering Coordinator be extended to authorised retailers of off-market embedded network customers. The implications of this recommendation include:

- the NER to extend the obligation for child connection points that are off-market and do not have a financially responsible market participant
- appropriate rules and procedures for off-market metering services will need be be considered given some of the obligations on metering data service providers, in particular, relate to the provision of metering data for market settlement.

Table 8.1: Overview of roles under the -proposed regulatory arrangements for on-market and off-market customers

Service	On-market embedded network customers in registered embedded networks		Off-market embedded network customers in registered embedded networks	
	Who provides the service?	Under what instrument?	Who provides the service?	Under what instrument?
Network	DNSP	NER	DNSP	NER
Embedded network	Registered embedded network service provider	NER	Registered embedded network service provider	NER
Market interface	Accredited Embedded Network Manager	NER and AEMO procedures	Accredited Embedded Network Manager	NER and AEMO procedures
MC appointment	FRMP	NER	Authorised retailer on-selling to EN customer	NER
Metering	Registered MC Accredited providers	NER and AEMO Procedures	Registered MC Accredited providers	NER and AEMO procedures, with some potential exemptions
Retail	Authorised Retailers (market)	NERR	Authorised Retailers (on-seller)	NERR

156 Clause 7.2.1(a)(1) of the NER competition in metering amending rule.

8.3.2 Policy rationale

The recommended roles and responsibilities provide a clear and predictable regulatory framework for businesses wishing to supply embedded network services and will mean embedded network customers can expect equivalent and enforceable consumer protections to other customers in the national electricity market.

The most significant change in responsibilities is removing the responsibilities for metering services from the embedded network service provider role and requiring competitive Metering Coordinators, Metering Providers and Metering Data Providers to be appointed.

Removing metering services from the embedded network service provider's responsibilities and requiring competitive Metering Coordinators, Metering Providers and Metering Data Providers be appointed for off-market embedded network connections is an important measure for enhancing compliance, consumer protections and access to retail market competition. The Commission does not consider these benefits will be outweighed by the transaction costs incurred by the authorised retailer and metering service providers given the regulatory arrangements reflects current industry practice for authorised retailers and allow the parties to contract out the installation, maintenance and operation of metering services in embedded networks.

This measure will address the barriers in accessing customers being encountered by retailers in relation to metering in a number of ways.

First, metering services will be provided in accordance with Chapter 7 of the NER and relevant NMI standing data will be registered in MSATS. This will make customers discoverable in MSATS, making it easier for retailers to provide offers to embedded network customers, and provide market retailers confidence that metering is NEM compliant.

Second, market retailers will not need to negotiate with their competitors, an embedded network service provider and off-market retailer, for access to metering services and this approach avoids the need for prescriptive access regulation for these services.

Third, if metering is provided by identifiable and competitive metering service providers in the market, market retailers are more likely to be able to establish churn agreements[157] with these metering service providers in the way they are expected to for standard supply customers. This will lower the transaction costs for market retailers that win embedded network customers.

8.4 Elevating embedded networks into market systems to promote access to competition

Elevating embedded networks into market systems by increasing the information available

157 Churn agreements refer to the commercial metering services contracts that a winning retailer agrees to enter with the encumbent metering services providers of a new customer.

to the market about embedded network customers and standardising key market procedures and transactions is expected to facilitate access to retail market competition for embedded network customers.

This section sets out:

- the AEMC's draft recommendations on further integrating embedded networks into AEMO's market systems
- a description of how an off-market arrangement would operate under the proposed framework
- a description of how an off-market customer would switch to an on-market arrangement.

8.4.1 AEMC draft recommendation

As set out in Chapter 7, in our view embedded networks customers' access to retail market offers would be improved if retailers could:

- discover information on an off-market embedded network customer, their metering installation and applicable network tariff
- pay the standard published LNSP network tariff that would apply to child embedded network customers if there was no intermediate embedded network and use standard market systems and processes to convert off-market embedded network customers in to on-market embedded network customers.

Chapter 7 makes draft recommendations on these points in relation to legacy exempt embedded networks. However, these measures would only apply to embedded networks where an ENM is already appointed. When the *Embedded networks* rule commences on 1 December 2017, ENMs are only required to be appointed to embedded networks with 30 or more customers or where a customer in the embedded network seeks to move on-market and certain trigger events are satisfied.[158]

With respect to new embedded networks we consider that embedded network service providers should be required to appoint an ENM for all their embedded network connection points.

The ENM would be required to:

- apply to AEMO for NMIs for all off-market metering installations
- provide the Metering Coordinator with the NMI for the metering installation
- register the NMI for off-market metering installations with AEMO (i.e. in MSATS)

158 See s. 4.4.2.1 of the network exemption guideline.

- maintain information in the metering register (i.e. NMI standing data in MSATS) about the metering installations.

The Commission also recommends that a retailer of an on-market embedded network customer be allowed to pay the registered embedded network service provider a network tariff that is equal to the standard published LNSP network tariff that would apply if there was no intermediate embedded network. This is consistent with the recommendation for legacy exempt embedded networks made in Chapter 7.

These are key measures in enhancing the development of retail market competition for embedded network customers. In light of these benefits, the Commission does not think the requirement to appoint an ENM in new embedded networks and requiring a minimum level of information to be provided in market systems is onerous or disproportionate.

We understand AEMO's systems will be able to accommodate these requirements without costly changes and market participants will also have made many of the required changes to their systems under the power of choice reforms.

Further, leading up to the implementation of any recommendations made in this review we expect that the market for ENMs will mature and develop such that competitively priced services will be available if a registered embedded network service provider does not wish to accredit an act as the ENM themselves.

8.4.2 Off-market arrangements

Under an off-market arrangement an embedded network customer is supplied by an authorised retailer and registered embedded network service provider chosen by the owner or owners' corporation and is not settled in the national electricity market. More specifically, under the proposed framework:

- the authorised retailer is the customer at the parent connection point and purchases electricity from the financially responsible market participant (FRMP) at that parent connection

- the metering data for the customer at the parent connection point, i.e. the authorised retailer, is sent to AEMO and other market participants for billing and market settlement in accordance with Chapter 7 of the NER

- the authorised retailer on-sells that electricity to the embedded network customer under a retail market offer

- the metering service provider and off-market NMI for the embedded network customer's off market child connection point will be registered in MSATS

- the Metering Data Provider at an embedded network customer's off-market child connection point will not be required to send metering data to AEMO and other market participants because the embedded network customer will not be settled in the market.

8.4.3 Switching to an on-market offer

Under an on-market arrangement an embedded networks customer chooses to accept a market offer from an authorised retailer that settles the customer in the market like standard supply customers. More specifically:

- the winning retailer (the 'market retailer') will initiate a customer transfer in MSATS and appoint the incumbent Metering Coordinator or a different Metering Coordinator
- when the customer transfer has been completed, the market retailer becomes the FRMP at the embedded network customer's child connection point
- the market retailer may purchase electricity from the spot market or the local retailer[159]
- the market retailer will directly sell that electricity to the embedded network customer under a market offer
- the Metering Data Provider at an embedded network customer's on-market child connection point will send metering data to AEMO and other market participants for billing and market settlement in accordance with Chapter 7 of the NER.

8.5 Embedded network service provider registration framework

Elevating the regulation of embedded network services to small customers includes requiring the registration of embedded network service providers with AEMO unless exempted by the AER according to a narrow set of circumstances.

This section sets out:

- current responsibilities of exempt network service providers
- the AEMC's draft recommendation on details of the registration framework
- the AEMC's draft recommendation on the treatment of common connection assets

8.5.1 Current arrangements

Exempt embedded network service providers currently hold a number of important responsibilities, which include cooperating closely with other market participants, in relation to:

- ***the safe installation, operation and maintenance of the embedded network*** in accordance with jurisdictional requirements including:[160]

159 Under the NER, a local retailer is responsible under the laws of the relevant participating jurisdiction for the supply of electricity to franchise customers in that local area.

160 s. 4.3.3 of the AER network exemption guideline.

- co-operating with reasonable requests for information from the LNSP
- maintaining safety plans for large networks, if required by the jurisdiction in which the network is located, and be capable of load shedding in emergency situations
- being capable of shutting down or disconnecting local generation in the event of a loss of supply from the LNSP's network, where the embedded network contains a generation or inverter source

- ***life support processes*** including notifying the LNSP and additionally, from 1 December 2017, the parent connection point retailer and the child connection point retailer in relation to life support customers[161]
- having ***dispute resolution processes***which must be reasonably accessible, timely and binding on the parties to the dispute and not subject to excessive or unnecessary costs nor to costs disproportionate to the amount in dispute[162]
- apportioning and passing on ***external network charges*** from the LNSP.

However, under the current exemption conditions, embedded network service providers are not required to demonstrate their capacity to meet these responsibilities.

8.5.2 AEMC draft recommendation on the registration framework

Given the responsibilities set out above, it is appropriate that embedded network service providers should be required to demonstrate their capacity to meet their obligations and meet similar reporting and compliance obligations of other registered participants. However, currently the only other option to being exempt is registering as a network service provider which would place an extremely high regulatory burden on an embedded network service provider.

The regulatory framework has been drafted on the assumption that network service providers own and operate large and complex networks which provide a monopoly service over a wide geographic area. Many of the regulatory requirements applicable to network service providers are not appropriate or necessary to achieve the national electricity objective or to protect the rights of end users in embedded networks if an appropriate regulatory framework for embedded networks is also in place.

The Commission considers that embedded network service providers should be required to be a registered participant under the NER. Specifically, the Commission recommends:

- Any person who engages in the activity of owning, controlling or operating an embedded network must be registered with AEMO or exempted by the AER in a narrow set of circumstances (set out below)

161 s. 4.1.10 of the AER network exemption guideline.

162 s. 4.1.6 of the AER network exemption guideline.

