

Consumer access to external dispute resolution in a changing energy market

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A report to

Energy and Water Ombudsman (Victoria)
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Ombudsmen's Forward

Since the formation of electricity industry ombudsman schemes to handle customer complaints, there have always been two tiers of customers: those of retailers who have access to ombudsman schemes; and those of exempt sellers who either have no access or limited access to independent dispute resolution.

The growth in the past few years of the number of exempt retailer and embedded network licences approved by the Australian Energy Regulator across the National Energy Market, and by the Victorian Government and Essential Services Commission in Victoria, means that the number of customers without adequate access to external dispute resolution services is growing. In parallel, the growth in alternative energy services means that a jurisdictional black hole is developing that prevents ombudsman assistance to resolve disputes between customers and energy service providers.

This presents a strategic challenge to policy makers and inevitably the ombudsman schemes established to provide a fair and independent dispute resolution service for all energy customers. Undoubtedly failure to properly address this issue will create further reputational damage to energy markets already suffering from poor consumer confidence.

With this in mind, ANZEWON has commissioned this independent report to examine the issues and inform the future strategic direction of external dispute resolution in a rapidly changing energy environment. While we welcome this important research, the views expressed herein do not necessarily reflect the views of ANZEWON or any individual ombudsman.

Rather, this report is intended to widen the general understanding of the debate and to be a platform on which to safeguard the access to free and independent dispute resolution services for all Australian energy customers.

Energy ombudsman schemes are flexible and open to change. Our constitutions and scheme costs are amenable to new business models, new member types and different types of consumer coverage. Schemes in other industries – such as telecommunications – have adapted as their markets evolved. Energy consumers expect no less from us.



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Executive summary

This research was commissioned by the Energy and Water Ombudsman schemes of New South Wales, South Australia and Victoria to examine the applicability of ombudsman jurisdiction for Australian energy consumers in the midst of energy market reform and innovation. Through a desktop review and broad stakeholder consultation, our aims were to identify the current and emerging energy transactions that fall outside the jurisdiction of ombudsman schemes and to consider the potential for increasing access to external dispute resolution (EDR).

The changing energy market

The energy market is in a period of dynamic change, decentralising and fragmenting largely as a result of technological advances and the growth in distributed generation. In turn, new service providers are emerging, the relationships between providers and consumers are changing, and there is a growing convergence with other industries. It is increasingly difficult to distinguish between 'products' and 'services' and to untangle how this distinction impacts on the relationship between the consumer as a buyer or seller. As a result, consumers are facing a rapid increase in complexity, particularly in determining where they can resolve any problems that emerge.

A significant trend is the growth in embedded networks – private networks in which electricity is on-sold to multiple customers – and in the number of associated service providers. In addition to embedded network on-selling in retirement villages and caravan parks, the real growth is in on-selling to residential consumers in high-rise apartments. Traditional retailers are also moving into this space, finding potential for additional customers in a less onerous regulatory environment.

Despite the increasing prevalence of embedded networks, little data is collected about how many end-customers buy their energy from on-sellers. The report does nevertheless bring together available data, concluding that consumers buying through on-sellers number in the hundreds of thousands. Given the incentives, it is likely that embedded networks will continue to proliferate.

With its favourable weather conditions, government Feed-in-Tariff (FIT) policies and high energy prices, Australia has the world's highest take-up of household solar photovoltaics (PV) with around 1.5 million Australian homes (16.5%) having solar PV installed. This in turn has led to new and more complex purchase models, such as Power Purchase Agreements (PPAs), leasing and third party financing arrangements. The report reviews current retailer solar offerings to residential customers, finding that 10 retailer websites showed details on purchase models, with two of the largest retailers currently offering SPPAs to their own or other customers.