- To be eligible for registration as an embedded network service provider, the applicant be required to satisfy AEMO that it has the capability to comply with the NER and the procedures authorised under the NER
- Registered embedded network service providers be required to comply with certain obligations that currently apply to all Registered Participants under the NER, including:
  - participation in the NER dispute resolution process under clause 8.2 of the NER
  - confidentiality obligations with respect to confidential information
  - reporting requirements as determined by the AER
  - an obligation to pay any participant fees to AEMO.
- Registered embedded network service providers be required to comply (in whole, or in part) with regulatory oversight and reporting requirements (Part 12 of the NERL).

To avoid imposing disproportionately onerous obligations, registered embedded network service providers would only be required to comply with a sub-set of obligations that network service providers are subject to. Registered embedded network service providers would not be subject to:

- price and revenue regulation pursuant to Chapter 6 of the NER
- all detailed technical standards in Chapter 5 of the NER
- requirements to ring-fence the provision of distribution services from the provision of other services in accordance with the AER's Distribution Ring-Fencing Guideline[163]
- obligations to provide connection services (see Chapter 5A of the NER in relation to making new connections and connection alterations, and Part 3 of the NERL and Part 4 of the NERR).

Where the obligations of a network service provider do not apply, alternative provisions may need to be included in the NER in some circumstances. For example, the NER will need to address the relationship between the embedded network service provider and retailers.

The differences between the obligations for registered NSPs, exempt NSPs and registered embedded NSPs are set out in table 8.2.

Chapter 9 discusses issues relating to applying obligations in the NERR to registered embedded network service providers, including life support obligations.

163 Made pursuant to cl. 6.17.2 of the NER.

Table 8.2: Obligations for different types of network service providers

Obligations	Registered NSP	Exempt NSP	Registered Embedded NSP
Price and revenue regulation	Chapter 6 of the NER	Under the AER exemption conditions an exempt network service provider can only pass on external network costs; they generally cannot impose a charge to the customer for internal network services	Chapter 6 of NER not to apply. Embedded network service providers would not be able to charge for internal network services on the basis that these are development costs that have been met in the initial establishment of the facility. Under the new framework the embedded networks service provider would be responsible for apportioning and passing on network charges from the LNSP.
Technical standards	Chapter 5 of the NER	AER Exemption conditions	Some technical standards in Chapter 5 may be applicable. Where more appropriate, introduce new technical standards for embedded networks.
Ring fencing	AER Distribution Ring-Fencing Guidelines	N/A	N/A
Connection services	Chapter 5A of the NER, Part 3 of the NERL and Part 4 of the NERR.	N/A	N/A
Relationship between network service provider and retailers	Prescriptive requirements for DNSPs' relationships with retailers (Chapter 6B of the NER and Part 5 of the NERR);	Provisions in the network exemption guideline regarding communication with retailers, such as in relation to life support.	New provisions are required to address the relationship between the embedded network service provider and retailers.
Requirement that all off-market connections become on-market	Yes	N/A	No, off market connections will be permitted in embedded networks.
Monitoring compliance	Part 12 of the NERL	No reporting requirements	Part 12 of the NERL should apply in whole or in part.

	NEL	No reporting requirements	Reporting requirements under Chapter 8 of the NER to apply.
AER enforcement powers	NEL and the NERL	Limited enforcement options	NEL and the NERL

8.5.3 Treatment of connection assets serving more than one customer

As discussed in Chapter 3, the traditional and most common supply arrangement for multi tenanted sites such as office buildings and home unit blocks has no parent meter. Rather, connection assets serving more than one customer, which may include busbars, cables, switchboards and terminal blocks, connects customers to the LNSP's network.

The AER treats the wiring in a building with multiple tenants or residents that connects those customers directly to a distributor as 'connection assets' which on their own do not form a 'distribution system', as defined in the NER.[164] The network exemption guideline states that there is no need for the AER to deem such wiring exempt.

We consider that traditional arrangements should continue to be allowed. However, we think that there may be benefit in capturing the traditional arrangements more explicitly within the regulatory framework. We also consider that small customer rights to access this wiring should be assured.

8.6 Network service provider exemption framework

This section sets out:

- the current arrangements under the network service provider exemption framework
- stakeholder views on changes to the exemption framework
- the AEMC's draft recommendations on the purpose of the exemption framework, exemption criteria and increased guidance for the AER.

8.6.1 Current arrangements

The AER has discretion over the kinds of network service provider exemptions that it can grant.

The NEL does not stipulate the kinds of network service provider exemptions that the AER can grant or the criteria that the AER should consider when exempting a person or class of persons from the requirement to register as a NSP. The AER also has discretion regarding the conditions that apply to each kind of exemption. Embedded network operators must then comply with the terms and conditions of these exemptions under the network

164 AER, *AER Electricity Network Service Provider – Registration Exemption Guideline*, version 5, 1 December 2016, p. 14, footnote 4.

exemption guideline).

Although the NEL does not stipulate the kinds of network service provider exemptions that the AER can grant, the AER has determined to use the same kinds of exemptions used for retail exemptions: deemed, registrable and individual. Each kind of exemption has a different set of eligibility requirements.

8.6.2 Stakeholder views

Stakeholders made a number of suggestions in relation to the exemption framework including:

- simplifying the exemption process[165]
- limiting the exemption framework to small scale embedded networks and selling arrangements
- removing the deemed category from the exemption framework due to the visibility and compliance issues it raises[166]
- expanding deemed and registrable categories to cater for the growing market in renewables and community energy projects[167]
- providing more guidance to the AER on the granting of exemptions[168]
- providing the AER with explicit monitoring and enforcement powers to support its role in managing the exemption framework[169]

8.6.3 AEMC draft recommendation

As set out in Chapter 5, we consider the network service provider exemption framework is no longer appropriate for many classes of activities and that greater regulatory oversight is required in relation to the operation of embedded networks where there are obligations to customers such as life support, dispute resolution processes and network charging.

However, it is important to retain an exemption framework to address situations where registration would be unnecessary or unduly costly, for instance where consumer protections were unnecessary and only a low level of regulatory oversight was required. This issue is particularly significant with respect to network exemptions given the broad definition of a distribution network.

It is proposed to limit embedded network service provider exemptions to circumstances where the embedded network only supplies:

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165 Active Utilities, Submission on the consultation paper, p.3.

166 ECA, Submission on the consulatation paper, p. 8.

167 Flow, Submission on the consultation paper, p. 8.

168 SACOSS et al., Submission on the consultation paper, p. 31.

169 AEMC, Review of regulatory arrangements for embedded networks, Submissions on the consultation paper: AER, p. 4; ECA, p. 12; SACOSS et al, p. 11.

(a) infrastructure

(b) related parties such as subsidiary companies

(c) the owners of short duration accommodation with simple network arrangements.

In the first situation, a network exemption would be appropriate because there is typically a single customer, the owner of the infrastructure. In the second and third situations, access to retail competition is unnecessary and the regulatory oversight of an exemption framework is likely to be sufficient in relation to the operation and maintenance of the embedded network.

Examples of the supply of infrastructure include:

- networks housing electric vehicle charging stations
- broadcasting television and radio signals
- electric traction systems
- metering installations
- equipment in any premises such as NBN with an input current rating not exceeding 3 amps DC
- any supply of energy that facilitates provision of telecommunications services.

Examples of supply of customers where duration of occupancy is short or temporary include:

- hotels
- motels
- inns
- holiday flats
- holiday cabins
- campsites
- caravan parks (temporary)
- marinas.

Currently, the main source of guidance provided to the AER on network exemptions is the national electricity objective. This is a broad set of principles which guide all decision making by the energy market bodies. Where the AER, or AEMO, is tasked in the NER to develop guidelines or procedures on specific matters, it is often provided additional

parameters to consider. This additional guidance assists the AER and AEMO in developing guidelines and procedures and also provides a firm basis for enforcement.

The Commission considers that more guidance should be provided in the NER to the AER on the criteria for exemptions. The Commission considers this additional information is appropriate to include in the NER and would assist the AER in the development of its exemption guidelines and conditions

8.7 Retailer authorisation framework

As set out above, the Commission recommends requiring any party who sells energy to a consumer, including in an embedded network, to hold a retailer authorisation from the AER or be exempted by the AER from holding a retailer authorisation according to a narrow set of circumstances.

This section sets out:

- the current entry criteria and arrangements for applying for a retailer authorisation
- stakeholder views on the retailer authorisation framework
- the AEMC's recommendations and rationale for making the retailer authorisation framework more flexible so as to be appropriate for on-sellers in embedded networks

8.7.1 Current arrangements

Applications for retailer authorisation are made to the AER.[170]

The NERL sets out three entry criteria that must be satisfied to obtain a retailer authorisation:[171]

- organisational and technical capacity - the applicant must have the necessary organisational and technical capacity to meet the obligations of a retailer
- financial resources - the applicant must have resources or access to resources so that it will have the financial viability and financial capacity to meet the obligations of a retailer
- suitability - the applicant must be a suitable person to hold a retailer authorisation.

The AER must publish a guideline for applications for retailer authorisation regarding the information that must be provided and how applications will be assessed.[172]

Under s. 93 of the NERL, the AER may impose conditions on the AER in relation to the

170 NERL, s. 89(1).

171 NERL, s. 90.

172 s. 117(1) of the NERL.

satisfaction of entry criteria. However, the AER is unable to place conditions on the authorisation in respect of factors unrelated to satisfying the entry criteria such as the duration of authorisation or the types of customers that may be supplied.

8.7.2 Stakeholder views

Many stakeholders considered that the NECF and authorisation framework had been designed in a more homogenous energy market and that NECF and the retailer authorisation framework should be amended to accommodate the emerging diversity in business models.

The AER submitted:[173]

> We have previously noted the limitations of applying the same regulatory requirements to all energy sellers as, in our view, the 'one size fits all' authorisations framework provides significantly less flexibility and adaptability than the exemptions framework. A more tailored approach may be a better option and to date we have used the exemptions framework to regulate new, non-traditional selling. The regulatory framework may benefit from amendment to provide a sufficiently flexible mechanism to deal with the increasingly diverse embedded network market which is occurring as part of a broader market transformation.

The AEC agreed that more flexibility was required in the authorisations framework but was wary of a proliferation of tiers of authorisation or onerous regulation.[174] The AEC, Momentum Energy and Red Energy submissions suggested a minimum standards approach should be taken for all energy sellers regardless of the connection type.

Momentum suggested:

> that a single tier regulatory framework which focusses on ensuring that all customers have access to an appropriate level of protection is a more appropriate model. We acknowledge that some retailers have not always displayed behaviours which would engender a disposition toward paring back the regulatory obligations for authorised entities however in our view, much of this behaviour has resulted from the imposition of restrictive regulation which has incentivised retailers to seek out 'loopholes'. An appropriate minimum standard of customer protections would incentivise innovation in product offering and customer service and lead to lower retailer costs for customers regardless of whether they take supply from within an embedded network or not.

There were a number of other stakeholders,that considered requiring parties that sell

173 AER, Submission on the consultation paper, p. 7.

174 AEC, Submission on the consultatation paper, p. 2.

energy as an incidental activity to be regulated as retailers would be overly onerous and that the exemption framework already provided sufficient flexibility.[175] For example, Origin stated:[176]

> Regulating all activities as if they were the same would mean that each embedded network would be regulated on the basis that selling energy is their primary business. Given the high level of regulation associated with energy sellers, this would create an excessive regulatory burden on embedded networks whose sale of energy is genuinely incidental to their primary business. Creating multiple tiers is unnecessary because different exemption categories already exist which allows specific regulatory obligations to apply to depending on the nature of the embedded network (e.g. a retirement community or a caravan park).

Some stakeholders considered the existing retailer authorisations framework which regulates the 'sale of energy' is limited and that the authorisations framework should be extended to other types of energy products and services.[177]

ATA submitted that:[178]

> The authorisations framework could be revised to include new small-scale authorisations designed for exempt sellers, solar PPA businesses, and other energy services providers. Small-scale authorisations would be predicated on a universal entitlement to the suite of consumer protections delivered by the NECF, with variations made only where a consumer protection is not applicable due to the nature of the exempt selling situation, or where it would cause compliance burdens that significantly outweigh the consumer benefits. These variations would be stipulated in the Retail Authorisation Guideline.

8.7.3 AEMC draft position

The market for embedded network services has evolved significantly since the introduction of the NECF. Some owners corporations manage energy selling activities under a retail exemption without contracting to third parties. However, increasingly, third parties are providing retailing services such as billing services, energy procurement services and customer call centres to exempt sellers. In some cases, these specialist companies hold the retail exemption themselves.

Section 8.1 summarised the AEMC's draft recommendation that all energy sellers should be required to hold a retailer authorisation, including for on-selling to small customers in

175 AEMC, *Review of regulatory arrangements for embedded networks*, Submissions on the consultation paper: Living Utilities, p. 5; Origin, p. 3; Shopping Centre Council of Australia, pp. 7-9; TradeCoast Central, p. 3; Victorian Caravan Parks Association p. 3.

176 Origin Energy, Submission on the consultation paper, p. 3.

177 AEMC, *Review of regulatory arrangements for embedded networks*, Submissions on the consultation paper: AER, p. 7; ATA, p. 2.

178 ATA, Submission on the consultation paper, p. 2.

embedded networks, except for a narrow set of circumstances.

The Commission considers that a retailer authorisation should be required irrespective of whether:

- the sale of energy is the seller's principal business or is incidental to its other operations
- the seller is selling energy to a small or large number of sites
- the seller is registered in the wholesale market for the particular fuel source, and is the financially responsible retailer for the particular premises.

This is because on-sellers in embedded networks are the primary source of energy to the premises of a small customer for gas or electricity. This is what sets apart energy on-sellers from other types of non-traditional exempt sellers such as those selling add-on or supplementary services to small customers .

However, the Commission is of the view that changes need to be made to the existing retailer authorisation framework. The Commission agrees with the AER and other stakeholders that the 'one size fits all' framework under which authorised retailers currently operate provides significantly less flexibility and adaptability than the exemptions framework.

The Commission therefore recommends that the retailer authorisation framework requires additional flexibility to accommodate on-selling in embedded networks while avoiding placing inappropriate obligations on energy on-sellers. The Commission considers that the AER may require some discretion to exempt an authorised retailer which on-sells energy, from obligations which are not applicable to the nature of the selling activities or where the compliance burden would outweigh the consumer benefits. Similarly the AER may require powers to impose additional obligations on these authorised retailers which on-sell energy

The Commission is interested in stakeholder views on the extent of additional flexibility that should be provided to the AER to exempt an authorised retailer from particular obligations, or place additional obligations on an authorisation, depending on the applicant's intended business activities to prevent risks to the market and consumers.

However, the Commission considers a minimum set of obligations should apply to all authorised retailers including:

- providing access to independent dispute resolution through Ombudsman schemes
- explicit informed consent when entering into a contract
- life support requirements
- disconnection requirements.

The Commission is particularly interested in feedback as part of submissions on this draft report on what other current obligations on retailers under the NERR should be included in this list of minimum obligations.

The Commission notes some stakeholders considered that obligations and regulatory burden on all authorised retailers be reduced. Reviewing regulatory arrangements for authorised retailers of standard supply customers is outside the scope of this review.

In conclusion, the Commission is of the view that making the retailer authorisation framework flexible means business models premised on on-selling energy will be able to be authorised as retailers rather than being required or incentivised to obtain an exemption.

This means the exemption framework can be reserved for a narrow set of circumstances where the need for regulatory oversight is low.

Other non-traditional sellers

In undertaking this review, COAG Energy Council directed the AEMC to consider options for a regulatory framework which, among other things, is sufficiently flexible to cope with the effects of emerging technologies and market innovation and enables consumers to benefit from innovative services while mitigating any risks.[179]

The Commission considers there may be merit in considering how the retailer authorisation framework could be extended to other non-traditional sellers where the energy seller is providing an "add-on" or supplementary service to a customer who also buys energy from an authorised retailer.[180]

However, the Commission notes that COAG is undertaking work on appropriate regulatory arrangements for other emerging products and services such as behind the meter services and stand-alone power systems under its Energy Market Transformation Work Program and has made some recent decisions on policy recommendations and how key areas of work will be taken forward.[181]

8.8 Selling exemption framework

This section sets out:

- the current arrangements in the selling exemption framework
- stakeholder views on changes to the exemption framework

179 COAG Energy Council, Terms of Reference, 16 December 2016, pp. 2-3.

180 An example of a supplementary service would be solar power purchase agreement which is a financial arrangement in which a business provides, installs and maintains, at no initial cost, a solar panel system to a customer and in exchange, the customer buys the energy provided by the solar panels for an agreed price (usually below that which would be charged by an electricity retailer) for an agreed period. Currently, these non-traditional sellers are regulated under the exemption framework. See AER, AER statement of approach, regulation of alternative energy sellers under the National Energy Retail Law, June 2014, p. 9.

181 COAG Energy Council, *Energy Market Transformation Bulleting No 05 - Work Program Update*, 3 August 2017, pp. 1-2.

- the AEMC's draft recommendations on the purpose of the exemption framework, exemption criteria and increased guidance for the AER

8.8.1 Current arrangements

The factors that the AER may take into account in administering the retail exemption framework, including deciding whether a person or class of persons should be exempt from the requirement to hold a retailer authorisation include:[182]

- whether selling energy to consumers is incidental to the main purpose of a business
- the extent to which other laws would adequately regulate the applicant's behaviour
- whether the exempt seller intends to profit from the arrangement
- whether the cost of having an authorisation outweighs the benefits to consumers
- whether an insignificant amount of energy is being sold
- any other seller related matter the AER considers relevant.

The AER may also consider the characteristics of customers and the extent to which exemption conditions or the requirements of other laws would provide exempt customers adequate access to appropriate rights and protections, as well as any other customer related matter the AER considers relevant.

The NERL establishes three kinds of exemptions (individual, deemed and registrable).[183]

8.8.2 Stakeholder views

Stakeholders made a number of suggestions in relation to the AER's retail exemption framework, and the exemption framework generally, including:

- simplifying the exemption process[184]
- limiting the exemption framework to small scale embedded networks and selling arrangements[185]
- removing the deemed category from the exemption framework due to the visibility and compliance issues it raises[186]
- expanding deemed and registrable categories to cater for the growing market in renewables and community energy projects[187]

182 s. 115 of the NERL.
183 Ibid.
184 Active Utilities, Submission on the consultation paper, p. 3.
185 AEC, Submission on the consultation paper, p. 4.
186 ECA, Submission on the consulatation paper, p. 8.
187 Flow, Submission on the consultation paper, p. 8.

- providing more guidance to the AER on the granting of exemptions[188]
- providing the AER with explicit monitoring and enforcement powers to support its role in managing the exemption framework[189]

8.8.3 AEMC draft position

The Commission considers that the exemption framework permits the deeming, registration and granting of individual exemptions to energy sellers which are inconsistent with the NERO and the underlying rationale for the exemption framework.

This is due to:

- the broad nature of arrangements that get captured under the exemption framework including where an exempt party, for whom energy sales is considered incidental to its main business, contracts specialist third parties
- the self-assessment of energy sellers against the retail exemption guideline for being eligible to be deemed or registered as an exempt seller
- the retailer authorisation framework and NERR not providing for the authorisation and regulation of on-selling in embedded networks
- the exemption framework being used as an enabler of shared embedded generation.

In particular, the factor relating to whether the selling of energy is a core part of the exempt seller's business or is incidental to that business is problematic as it focuses on the seller and not the customer. If energy supply is an essential service that requires sector-specific consumer protections, we cannot see why those consumer protections should apply to some customers but not others based solely on the identity and business model of the energy seller. For example, we cannot see a justification for the potential situation under the current framework where:

- a business with 1,000 electricity customers is required to be an authorised retailer if its only business is selling electricity; but
- another business with 1,000 electricity customers is not required to be an authorised retailer and can instead obtain an exemption simply because it also has sizable other business operations.

Criteria for exemptions

As discussed above, the Commission considers that exemptions are not appropriate for selling to small customers irrespective of whether it is the seller's core business.