Battery storage is seen by many as a potential game changer. With recent advances in technology making solar and storage an increasingly realistic option, market observers are estimating household take-up rates of up to 40 per cent by 2035. We found that the websites of eight retailers have current offerings for battery storage for residential customers, while a number of network distributors are running trials to examine the impacts for consumer usage profiles and the effective operation of the network. Battery storage in combination with PV is likely to also result in more complex purchase arrangements such as PPAs or similar models that allow businesses to install, own and operate

storage at the end user's premises, potentially combined with smart meters to allow customers to monitor their usage and spending.

Innovation in home energy management (HEM) services and technologies – including the development of software to manage the interactions between solar storage, usage and tariffs – is also giving customers new ways to manage and reduce bills. HEM is an example of the convergence of energy technology and telecommunications in the US and in Australia, with Telstra's executive setting up a dedicated project team and signalling its intentions to move into HEM.

The report also covers energy market developments with limited current impact but the potential to emerge and grow rapidly, with impacts that are difficult to predict, but potentially profound. For example, the growth in options available through distributed generation has also generated consumer interest in additional options for trading excess generated power. Described as peer-to-peer trading, this includes facilitated access to trading opportunities through software platforms or Virtual Net Metering. These energy-related developments are part of an overall growth in sharing economy platforms, as seen in other industries such as ride-sharing and accommodation services. Whilst energy sharing economy platforms are in their infancy in Australia, overseas models and the unpredictability and rapidity of energy market trends make this a phenomenon to watch closely. The report also examines the growing impetus for off-grid projects in remote and peri-urban areas and the potential for widespread adoption of electric vehicles (EVs).

Access to consumer protections

Changes in the energy market including technical and product innovation and financing options have led to further consideration of the regulatory framework including the identification of future strategic directions for regulators.

National energy reform has concentrated on establishing retail competition aimed at increasing choice, services and benefits for consumers. COAG's *Power of Choice* reforms are intended to guide changes in the market over the next 10–20 years. Central to these changes, COAG is developing a stream of work aimed at further modernising the regulatory framework to ensure customers can benefit from technical innovation.

The governance framework for consumer protection presents an extremely complex interplay between national and state and territory jurisdiction. The National Energy Market (NEM) states of the ACT, Tasmania, South Australia, NSW, and Queensland have adopted the National Energy Customer Framework (NECF), but with various jurisdictional specifics to accommodate local conditions and policies. Victoria is yet to adopt the NECF but has harmonised its energy retail regulation.

Consumers who purchase their electricity through on-sellers in embedded networks or who source supply through a combination of generation technologies are subject to regulation by an exemptions framework. The exemptions regime was designed primarily to avoid an unnecessary cost burden on non-primary market participants, such as building premises owners and operators. Since that time, on-selling has seen enormous growth that was not originally anticipated. Under the exemptions framework, this group of consumers has lower consumer protections, including lack of access to energy ombudsman schemes – or, where access is available, reduced ombudsman powers to resolve matters through binding decision. Exempt customers generally face barriers to choice of retail service provider.

Consumer groups have been active in calling for reforms in the exemptions framework. In 2012, the Consumer Utilities Advocacy Centre (CUAC) identified a number of barriers facing consumers of embedded networks, particularly those in high-rise apartment buildings. In a December 2015 report, the South Australian Council of Social Service (SACOSS) examined the protections for consumers in caravan and residential parks, finding that the level of consumer protections was lower despite the customer segment's greater social and economic disadvantage. SACOSS suggested that without access to EDR and an effective monitoring, reporting and enforcement regime, reforms may not succeed in changing the lived experiences of these groups.

COAG has recently committed to reviewing the effectiveness of the NECF in light of energy market developments. In particular, it has foreshadowed further reform to embedded networks through the *Power of Choice* project, including a rule change to clarify metering arrangements and other arrangements to reduce barriers to competitive offers and support competition. It is anticipated that changes in metering will drive more retailer choice.