However, the Commission considers that an energy selling exemption framework remains

188 SACOSS et al., Submission on the consultation paper, p. 31.

189 AEMC, *Review of regulatory arrangements for embedded networks*, Submissions on the consultation paper: AER, p. 4; ECA, p. 12; SACOSS et al, p. 11.

necessary to address circumstances where:

- the costs of retail authorisation and facilitating retail competition would outweigh the benefits to customers, and
- the need for regulatory oversight is low.

Examples of where these two above criteria may be met include:

- short term accommodation
- temporary construction services on same or adjacent property
- unmetered residential consumption of electricity
- selling to related (parent or subsidiary) companies on same property
- selling in conjunction with or ancillary to provision of telecommunications/information services
- selling to large customers who would be in a position to negotiate their terms and conditions and also in accessing retail market competition
- selling between government agencies on the same property

There may also be merit in allowing exemptions for small embedded networks such as caravan parks with a small number of permanent residents. The Commission is particularly interested in feedback as part of submissions on this draft report on what types of embedded networks should continue to be able to obtain exemptions.

The Commission considers that the exemption framework in the NERL should be amended to remove exempt seller factors and to simply restrict exemptions to where the costs of authorisation would be high compared to the benefits to consumers and the need for regulatory oversight is low. Also, the Commission is of the view that the level of detail provided in relation to the exempt seller and customer factors would be more appropriately contained in the NERR.

Structure of the exemption framework

As discussed in Chapter 5, the AER has no visibility of energy sellers that have deemed exemptions since there is no exemption registered for these selling arrangements. There are also issues that arise with registrable and individual selling exemptions. We understand compliance with the requirement to register is not always met, meaning the AER is unaware of the existence of the embedded network arrangement and the compliance and enforcement framework has limitations.

As mentioned above, some stakeholders such as the ECA have suggested removing the

deemed category of exemptions.[190] However, we consider that restricting selling (retail) exemptions to circumstances where regulatory oversight is low, such as in temporary accommodation, the issues that currently arise with respect to deemed and registrable exemptions, including a lack of information and transparency, will be addressed.

Therefore the Commission does not recommend any changes to the exemption categories.

190 ECA, Submission on the consulatation paper, p. 8.

9 Consumer protections, monitoring and enforcement

This Chapter outlines draft recommendations for changes to improve consumer protections, monitoring and enforcement in relation to the sale of energy to embedded network customers. The Chapter and recommendations are divided into issues for exempt customers (supplied by an exempt seller) and retail customers (supplied by an authorised retailer) in embedded networks. Information provision is discussed separately at the end as it concerns exempt and retail customers.

9.1 Introduction

As discussed in Chapters 7 and 8,where possible, access to competition for embedded network customers should be improved and the regulation of embedded network service providers and exempt sellers should be elevated into the national framework.

In practice, it is unlikely to be possible to deliver effective competition for all customers in legacy embedded networks where there are likely to be on-going disincentives for retailers to actively compete for these customers and barriers to customers going on-market.

Under the proposed framework, most customers in new embedded networks will be retail customers, supplied by an authorised retailer working with a registered embedded network service provider. This will mean consumer protections for most embedded network customers will be more closely aligned with those of standard supply customers. Exempt sellers will be limited to supplying in situations such as temporary accommodation and for infrastructure (See Chapter 8). Consumer protection arrangements are of less concern in these situations. However exempt customers will continue to exist in pre-existing embedded networks where an exempt seller is supplying customers. Therefore it will remain important to improve the current regulatory and exemption frameworks where possible.

The NERL and NERR are designed on the basis of the tripartite relationship that typically exists between a customer, its retailer and its LNSP. This relationship does not exist for embedded network customers because there is no LNSP at the child connection point. Instead there is an embedded network service provider. This different circumstance raises a range of retail market issues that require consideration and possible changes to the NERR, and potentially the NERL.

Currently a number of embedded network customers are retail customers, supplied by an authorised retailer, in either on-market or off-market situations. The role of authorised retailers will increase under the proposed framework. Authorised retailers are subject to the NERL and NERR and not the conditions of the AER's retail exemption guideline.

The different scenarios for the supply of electricity to embedded network customers under the current framework and the proposed framework are set out in table 9.1.

Table 9.1: Embedded network supply scenarios

Current regulatory framework

	Standard supply	Off-market embedded network customer supplied by an exempt seller	Off-market embedded network customer supplied by an authorised retailer*	On-market embedded network customer supplied by an authorised retailer*
Network services	DNSP	Exempt ENSP	Exempt ENSP	Exempt ENSP
Retail services	Authorised retailer	Exempt seller	Authorised retailer	Authorised retailer
Customer	Standard supply retail customer	Exempt customer	Off-market retail customer	On-market retail customer

Proposed regulatory framework

	Standard supply	Off-market embedded network customer supplied by an exempt seller (in limited circumstances	Off-market embedded network customer	On-market embedded network customer
Network services	DNSP	Exempt ENSP	Registered ENSP	Registered ENSP
Retail services	Authorised retailer	Exempt seller	Authorised retailer	Authorised retailer
Customer	Standard supply retail customer	Exempt customer	Off-market retail customer	On-market retail customer

* Note that these circumstances would carry over as legacy in the new framework, though most new embedded networks would not have the ability to be established in this way. It is possible there are, or will be, some examples with an exempt ENSP and an authorised retailer in the current or proposed regulatory framework.

9.2 Improving consumer protections for exempt customers

As discussed in Chapter 5 a number of stakeholder submissions raised concerns about consumer protections in embedded networks.

Our primary remedy for these issues is to propose changes to the regulatory framework, so that consumer protections for embedded network customers are better aligned with the consumer protections for standard supply customers. The proposed framework would mean most embedded network customers would be retail customers, rather than exempt customers.

However, it will be important that the AER maintains and continues to improve the exemption framework for legacy, and any new, exempt customers. A number of important

elements of the exemption framework are discussed below.

Given our recommendation for an overall change to the regulatory framework, we do not make specific recommendations for changes to the AER's exemption guidelines in this review.

9.2.1 Dispute resolution

A number of stakeholder submissions highlighted the importance of providing access to independent dispute resolution for embedded network customers (see Chapter 5).

Authorised retailers and distributors are required to be members of, or subject to, ombudsmen schemes[191] and customers can make a complaint or refer a dispute to their jurisdiction's ombudsman.[192] Ombudsmen services are governed under jurisdictional regulation.[193]

Under the exemption framework, embedded network service providers and exempt sellers have conditions related to providing dispute resolution services,[194] however a number of barriers mean that embedded network customers have less access to energy ombudsmen schemes to help resolve disputes with their energy providers.[195]

The AER and the Australia and New Zealand Energy and Water Ombudsman Network (ANZEWON) are working collaboratively to consider what changes need to be made to the regulation of exempt sellers and embedded network service providers and scheme membership and participation requirements respectively to improve exempt customer access to energy ombudsman schemes, where it is required.[196] Changes to jurisdictional regulation and the funding models of ombudsman schemes may also be necessary.

As the AER notes:[197]

> Currently, the ombudsman schemes, with the exception of NSW, cannot hear complaints from exempt customers. This is because they preclude membership by exempt entities or explicitly preclude the consideration of complaints by customers of exempt entities. Where access for exempt customers is currently available, the NSW ombudsman is unable to bind exempt entities by their

191 NERL, s. 86.

192 NERL, s. 83.

193 For further discussion see: J Benvenuti and C Whiteman, *Consumer access to external dispute resolution in a changing energy market*, report to Energy and Water Ombudsman (Victoria), Energy & Water Ombudsman NSW, Energy and Water Ombudsman (SA), 24 June 2016.

194 AER, *AER (Retail) exempt selling guideline*, version 4, March 2016, condition 15 and *Electricity network service provider - registration exemption guideline*, version 5, December 2016, condition 6.

195 J Benvenuti and C Whiteman, *Consumer access to external dispute resolution in a changing energy market*, report to Energy and Water Ombudsman (Victoria), Energy & Water Ombudsman NSW, Energy and Water Ombudsman (SA), 24 June 2016.

196 AER, *Access to dispute resolution services for exempt customers*, Issues paper, 13 June 2017, https://www.aer.gov.au/retail-markets/retail-guidelines-reviews/access-to-dispute-resolution-services-for-exempt-customers-june-2017.

197 ibid, p. 4.

decisions because exempt entities are not members of the scheme.

The AEMC recommends the AER, Ombudsmen and jurisdictional governments continue to develop required changes to the retail exemption guideline and state regulations to increase access to independent dispute resolution services for exempt customers.

9.2.2 Access to concessions

Some stakeholders[198] raised concerns over the ability of embedded network customers to access concessions.

The AER amended itsretail exemption guideline in 2016 to increase the level of protections for embedded network customers that are eligible for concessions but have challenges claiming them directly in some jurisdictions.[199] The amendments mandated the claiming of government rebates on behalf of embedded network customers where they cannot claim them themselves.

The AER's view was that it was a matter for jurisdictional bodies to determine how to improve access to concession schemes.[200] The AEMC agrees and considers jurisdictions should consider options for improving awareness of entitlements and access for embedded network customers. We acknowledge a number of jurisdictions are working on these issues.

9.2.3 Price regulation

Price regulation is provided for exempt customers though the NERR and the AER's retail exemption guideline. The NERR specifies that where the AER determines a price condition is appropriate, the AER must ensure that exempt customers are charged no more than the standing offer price of the local area retailer.[201] The retail exemption guideline makes it a core condition of exemption that tariffs are not higher than this standing offer.[202]

Some stakeholders suggested lowering the price cap.[203] The Commission has considered whether the price cap is appropriate and considers the existing cap appropriate as a safety net for exempt sellers, including during the transition to the new proposed framework. The Commission's view is that it is better to focus on improving access to competition than extending price regulation. The NERR allows the AER discretion to lower the cap through its retail exemption guideline if it consider this appropriate.

9.2.4 Retailer of last resort

The NERL contains provisions for a Retailer of Last Resort (RoLR) scheme. The RoLR scheme is designed to ensure that, in the event of a retailer failing (a RoLR event), customers

198 For example, Active Utiliites, Submission on the consultation paper, p. 5.

199 AER, Submission on the consultation paper, pp. 20-21.

200 ibid, pp. 20-21.

201 NERR, rule 152(4).

202 AER, *AER (Retail) exempt selling guideline*, version 4, March 2016, condition 7.

203 AEMC, *Review of regulatory arrangements for embedded networks*, Submissions on the consultation paper: ECA, p. 10; PIAC, p. 2.

continue to receive electricity and/or gas supply.

The RoLR scheme involves relatively complex arrangements including a cost recovery scheme for a RoLR, involving a pass through of costs through the relevant distribution determination.

For exempt customers, the AER's retail exemption guideline makes little provision for the eventuality of exempt seller failure, though exempt persons are required to notify the AER immediately "if they are (or expect to be) disconnected, or there is any likelihood that they will be unable to continue selling energy".[204]

The Commission's view is that the cost of applying a RoLR scheme for exempt customers is unlikely to out-weigh the costs. In particular:

- For standard supply customers, the retailer that becomes the retailer of last resort is generally able to supply the customers of the failed retailer under the retailer of last resort's standard terms and conditions and published price. However, the RoLR scheme only addresses the retail supply of electricity and gas and does not address the provision of network services, and accordingly will be an incomplete solution for embedded network customers. Despite the changes proposed in the this draft report, some exempt customers are likely to have more bespoke supply arrangements that will be more difficult for the retailer of last resort to cater for.

- The RoLR scheme has two purposes: it protects customers by moving them to a new retailer when their retailer fails, and it protects generators in the NEM by reducing their exposure to non-payment by retailers for energy they sell into the wholesale market. Where an on-seller is supplying embedded network customers, they are not interacting with the wholesale market so a RoLR scheme is not required to reduce generators' risks of non-payment.

9.2.5 Monitoring and enforcement

A number of stakeholders raised concerns over insufficient AER powers and resources to monitor and enforce exemption conditions.[205] [206]

Our proposed framework will address this for new embedded networks by requiring on-sellers to be authorised retailers and embedded network service providers to be registered participants in most circumstances. This should allow the AER to have the same monitoring and enforcement powers it currently has over registered DNSPs and authorised retailers, though with some flexibility to exempt embedded network service providers and authorised on-selling retailers from some reporting requirements.

The remainder of this section covers additional changes for legacy exempt customers and new exempt customers .

204 AER, *AER (Retail) exempt selling guideline*, version 4, March 2016, condition 17, p. 39.

205 SACOSS et al, Submission on the consultation paper, p. 16.

206 AER, Submission on the consultation paper, p. 11.

The AER notes a lack of transparency of embedded network activities with complaints being their main source of information.[207] They suggest the NERL should specify a role for the AER to monitor exempt seller behaviour and that such a role should include flexibility so that the AER can examine particular sellers as required.[208]

The AEMC agrees. Given the large numbers and diversity of embedded networks the requirement would need to give the AER the ability to design a program that did not impose a large regulatory burden on exempt sellers and was cost effective for the AER to implement.

Authorised retailers and registered network service providers are required to submit information and data on performance to the AER in the manner prescribed in the AER's Performance Reporting Procedures and Guidelines.[209] This includes information on retail market activity, hardship programs and distribution service standards.

Authorised retailers and registered LNSPs are also required to submit information and data on compliance to the AER in the manner prescribed in the AER's Compliance Procedures and Guidelines.[210]

Exempt embedded network service providers and exempt sellers do not have these requirements. The AER should consider whether further reporting obligations are required under the exemption framework.

Under the proposed framework, reporting requirements for authorised retailers and registered embedded network service providers can be better aligned with those of standard supply customers.

The AEMC recommends that to facilitate greater transparency of activities within embedded networks related to exempt customers, the NERL should specify a role for the AER to monitor embedded network service provider and exempt selling behaviour. Such a role should include flexibility so that the AER can examine the conduct of particular sellers as required. In the interim the AER should consider how monitoring can be increased under its current functions and powers. The AER should also consider whether the reporting requirements under the exemption framework should be increased.

A breach of a condition under a retail exemption is a breach of the NERL, and is a civil penalty provision.[211] The AER notes that the current penalty amount of $20,000 is regardless of the size or nature of the exempt seller. The AEMC agrees with the AER's recommendation[212] that the penalty amounts for infringement notices be reviewed. We note that enforcement regimes were reviewed in 2013[213] and that proposed policy positions on

207 AER, Submission on the consultation paper, p. 11.

208 Ibid.

209 NERL, Part 12, Division 2.

210 NERL, s. 274.

211 NERL, s. 112.

212 AER, Submission on the consultation paper, p. 11.

213 NERA Economic Consulting and Allens, *Review of Enforcement Regimes under the National Energy Laws*, report

penalty levels were consulted on in 2016,[214] with further action on these still required.

A breach of a condition under a network exemption is not itself a civil penalty provision under the NEL.[215] The AER has the power, in certain circumstances, to revoke exemptions. In its submission the AER noted:[216]

> Currently, the only way of dealing with breaches of network exemption conditions is for us to seek declaratory relief from the courts. We have not done so to date given the reluctance of customers to act as witnesses. Customer witnesses are essential to us being able to successfully bring an action against an embedded network operator for failing to comply with a condition. Another option is to revoke the exemption, which is not preferred as it would make energy sales in the embedded network unlawful, and may leave occupants without supply.

We agree with the AER that enforcement options for network exemption breaches, including breaches of conditions, should be more closely aligned with the enforcement powers for retail exemption breaches.

9.3 Concepts that raise consumer protection issues for embedded network customers supplied by authorised retailers

As discussed above, authorised retailers supplying embedded network customers raises a range of retail market issues that require consideration and possible changes to the NERR, and potentially the NERL.

The concepts that give rise to these issues are discussed below. Further specific consumer protections for retail customers are discussed in the following section.

9.3.1 Designated retailer concept

The concept of a designated retailer underpins the retail customer relationship for standard supply customers. Section 2 of the NERL defines a designated retailer as either the financially responsible retailer (for existing connections) or where there is no existing connection, the local area retailer.

The obligations of a designated retailer relate to the obligation to sell energy at standing offer prices under the standard retail contract.[217] As a 'connection' for the purpose of the NERL only relates to registered distribution systems, there is no recognised designated

prepared for the Standing Council on Energy and Resources, November 2013.

214 COAG Energy Council Energy Working Group, R*eview of Enforcement Regimes under the National Energy Laws,* proposed policy positions for consultation, March 2016, Canberra.

215 Section 2.4.8 of the network exemption guideline provides that an exemption can be revoked if there is a breach of any condition of the exemption. Section 11(2) of the NEL makes it a civil penalty provision to own, control or operate a distribution system if not registered or if not exempted. A civil penalty would only apply if the embedded network continued operating following the revocation of an exemption.

216 AER, Submission on the consultation paper, p. 11.

217 NERL, s. 22(1).

retailer for embedded network customers.

Further, s. 22(5) of the NERL states that a designated retailer is not obliged to make a standing offer to a small customer if the customer's premises are not connected to the registered distribution system. The consumer protections built into the standing offer do not extend to embedded network customers. Only market offers are potentially available to embedded network customers (where there are no jurisdictional impediments preventing access).

The absence of a standing offer means there is no obligation which guarantees supply to an embedded network customer by any party.

This gaps is currently addressed by the AER through its retail exemption guideline.[218]

9.3.2 Shared customer concept

The NERL and NERR impose a range of obligations on authorised retailers and distributors on the basis that they 'share a customer'. This shared customer concept is a key feature of the retailer-distributor-customer tripartite relationship that underpins much of the NERL and NERR. The nature of the electricity sale and supply relationship is such that it is not always clear that the obligation should be with one party, and instead the obligations need to be shared.

Shared obligations ensure that the authorised retailer and distributor are required to work together in the delivery of electricity, and to resolve customer issues and complaints thereby avoiding regulatory gaps in the delivery of electricity services. The NERR contain provisions requiring both authorised retailers and distributors to ensure that the customer does not suffer as a result of the delineation of responsibilities. The same provisions do not exist between exempt network service providers and authorised retailers.

There is no equivalent shared customer concept in the NERL or NERR between authorised retailers, distributors and embedded network services providers. The effect is that complaints and disputes may not be efficiently resolved and the customer may be subject to consumer protections that do not align with the consumer protections afforded to other residential customers.

There are a number of consumer protections that this concept relates to:

- obligation on authorised retailers and distributors to give reasonable assistance to each other in relation to shared customers (r. 94 NERR)
- obligation on authorised retailers and distributors to share information regarding shared customers (r. 95 NERR)
- obligation to provide contact details to each other (r. 97 NERR)

218 AER, *AER (Retail) Exempt Selling Guideline*, version 4, March 2016, Condition 1, p. 32.

- establishment of respective hotline numbers for customers (r. 98 NERR)
- information on planned and unplanned interruptions (rr. 99 – 100 NERR)
- mutual obligations with respect to complaints and enquiries (rr.101 – 102 NERR)
- de-energisation and re-energisation of shared customer's premises (rr. 103 – 106 NERR)
- billing and payment rules under Chapter 6B of the NER.

Chapter 6B of the NER contains the distributor and retailer obligations in relation to network charges of shared customers as well as when direct customer billing and electricity only contracts are permitted. The equivalent is missing and arguably fundamental in the embedded network context.

9.3.3 Extension of the tripartite relationship to exempt network service providers

The NERL and NERR contemplate a tripartite relationship between a customer, the retailer and the distributor. There is currently no flexibility in this tripartite relationship to incorporate embedded network service providers and on-sellers. The nature of embedded networks suggests that in some cases, it may not be appropriate to simply substitute an exempt embedded network service provider for a distributor as key information and processes may not be able to be properly administered.

For the framework to operate effectively in an embedded network context the relationship needs to be extended to include obligations regarding the relationship between the embedded network service provider, the retailer and the local network service provider to ensure that all relevant parties are involved where necessary and appropriate.