In its March 2016 review of its Exempt Selling Guidelines, the AER introduced a number of changes. In relation to new technologies, it introduced a new class of exemption for PPA providers. With regard to EDR, it restated its position that the Australian Consumer Law (ACL) places sufficient obligations on suppliers. The AER made some improvements to the consumer protection arrangements but did not make membership of an ombudsman scheme a requirement – although it did acknowledge broad support for this in submissions to the review. The AER suggests that ombudsman schemes may have the capacity to extend jurisdiction through constitutional change by voluntary participation and notes the potential for state and territory legislators to effect change. Significantly, the AER stated that it is important that small energy customers have access to cheap, robust and effective dispute resolution mechanisms. It encourages ombudsman initiatives to extend participation to exempt sellers, and has offered to work collaboratively with the schemes to that end.

In Victoria, two concurrent reforms are underway to address similar barriers: the government is reforming its General Exemptions Order (GEO) and the Essential Services Commission (ESC) is modernising the energy licencing framework. The GEO issues paper noted the advantages of the EWOV in resolving energy disputes, but acknowledged that lack of information about embedded networks may also need to be addressed in extending jurisdiction. Other states are also considering the legislative framework for embedded networks.

Access to dispute resolution

Energy ombudsman schemes were set up to be a one-stop shop for energy complaints, and although a number of new and emerging services and products do not fall within their jurisdiction (or have limited resolution options), the schemes nevertheless have the broadest remit. There is widespread agreement among consumer, industry and regulatory stakeholders that energy ombudsmen are the most effective EDR option for consumers.

Jurisdiction of the energy ombudsman schemes is set out in state and territory legislation and in each scheme's governance documents, and includes a fairly standardised set of rules for the matters that can be considered as complaints. Scheme membership and participation mechanisms are the primary determinants of jurisdiction, and it is here that more substantial jurisdictional differences occur.

Under Victorian legislation, energy distribution and retail licence holders are required to enter an ESC-approved dispute resolution scheme (EWOV being the only scheme). A precedent for voluntary membership also exists as LPG retailers who agree to comply with the voluntary retail code are also required to join EWOV.

EWON and EWOSA derive jurisdictional membership from the requirements of the National Energy Retail Law (NERL) and state-specific legislation. EWON and EWOSA also have additional mechanisms for voluntary membership. For EWOSA, to date this mechanism has only been used to include small water utilities. For EWON, a legislative provision allows it to deal with complaints about exempt sellers, but exempt sellers are not required to be members of the scheme and as such, EWON cannot recover fees, nor impose charges or binding decisions. There are therefore concerns that EWON is effectively a 'toothless tiger' on exempt selling complaints, and further, that this work is cross-subsidised by industry.

As part of the research, we audited the information provided to consumers in embedded networks. We found most of the companies we audited offered fairly comprehensive information about internal dispute resolution (IDR), but that EDR information was patchy and often incorrect or inconsistent.

Future directions for energy ombudsmen

The report concludes that a comprehensive jurisdiction is an essential component of an effective ombudsman scheme. The gap in coverage with regard to embedded networks has been recognised for some time. While we do not know the precise number of consumers affected, we do know that it is substantial and growing. The matter of jurisdiction over embedded networks now merits urgent attention by the schemes. In addition, new business models for solar and battery storage and facilitated trading are both emerging into space that is comparatively unregulated – and therefore outside ombudsman jurisdiction.

We suggest that ombudsman schemes should begin by clarifying their internal thinking on these jurisdictional issues. There was significant support across all sectors for ombudsman schemes to consider jurisdictional expansion. Stakeholder views differed on the exact principle or principles that should underlie ombudsman jurisdiction; we think that the existence of an ongoing service relationship is an appropriate principle for determining whether ombudsman access is required. However, there are product-related matters that are better handled through the statutory powers of the ACCC and state jurisdictions.

Flowing on from this principle, we think that energy ombudsman jurisdiction should be expanded to cover embedded networks. We have suggested a staged approach to this change, with the incorporation of exempt sellers in apartment buildings as the first step.

Expanding ombudsman jurisdiction will be a complex process requiring close collaboration among stakeholders and careful thinking on the details of change. We have put forward a series of suggestions to begin progressing this work. As a starting point, ombudsmen should make jurisdiction a strategic priority and work closely together to develop a shared view on jurisdiction and related matters such as funding models. Ombudsmen will also need to join with regulators to work through the complex interactions between scheme jurisdiction and national and state and territory law and regulation.

Jurisdictional change will likely require some re-design of the scheme's funding models. An appropriate model must apportion costs fairly among a diversity of small and larger participants, minimising cross-subsidy. This is eminently achievable, as demonstrated by successful examples in the telecommunications and finance industries. We have suggested that the ombudsmen commission a funding model review.

Consumer information is another area of work, and we have proposed that the ombudsmen take a leadership role in improving the quality of guidance on EDR for customers whose complaints remain out of ombudsman jurisdiction. As the market for services including energy continues to change and

grow in complexity, the energy ombudsmen will need to continue working with schemes in other industries to ensure that consumers have a simple access point to EDR.

Finally, we note that monitoring industry developments and emerging consumer issues is an important, if secondary, function of a modern industry ombudsman. To strengthen energy ombudsman scheme monitoring capacity with regard to new energy market products, services and business models, we have proposed some improvements to data collection on out of jurisdiction complaints. We have also suggested that the ombudsmen closely monitor emerging trends – such as EVs, off-grid projects and peer-to-peer trading – that are currently marginal but have the potential to profoundly impact the energy market and ombudsman schemes in the medium term.

We believe that there is significant support for change and that if action is not taken now, there is a risk that rapid market development will erode ombudsman jurisdiction, effectiveness and reputation. Ombudsmen should capitalise on the momentum for change and the broad support they currently enjoy, taking this opportunity to rethink and rework their jurisdiction.

Introduction

This research was prompted by the awareness that rapid change in the energy market has the potential to erode the coverage of energy ombudsmen. Its fundamental objective is to inform ombudsman, policy and regulatory thinking about how to ensure ongoing wide access to free and independent external dispute resolution (EDR) for all Australian energy consumers.

We wanted to contribute to this objective by, firstly, clarifying what is happening in the energy market now, with a focus on identifying those transactions and issues that fall outside of current ombudsman jurisdiction and energy consumer protection frameworks.

The second research aim was to canvass options for consideration and further investigation, focusing on broad issues and suggestions that are relevant for energy ombudsmen across the board. The intention is to stimulate and inform ombudsman thinking, rather than to dictate a specific course of action.

Research questions

We designed the research to address two central research questions, which flow directly from the research aims.

1. What are the current and emerging energy purchase and supply arrangements that fall outside the jurisdiction of energy ombudsman schemes in each state?

To provide a foundation for thinking through jurisdictional issues, we wanted to systematically identify the types of energy products and services that fall outside of the current framework, as well as the entities offering these products and services. To the extent possible, we also wanted to develop some sense of the scale of the issues, looking at how many customers currently engage in transactions that are out of jurisdiction for ombudsman schemes, and at predictions for the future. For customers that do not have access to the ombudsman, we wanted to clearly identify the consumer protections and EDR avenues that do apply, and to find out what information these consumers are given about their rights and options.

2. What types of arrangements or mechanisms might increase energy customer access to EDR?

Within this, we wanted to know how stakeholders thought the issues should be tackled, as well as how similar issues have been approached by ombudsmen in other industries and internationally.

Research design

We sought to answer these questions through a desktop review and interviews with stakeholders.

Desktop review

Our desktop review was comprehensive and took in:

- **media reports** on developments in the energy market, including trends in solar and battery storage, off-grid developments and emerging peer trading and share economy models, as well as change and innovation by traditional market players
- **policy and regulatory documents** including legislation, codes and guidelines, review papers and submissions at both the state and national levels
- **an audit of consumer information** on EDR avenues for embedded network customers
- **policy research reports** on energy market issues
- **EDR literature** including academic research, policy documents and primary information about ombudsman schemes in energy and other industries
- **ombudsman scheme data** on out of jurisdiction cases.