Relevant NERL and NERR provisions to consider include:

- customer classification by retailers and distributors (Part 1, Division 3, NERR)
- detailed obligations and requirements for both retailers and distributors in the disconnection and re-energisation of small customers (Part 6, NERR)
- retailers' and distributors' obligations in respect to the registration of premises with life support equipment (Part 7, NERR).

9.3.4 Distributor obligations to customers

Under the NERL and NERR a distributor has a number of important obligations to customers (see Chapter 8). Part 4 of the NERR affords customers certain consumer protections in relation to their relationship with distributors. These include:

- distributor service standards and guaranteed service level schemes (r. 84)

- fault reporting and correction (r. 85)
- provision of electricity information (r. 86)
- notice of interruptions (rr. 88 – 91).

There is no direct relationship between an exempt network service provider and a customer currently contemplated in the NERR, instead this is provided through network exemption conditions. As a monopoly provider of embedded network services with the embedded network, the embedded network service provider has similar characteristics and attributes to a distributor and customers should expect some protections. From a consumer protection perspective, there is arguably no difference between a customer of a residential embedded network and a customer of a distributor.

The safety and reliability of embedded networks is clearly an important matter for customers. This is of increased relevance where embedded networks contain large amounts of generation and energy storage. However, unlike DNSPs and TNSPs, embedded networks are not subject to economic regulation under Chapter 6 of the NER and so are not subject to service target performance incentive schemes. The ability of embedded networks to convey electricity safely and reliably to end consumers is therefore reliant on the technical capability of the embedded networks and their operators. However, under the Australian Energy Markets Agreement[219], technical and safety authorisations are explicitly excluded from the national distribution and retail regulatory framework and so fall outside the scope of the NEL and NER. This issue will therefore need to be addressed by individual jurisdictions.

Connection services, such as obligations relating to disconnection, notice of planned interruptions and life support, are however captured by the national framework.

For example, lack of proper notice for planned interruptions has been an ongoing compliance and enforcement focus for the AER with respect to distributors. The AER has less ability to monitor and enforce these requirements within embedded networks. This issue is currently a problem in the NERL and NERR that is relevant for all embedded network customers, regardless of whether they are on-market or off-market or supplied by an authorised retailer or an exempt seller.

Our proposed framework proposes imposing a sub-set of distributor obligations on embedded network service providers through a new category of registered participant (registered embedded network service provider, see Chapter 8). Improving monitoring and enforcement was discussed above.

9.4 Retail customers in embedded networks

This section discusses extending specific consumer protections to retail customers in

219 COAG Energy Council, *Australian Energy Markets Agreement*, 9 December 2013, Annexure 2.

embedded networks and potential changes to the the NERL and NERR.

This section deals with only a sub-set of important consumer protections. A significant re-write of the NERR and the NERL is needed to deal with all the issues mentioned in Section 9.3.

9.4.1 Standing offers and the obligation to supply

From a consumer choice or price perspective the lack of standing offers for embedded network customers (see above) is not necessarily a primary concern. In NSW, Victoria and South Australia less than 23 per cent of all retail customers are supplied on standing offers.[220]The conditions of these are similar to market offers in many respects. The average standing offer can be as much as $507 more annually than the best market offer, and standing offers have been increasing more relative to market offers over time.[221] Standing offer prices are not regulated in jurisdictions with effective competition. Standing offer prices are regulated in Regional Queensland, Australian Capital Territory and Tasmania, where effective competition is yet to emerge.

The obligation to offer/supply is, however, an important consumer protection.

Exempt sellers currently have this obligation as an exemption condition for the embedded networks they operate in.[222]

The obligation to offer/supply does not apply to authorised retailers supplying to customers within an embedded network. This is a concern under the current framework as increasingly embedded network customers are supplied by authorised retailers. Under our proposed framework most new embedded networks would not have an exempt seller and there may be no party with an obligation to offer/supply to embedded network customers.

To address this concern the NERL and NERR could be amended to extend the requirement on designated retailers (i.e. local area retailer in most circumstances) to provide a standing offer to include embedded network customers. We welcome stakeholder views on this solution and whether an alternative solution would be more preferable.

We recommend further consideration be given to the costs and benefits of extending the requirement on designated retailers (i.e. local area retailer in most circumstances) to provide a standing offer to include embedded network customers, or alternatively whether another party could take on the obligation to offer.

9.4.2 Vulnerable customer arrangements

A number of stakeholders raised concerns about vulnerable customer arrangements such as hardship policies and payment plans, as well as more general concerns about the

220 AEMC, *2017 AEMC retail energy competition review,* 25 July 2017, Sydney, p. 104.

221 ibid, p. 172.

222 AER, *AER (Retail) Exempt Selling Guideline*, version 4, March 2016, Condition 1, p. 32.

experiences of vulnerable customers in embedded network operations.[223]

Authorised retailers have a number of obligations regarding vulnerable customer arrangements for example, having a hardship policy approved by the AER.

Under the current framework, the AER's retail exemption guideline requires exempt sellers to offer flexible energy payment options to embedded network customers who identify themselves as being in financial difficulty. The AER has sought to align exemption conditions with the requirements of the NERL and NERR while considering the nature of embedded network operations and customer needs.

Under our proposed framework, most new embedded networks customers would have an authorised retailer and vulnerable customer arrangements would be regulated under the NERL and NERR. This will allow embedded network customer protections to be better aligned with those of standard supply customers.

Vulnerable customer arrangements are an important protection in many different types of embedded networks. The AER should have some flexibility in the authorisation of on-selling retailers to allow vulnerable customer arrangements to be appropriate for the embedded network supply situation.

9.4.3 Price regulation

The price conditions for exempt customers (see above) do not apply to customers in embedded networks supplied by an authorised retailer.

Customers that have gone on-market have demonstrated they have a choice of retailers and price regulation is not appropriate.

However, off-market embedded network customers supplied by an on-selling authorised retailer may not have access to competition (though this should be improved under the AEMC's recommendations set out in Chapter 7). Consideration will be given to extending the local area (designated retailer) standing offer price cap to these customers. This would need to considered in parallel with the issues discussed in Section 9.4.1. This could be applied by the AER under the more flexible retailer authorisation process.

9.4.4 De-energisation and re-energisation

The NERR provide for how premises can be de-energised (disconnected). An authorised retailer is prohibited from arranging de-energisation of a customer's premises except in accordance with Division 2 of Part 6 of the NERR. This division applies to standard and market retail contracts and is premised on the basis that the retailer arranges disconnection with a distributor. However, it is the owner of the embedded network that will be responsible for disconnection.

Division 4 of Part 6 of the NERR relates to re-energisation. It, like de-energisation, is

223 For example, see SACOSS et al, Submission on the consultation paper, p. 6.

premised on the basis that the retailer arranges re-energisation with a distributor. However, it is the owner of the embedded network that will be responsible for re-energisation.

These rules are classified as civil penalty provisions.

Under the exemption framework, conditions for de-energisation and re-energisation are set out in the AER's retail exemption guideline.

For retail customers in an embedded network, the NERR regarding de-energisation and re-energisation will not function as intended. Addressing this will involve some relatively complex changes to extend the tripartite relationship to cover and provide roles for registered embedded network service providers.

The AEMC recommends the NERR be amended to align the de-energisation and re-energisation rules for retail customers in embedded networks with standard supply customers.

9.4.5 Life support equipment

The NERR provide for retailer and distributor obligations in relation to life support equipment.[224] Many of these obligations require notification to a distributor. However, it is the embedded network service provider that has similar responsibilities to that of a distributor in relation to life support equipment.

The life support rules apply to any standard or market retail contract and are civil penalty provisions.

Under the exemption framework, conditions for life support customers are set out in the AER's retail and network exemption guidelines.

For retail customers in an embedded network, requiring life support equipment for their premises, the Retail Rules regarding life support equipment will not function as intended. Addressing this will involve some relatively complex changes to extend the tripartite relationship to cover and provide roles for registered embedded network service providers.

The AEMC recommends the NERR be amended to align the life support rules for retail customers in embedded networks with standard supply customers.

9.4.6 Retailer of last resort

The AER is required to appoint and register a default RoLR for each connection point (in the case of electricity).[225] This means that embedded network customers that are supplied by a market retailer to a child connection point are protected by the RoLR scheme. However, the Commission considers it may not be practical to extend the RoLR scheme to a large number

224 NERR, Part 7.

225 NERL s. 125(1)(a). s. 122 of the NERL provides that the meaning of 'connection point' for the purposes of Part 6 of the NERL has the same meaning as it has in the NER. The NER definition of 'connection point' will be amended from 1 December 2017 as a result of the *Embedded networks r*ule.

of on-selling authorised retailers and embedded networks.

Under the NERL the contractual arrangements for small customers and the relevant designated RoLR are the terms and conditions of the designated RoLR's standard retail contract.[226]The prices that are applicable are the relevant designated RoLR's standing offer prices.[227] That is, the current RoLR arrangements are premised on the basis of the standard retail contract and standing offer framework set out in the NERL. As set out in Sections 9.3.1 there are gaps in the designated retailer framework for embedded network customers which may need to be addressed).

Under the proposed framework most new embedded network customers will be customers of authorised retailers and many will be off-market retail customers. For off-market retail customers the RoLR scheme may be less effective. For similar reasons as discussed in Section 9.2.4 in relation to exempt customers in embedded networks, we consider that the costs of extending the RoLR scheme to off-market retail customers in embedded networks may not outweigh the benefits. We welcome stakeholder views on this issue.

Given the detailed arrangements required to establish RoLR arrangements it may not be practical to extend the RoLR scheme to a large number of new on-selling authorised retailers and embedded networks. In this case, where a retailer fails, it may fall to an owners corporation or similar body to arrange a new retailer.

9.5 Information provision

Clear information is an important enabler of an effectively competitive energy market and is important for customers when either entering an embedded network, considering moving to an on-market retailer or considering converting their property to an embedded network.

Information provision should be improved for both exempt and retail customers.