A reference list is at the end of this report.

Stakeholder interviews

We also conducted an extensive consultation process, meeting with consumer, industry, policy, regulatory and ombudsman stakeholders in Sydney, Melbourne and Adelaide. A list of these individuals and organisations is at **Appendix A**.

Scope

While we have incorporated some discussion of frameworks, issues and developments elsewhere in Australia, the main focus of the research is on the three jurisdictions with industry-based energy ombudsmen: Victoria, New South Wales and South Australia. Nevertheless, many of our findings and suggestions will have broader relevance.

The changing energy market

The Australian energy market is changing rapidly and in ways that are unpredictable and potentially profound. Technological advances and decreasing costs – in renewable generation, battery storage, software and connectivity – are driving innovation in energy products and services. At the same time, new businesses are entering the market and both new and traditional players are introducing different business models.

The dynamics of change

While these developments are complex, we can identify broad, linked characteristics of this change. Firstly, the energy market is decentralising and fragmenting. Centralised generation is increasingly being supplemented or displaced by distributed generation in local communities, private networks, commercial premises and in people's homes. An energy market once dominated by vertically integrated monopolies, and then by a handful of major players, is now characterised by the proliferation of new retailers, alternative energy sellers, and new businesses offering services to help consumers to choose among these options and to monitor, analyse and manage energy in the home. Meanwhile, traditional utilities are fragmenting, creating subsidiaries to exploit emerging opportunities in the market and compete with disruptive new players.

While the energy industry fragments, once-clear boundaries between energy and other sectors are beginning to blur: this is the much-discussed phenomenon of convergence. Technology and telecommunications companies are entering the energy industry with home energy management (HEM) services. Long-term lease and finance arrangements for expensive solar and storage systems are bringing financial services providers into energy market transactions. And in automotive, development of electric vehicles (EVs) has led to breakthroughs in battery technology that are now flowing through to the energy industry. In the future, EVs – themselves a form of portable battery storage – may have a role in the energy grid.

As industry changes, the role of the consumer is also evolving. Participating in the energy market increasingly means taking a more active role in choosing among products and services and understanding, monitoring and managing consumption. Many consumers are transforming into so-called 'prosumers' – consuming energy, but also producing and selling it. The availability of home battery storage and the development of new trading mechanisms may soon open up further avenues for trade, allowing producer-consumers to sell the energy they generate not only back to the grid, but also to their tenants and neighbours.

And as consumers take up this role as producers and traders, it is also becoming increasingly difficult to draw a clear and meaningful distinction between 'products' and 'services' – each of which may serve the same ultimate purpose and involve similar long-term engagement between buyer and seller.

All of these phenomena are adding to the complexity of the energy market, making it harder to identify, understand and categorise the different players and the transactions that they engage in.

In the following snapshot of market developments, we attempt to bring some degree of clarity, identifying some of the major new products, services and business models that have emerged and that are anticipated. Some (but not all) of these fall partly or entirely outside of energy ombudsman jurisdiction and energy-specific customer protection frameworks.

Embedded networks

One manifestation of energy market trends towards decentralisation and fragmentation has been the remarkable growth in embedded networks – private networks in which electricity¹ is on-sold to multiple end customers. Such networks have long been part of the energy market, but until recently, they were an exceptional arrangement largely confined to a few specific types of site.

In recent years, property developers and owners seeking new revenue streams have driven 'unprecedented' growth in embedded networks.² Not only has the number of embedded networks and end customers within them increased, embedded networks are now found across a more diverse range of sites, with the growth in embedded networks in high-rise residential developments of particular note. At the same time, the number and range of players in the embedded network space has grown, with a proliferation of embedded network operators and third party metering, billing and consulting service providers. Traditional players are also entering the embedded network space as they shift their activities towards the non-regulated side of the industry.

Types of embedded network

An embedded network is a private network serving multiple premises and connected to the grid at a 'parent' connection point. Acting as a large market customer, the embedded network owner (or operator/manager) bulk purchases electricity for the site as a whole, usually from an authorised retailer, selling the power to each tenant inside the private network in a process usually referred to as 'on-selling'.³ Most often, tenants within the private network are metered and billed individually, although some embedded network on-selling is unmetered.

Embedded networks are found across commercial, residential and mixed-use developments, where they are established and/or owned by property developers, owners and owners' corporations. In the commercial sector, embedded networks are concentrated in shopping centres, office blocks, commercial/industrial parks and other sites such as airports. In the residential sector, embedded networks are found in retirement villages and caravan and residential parks, where electricity may be on-sold to visiting tourists and/or to long-term residents. A development boom has seen the growth of embedded network on-selling in broad-acre housing estates and apartments within high-density residential and mixed-use developments.

Embedded networks are most commonly established when the property is developed – these are typically referred to as 'greenfield' sites. Pre-existing 'brownfield' sites can also be retrofitted as an embedded network through conversion of their electrical wiring. According to an embedded network industry stakeholder we met with, retrofitting occurs mainly in commercial sites and is currently rare in residential settings – probably due to greater regulatory requirements for retrofitting.

¹ Gas embedded networks also exist, although they are much less common. Embedded electricity networks are the focus of our discussion.

² David Regenspurger, 24 January 2015, 'Embedding opportunities in networks', *Utility*.

³ The synonymous terms 'on-supply' or 'bulk supply' are also used, particularly in Queensland.

Market players

Many embedded network owners, particularly at larger sites, engage a third party to manage the embedded network, typically via five-year⁴ contracts. These companies tend to refer to themselves as embedded network 'operators' or 'managers'.⁵ Some embedded network operators (such as WINenergy, OC Energy and Network Energy Services) are electricity specialists; others, like Active Utilities and Embedded Network Solutions Australia (ENSA), bill themselves as 'multi-service' providers and also manage water, telephone and internet services.⁶

Many of the larger embedded network operators are full-service companies that both establish and operate embedded networks on behalf of clients. They may perform some or all of the establishment functions on behalf of the owner or developer, including business case assessment, network design and project management of installation and deployment. Once the network is established, they take on some or all operating functions: arranging connection and disconnection; reading meters; billing and collections; customer service and complaint handling; system performance monitoring and maintenance; bulk purchasing and negotiation and managing regulatory compliance. To end customers, embedded network operators can look much like a traditional authorised retailer.

Embedded network operators (or owners) may also sub-contract some of these specific functions, such as metering and/or billing, to other third party providers.⁷ Owners' corporations may also engage consultants (who are not themselves embedded network operators) to help them with embedded network establishment functions, including selecting and engaging a billing service provider.⁸

Authorised retailers have also entered the embedded network space.⁹ Origin Energy now sells electricity in apartment blocks and other buildings with embedded networks in New South Wales, South Australia, Queensland and Victoria. Under the model, Origin installs, owns and operates the individual metering equipment in the building and manages connection and disconnection, billing and customer service inside the private network.¹⁰ Electricity is supplied at a bulk rate negotiated between Origin and the owners' corporation.¹¹ EnergyAustralia is also currently considering models for a move into embedded networks.

Prevalence

It is not known how many end customers buy energy from an on-seller within an embedded network. This type of on-selling sits largely outside of standard regulatory frameworks for the sale of energy, meaning that little data is collected about their extent or the nature of their operations.

Notwithstanding this lack of visibility, there are several partial information sources on the number, size and types of embedded networks, as well as trends in the sector. These information sources include:

⁴ WINenergy, 21 September 2012, *Application for Electricity Retailer Authorisation*, application to the ESC, s. 3.

⁵ We use the term 'embedded network operators' throughout the report to refer to this type of business in a general sense. Note that the term also has a more specific technical meaning in network regulations.

⁶ Both are Telecommunications Industry Ombudsman members.

⁷ Examples include Metering Dynamics, METER2CASH SOLUTIONS and Utilibill. See: www.meteringdynamics.com.au; www.meter2cashesolutions.com.au; www.utilibill.com.au.