Entering an embedded network

Clear information may assist consumers in making decisions about entering an embedded network, particularly where there are lesser consumer protections or barriers to embedded network customers accessing retail market offers.

Authorised retailers are required to provide information to customers including on costs, consumer protections and dispute resolution.[228] Under the AER's retail exemption guideline, an exempt seller must provide information to embedded network customers at commencement of supply including on any right to choose another retailer (under state or territory laws) and their consumer protections.[229]

226 NERL, s. 145(3).

227 NERL, s. 145(4).

228 NERR, rule 57 and 64.

229 AER, *AER (Retail) exempt selling guideline*, version 4, March 2016, Core condition 2, p. 32.

The entry by the customer into a market retail contract with an authorised retailer is a transaction that needs explicit informed consent.[230] This is not required for the sale of energy to exempt customers by exempt sellers.

Under the proposed framework, most new embedded network customers will be supplied by an authorised retailer, which will allow information requirements for embedded networks to be better aligned with those of standard supply customers.

However, additional information is needed on entry to an embedded network given the different nature of supply and risks when compared to standard supply customers.

When customers are looking to purchase or lease a property the energy arrangements may not be a sizeable issue compared to the many factors influencing the overall decision. For example, a customer may not understand or be happy with the energy arrangements but still make a decision to purchase or lease a property for other reasons. Improving access to competition for embedded network customers provides an important protection, as the customer can later choose to go on-market if they are unhappy.

Regardless, jurisdictional governments should also consider whether there is sufficient provision for disclosure of the cost, benefits and risks of embedded networks in state based laws at the time of purchase or lease of a property.

Comparing prices

Where there is access to retail market offers for consumers within embedded networks, consumers need access to relevant information to compare prices between on-market retailers and off-market supply in order to exercise their choice.

Under the NERL a retailer must present (and publish on its website) its market offer prices (including any variation of those prices) in accordance with the AER's Retail Pricing Information Guidelines.[231]

Under our proposals to improve access to competition (Chapter 7), embedded network customers should be able to review and choose from many of these market offer prices, comparing them to prices charged in their embedded network.

Authorised on-selling retailers would also be required to publish their prices, though the AER should have some flexibility to exempt some parties from inappropriate obligations.

Under the exemption framework, the prices exempt sellers charge are not published. Many exempt sellers should also be required to publish this information to allow customers considering moving into an embedded network an informed choice and to allow greater monitoring of exempt selling activity. The AER should consider whether some embedded networks should be exempt from this requirement due to their size or nature.

230 NERL, s. 38.

231 NERL, s. 37.

Brownfield conversion

Clear information around the costs, benefits and risks which apply when being supplied within an embedded network, may also assist consumers when making a decision to convert existing arrangements to an embedded network.

Under the AER's network exemption guideline, conversion of an existing site (brownfield conversion) requires the AER's approval. The applicant must conduct a marketing campaign to inform tenants and may apply to the AER for approval if it can demonstrate that 85 per cent or greater of tenants and/or residents have agreed to conversion to an embedded network.[232]

Conversion of an existing site can also require an application for an individual exemption under the AER's retail exemption guideline. The AER notes that when an authorised retailer is involved in a brownfield conversion they are not subject to the retail exemption guidelines and some protections may not apply.[233] It appears however that the network exemption guidelines could be modified to address gaps that may result.

Under the proposed framework, brownfield conversion to an embedded network in most cases would require an embedded network service provider to register with AEMO and an authorised retailer to provide retail services. Specific provisions may be required in the laws or rules to enable appropriate scrutiny of brownfield conversions.

232 AER, *Electricity network service provider - registration exemption guideline*, version 5, 1 December 2016, section 4.9, pp. 67-70.

233 AER, Submission on the consultation paper, p. 7.

Abbreviations

AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
COAG	Council of Australian Governments
Commission	See AEMC
MCE	Ministerial Council on Energy
NEL	National Electricity Law
NEO	National electricity objective
NER	National Electricity Rules
NERR	National Energy Retail Rules
NERL	National Energy Retail Law
NERO	National Energy Retail Objective
NGL	National Gas Law
NGO	National gas objective

A Regulatory framework

A.1 NEL and NERL requirements

To be able to provide network and/or retail services embedded network operators must be exempted from registration as a NSP and/or authorisation as a retailer from the AER. Embedded network operators must then comply with the terms and conditions of their exemptions.

Exemptions were historically provided under local licensing arrangements. With the establishment of the NEM, an exemption framework was developed under the National Electricity Code (the Code). It was intended to apply to parties such as apartment buildings that reticulated and on-sold electricity as part of their operations but where it was not part of their core business. This was on the basis that the cost of meeting certain requirements under the Code would be overly onerous and outweigh the benefits to consumers.

A.2 Who requires an exemption?

The definition of NSP is very broad. A NSP is a person who engages in the activity of owning, controlling or operating a transmission or distribution system. An exemption from the AER is required for such a party to be unregistered, be that party a legal person, corporation, government department or statutory body of any kind.

Similarly, 'energy selling' covers a wide range of activities, from energy retailing by authorised (licensed) retailers to landlords recovering energy costs from their tenants. Energy sales do not necessarily have to be for profit – simply passing on energy costs to another person is considered to be a sale. Nor are energy sales limited by the parties involved. For example, they include sales to residential homes or other places of residence (for example, a caravan park where residents permanently reside), shopping centres and commercial sites.

The broad definitions of NSP and 'energy selling' mean that almost all embedded network operators, even those for very small networks, will be required to either register and be authorised as NSP and retailer respectively, or seek (or be eligible for) an exemption from both, NSP and retailer.

A.3 Exemption framework

The AER has discretion over the kinds of network service provider exemptions that it can grant.

The NEL does not stipulate the kinds of network service provider exemptions that the AER can grant or the criteria that the AER should consider when assessing an application for exemption from a NSP. The AER also has discretion regarding the conditions that apply to each kind of exemption. Embedded network operators must then comply with the terms

and conditions of these exemptions under the AER's Electricity Network Service Provider Registration Exemption Guideline (the network exemption guideline).

The NERL includes policy principles that the AER must take into account when exercising its exemption functions and powers in relation to sellers of both electricity and gas. It also provides the AER with guidance on the exempt seller and customer factors it may wish to consider. Notwithstanding these additional constraints and guidance, the AER has considerable discretion in developing and applying the (Retail) Exempt Selling Guideline (the retail exemption guideline) including what conditions should be attached to these exemptions.

In overview, the exemption framework in the NERL:[234]

- sets out the AER's power to:
  - exempt persons, or classes of persons, from the requirement to hold a retailer authorisation
  - revoke exemptions
  - impose conditions on an exempt seller or class of exempt sellers in accordance with the NERR and the AER Exempt Selling Guidelines
- establishes three kinds of exemptions (individual, deemed and registrable)
- stipulates the policy principles which the AER must take into account in exercising its exemption functions and powers:
  - the regulatory arrangements for exempt sellers should not unnecessarily diverge from those applying to retailers
  - exempt customers should, as far as practicable, be afforded the right to a choice of retailer in the same way as comparable retail customers in the same jurisdiction have that right
  - exempt customers should, as far as practicable, not be denied customer protections afforded to retail customers under the NERL and NERR
- includes a range of exempt seller related factors and customer related factors the AER may take into account in exercising its exemption functions and powers as set out in the box below.

Exempt seller and customer related factors

The exempt seller related factors that the AER may take into account in performing or exercising its exempt selling functions are as follows:[235]

234 NERL, Part 5, Division 6.

- whether selling energy is or will be a core part of the exempt seller's business or incidental to that business
- whether the exempt seller's circumstances demonstrate specific characteristics that may warrant exemption
- whether the exempt seller is intending to profit from the arrangement
- whether the amount of energy likely to be sold by the exempt seller is significant in relation to national energy markets
- the extent to which the imposition of conditions on an exemption, or to which the requirements of other laws, would allow appropriate obligations to govern the applicant's behaviour rather than requiring the applicant to obtain a retailer authorisation
- the likely cost of obtaining a retailer authorisation and of complying with the NERL and the NERR as a retailer compared to the likely benefits to the exempt customers of the exempt seller
- any other seller related matter the AER considers relevant.

The customer related factors that the AER may take into account in performing or exercising its exempt selling functions are as follows:[236]

- whether the characteristics of the exempt customers or the circumstances in which energy is to be sold to them by the applicant are such as to warrant exemption
- the extent to which the imposition of conditions on an exemption, or to which the requirements of other laws, would allow the exempt customers access to appropriate rights and protections rather than requiring the applicant to obtain a retailer authorisation
- any other customer related matter the AER considers relevant.

A.4 AER Exemption guidelines

A.4.1 Types of exemptions

The AER's network and retail exemption guidelines outline three categories of exemptions to being registered as a NSP and authorised as a retailer: deemed, registrable and individual. Each category has a different set of eligibility requirements. Notably:

235 NERL, s. 115.

236 NERL, s. 116.

- small networks are generally eligible for a deemed exemption. These do not require application or registration with the AER, but the exempt party must still comply with the conditions of the exemption, which vary depending on the type of embedded network

- larger networks are generally required to register with the AER as a specific type of registrable embedded network to provide the AER with greater awareness and oversight of these networks

- networks which do not fit within one of the specified classes of deemed or registrable exemptions must seek an individual exemption from the AER.

A full list of the deemed classes of exemptions can be found in the AER's network and retail exemption guidelines.[237]

A.4.2 Requirements under the network exemption guideline

There are five basic requirements that exempt networks must meet. The basic requirements relate to five key areas:[238]

- safety

- dispute resolution

- network charging

- metering

- access to retail market offers.

An overview of these basic requirements is set out below. For more detail on the specific conditions and the applicability of each to the different types and classes of network exemptions see the AER's network exemption guideline.

1. Safety

All embedded networks must, at all times, be installed, operated and maintained in accordance with all applicable requirements (within the jurisdiction in which the network is located) for the safety of persons and property. This includes, where relevant, an industry code or guideline otherwise applicable to a network service provider providing similar services.

The exempt party is also required to co-operate with reasonable requests for information from LNSPs, maintain safety plans, be capable of load shedding in emergency situations

237 See: AER, *Electricity network service provider – registration exemption guideline*, version 5, 1 December 2016 and *(Retail) Exempt selling guideline*, version 4, March 2016.

238 AER, *Electricity network service provider – registration exemption guideline*, version 5, December 2016, p. 15.

and be capable of shutting down or disconnecting local generation in the event of loss of supply from the LNSP's network.

Where notified by a customer of the existence of a requirement to maintain supply for life support equipment ('life support customer'), the exempt party must promptly notify the LNSP of the existence of a life support requirement in accordance with the reasonable requirements of the LNSP. Further, the exempt party must not disconnect supply to a life support customer without making arrangements for the safety of that life support customer.

From 1 December 2017, when notified of a life support customer, the exempt party must promptly notify the parent connection point retailer of the existence of a life support requirement in accordance with the reasonable requirements of the parent connection point retailer. In addition the exempt embedded network service provider must, without undue delay, promptly notify the child connection point retailer when they are informed of life support requirements at a child connection point.

2. Dispute resolution

The exempt party must have in place dispute resolution procedures which customers can access at no cost or on a fee for service basis. The process must be of a type ordinarily applicable to disputes of the kind, be reasonably accessible, timely, binding on the parties to the dispute and not subject to excessive or unnecessary costs nor to costs disproportionate to the amount in dispute.

3. Network charging

Network charges being passed through from the LNSP may be apportioned to each customer in an embedded network on a 'causer pays' basis in proportion to the metered energy consumption of each customer over the equivalent period. Alternatively the charges borne by each customer may be determined on a 'shadow price' basis. In this context a 'shadow price' requires charging each customer a tariff no greater than the tariff that would have applied had that customer obtained supply directly from the LNSP.

Network charges for the internal network are generally not permitted.

4. Metering

All meters installed from 1 January 2013 used for the measurement of electrical energy whether delivered to, or exported by, a customer must comply with the requirements of the National Measurement Act 1960 (Cth) and regulations made under that Act for electricity meters and sub-meters and with the requirements set out in Schedule 7.2 of the NER.

5. Access to retail market offers

Where an exempt customer is eligible under state or territory legislation to purchase energy from a retailer of their choice, the exempt network must not block customers accessing retail market offers. From 1 December 2017, an embedded network manager must be appointed where an embedded network customer wants to access a retail market offer. The market

interface functions assigned to the embedded network manager relate to the access and maintenance of standing data in the MSATS system, which in turn affects B2B procedures. The new embedded network manager role will reduce barriers for retailers seeking to connect with on market (or off-market customer seeking to become on market) embedded network customers.

A.4.3 Requirements under the retail exemption guideline

The specific conditions that apply to each embedded network depend on the type of exemption required. The conditions relate to five key areas:

- information requirements
- dispute resolution
- retail pricing
- access to retail market offers
- consumer protection.

An overview of these basic requirements is set out below. For more detail on the specific conditions and the applicability of each to the different types and classes of retail exemptions see the AER's retail exemption guideline.

1. Information provision

The exempt seller is required to provide information to customers at the commencement of their tenancy or residency agreement regarding the customers' access to retail markets, contact details for complaints and inquiries, the terms and conditions of the exemption and the rights the customer has within the exemption.

2. Dispute resolution

Where disputes arise the exempt seller must make reasonable endeavours to resolve the dispute and advise the customer of rights to access to energy ombudsman schemes and other relevant external dispute resolution bodies in the relevant jurisdiction.

3. Retail pricing

For small customers where access to retail market offers is not available, or is not cost effective to provide, the price to that customer may not be higher than the standing offer price that would otherwise be charged by the local area retailer.

4. Access to retail market offers

Where an exempt customer is eligible under state or territory legislation to purchase energy from a retailer of their choice, the exempt seller must not discourage or prevent embedded network customers from accessing retail market offers. The exempt seller must not: require

a customer to waive their ability to choose a retailer, unreasonably hindering their efforts to find another retailer and unreasonably hindering any metering or network changes required to enable choice of retailer.

5. Consumer protections

The consumer protection conditions relate to a wide variety of issues, including:

- obligation to supply
- provision of flexible payment options
- regularity of bills
- application of government concession and rebate schemes
- requirements for life support customers
- termination of supply contracts
- estimation of bills
- reasonable payment periods.

A.4.4 Jurisdictional arrangements

All participating jurisdictions in the national electricity market have applied the NEL as law through an application statute.

The Australian Capital Territory, Tasmania, South Australia, New South Wales and Queensland have adopted the NERL. Victoria has not adopted the NERL and has its own exemption framework which is currently being reviewed.49 Victoria, New South Wales, South Australia and the Australian Capital Territory (ACT) have regulatory frameworks which allow for embedded network customers to access retail market offers. In Queensland and Tasmania embedded network customers need a direct connection to the local distribution network if they want access to retail market offers.

In the embedded networks final rule determination the Commission recommended changes to jurisdictional regulations in Queensland, Tasmania and the Australian Capital Territory to remove the barriers to embedded network customers accessing retail market offers. The Commission also recommended changes to jurisdictional regulations in South Australia, Victoria and New South Wales to align the jurisdictional regulations that allow embedded network customers access to retail market offers.

Queensland is expected to review its arrangements for access to retail competition in embedded networks.

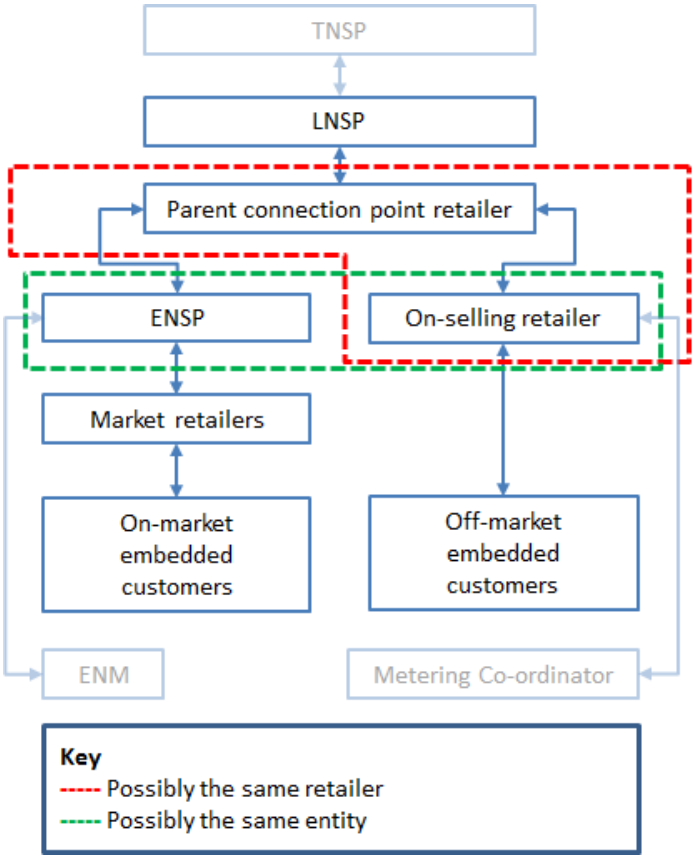
B Nature of relationships under the proposed arrangements for new embedded networks

This appendix sets out the relationships between the entities that would provide services to new embedded network under the proposed changes to elevate embedded networks into the national framework in the NER and the NERR including the relationships between:

- developers or owners corporations and the registered embedded networks service provider
- the parent connection point retailer and the authorised retailer on-selling electricity to embedded networks customers
- the embedded network service provider and market retailer relationship
- the on-selling authorised retailer's relationship with the Metering Coordinator.

Figure B.1 below illustrates some of these relationships.

Figure B.1: Relationships between entities providing embedded network services



Setting up an embedded network

The Commission has not recommended, at this stage, that consumer benefits be demonstrated to gain approval to establish an embedded network. This is on the basis that the regulatory framework is designed to promote efficient decisions. However, this is an

issue we are interested in gaining stakeholder feedback on.

Owners' corporation commercial relationship with the embedded network service provider and authorised retailer

Some owners corporations may choose to apply for retailer authorisation and register as an embedded network service provider so that they can establish an embedded network and on-sell electricity to customers.

However, we consider it more likely that most owners corporations will establish relationships with third party registered network service providers and authorised retailers to provide services on commercially agreed terms. For example, an owners' corporation may enter into a commercial agreement with:

- an authorised retailer to on-sell electricity at an agreed tariff to customers in the embedded network
- a registered embedded network service provider for the installation, operation and management of the embedded network.

The nature of the relationship between these entities would be a commercial one and would not be regulated under the NER or NERR. The Commission acknowledges that developers may enter into these arrangements prior to an owners corporation being established, which raises a question of whether developers will enter arrangements that are in the interests of a future owners corporation and embedded network customers. However, the Commission considers that facilitating embedded networks customers' access to retail market competition, which places competitive pressure on the embedded networks service provider and on-selling authorised retailer, will counter any incentives the developer may have to place its own interest over those of consumers.

Relationship between the parent connection point retailer and the authorised retailer on-selling electricity to embedded networks customers

As set out above, the authorised retailer on-selling electricity to embedded networks customers is the customer at the parent connection point and purchases electricity from the financially responsible market participant (FRMP) at that parent connection point.

This relationship will not be regulated any differently to any other FRMP and customer relationship under the NER or retailer and retail customer relationship under the NERR.

As illustrated in figure B.1, the parent connection point retailer and the authorised retailer on-selling electricity to embedded networks customers may be the same entity.

On-selling authorised retailers appointment of a Metering Coordinator

As set out above, it is proposed that on-selling authorised retailers providing off-market services to embedded network customers be required to appoint a Metering Coordinator for embedded network connection points. As is the case with the appointment of a Metering Coordinator under the new regulatory arrangements for metering coming into effect on 1

December 2017, the on-selling authorised retailer will appoint a Metering Coordinator on commercially agreed terms.