⁸ See for example: EnergyOptionsAustralia, www.energyoptionsaustralia.com.au.

⁹ While some embedded network operators, such as WINenergy, have applied for retail licences and/or authorisation for other parts of their businesses.

¹⁰ Origin Energy, January 2016, *Understanding your energy agreement with us: Agreement Terms: Electricity in an embedded network*, p. 9.

¹¹ Origin Energy, 'Centralised Electricity for Apartments', Origin Energy website (accessed 12 June 2016).

- **Connection points and consumption:** Because embedded networks are connected to the grid at central, metered connection points, electricity distributors have data on the number of embedded networks in their distribution areas and the total electricity consumed at each site.¹²
- **Retail exemptions:** In states covered by the *National Energy Retail Law* (NERL), some embedded network on-sellers are required to register or apply for an exemption from the authorisation requirements that ordinarily attach to the sale of energy (see the next chapter for a detailed discussion of these arrangements). The Australian Energy Regulator's (AER) public register of retail exemptions¹³ therefore has data on the number of embedded networks of some types in some jurisdictions.
- **Owner, operator and peak body disclosure:** On their websites, in utility industry publications and in regulatory submissions, embedded network owners, operators and peak bodies disclose some information about the number of sites they operate and end customers they serve.

Reviewing this information allows us to piece together a partial picture of embedded networks in the National Energy Market (NEM).

Queensland, SA, NSW and the ACT

Table 1, below, shows the number of exemptions in three key classes relating to embedded network on-selling of metered energy to residential customers.

Table 1. AER exemptions and estimated end customers in selected residential classes by jurisdiction

Sale in ¹⁴	Exemptions					End customers	
	QLD	SA	NSW	ACT	TOTAL	Minimum	Estimated
Apartments (R2)	354	5	51	0	410	4,100	71,607
Retirement villages (R3)	42	19	15	2	78	-	5,460
Caravan parks (R4)	116	38	114	1	269	-	-

The R2 exemption class applies only to sites with a minimum of ten customers; we can therefore assume a bare minimum of 4,100 customers captured in energy on-selling arrangements in apartment buildings and similar developments. Of course, the actual number is without doubt many times larger than this.

We can derive one estimate of the number of customers in class R2 embedded networks using average dwelling number figures for new apartment developments. In 2015, the average number of dwellings in such developments was 177 in Brisbane, 117 in Adelaide and 164 in Sydney.¹⁵ Using these average capital city figures as the basis for a rough estimate suggests 71,607 end customers in apartment buildings with embedded networks across the four jurisdictions.

Again, this estimate is probably low – it is likely that that embedded networks are more common in larger developments, where the potential revenue and end-customer benefits are greater. This was the contention of Strata Community Australia (QLD) in its submission to the Australian Energy Market

¹² CitiPower and Powercor provided us with these figures for their Victorian distribution areas. Conceivably, the energy ombudsmen and/or regulators or government could request similar figures from all distributors.

¹³ See: <https://www.aer.gov.au/retail-markets/retail-exemptions/public-register-of-retail-exemptions>.

¹⁴ These are abbreviated descriptions of the R2, R3 and R4 classes – for detailed descriptions see the *AER (Retail) Exempt Selling Guideline Version 4*.

¹⁵ Commonwealth Bank (2015) *Property Insights – Australia's apartment boom reaches record high*, p. 3.

Commission (AEMC) on the *National Electricity Amendment (Embedded Networks) Rule 2015*. The peak body argued that in Queensland, most embedded networks are in large developments – they estimate that two-thirds of these large developments have embedded networks. Their 'conservative' estimate, therefore, was that 145,000 apartments were contained within embedded networks in Queensland alone.¹⁶

Exemptions data can also be used as the basis for a rough estimate the number of end customers in embedded networks in retirement villages. Combining AER exemption data with a conservative estimate of average retirement village occupancy of around 70 people¹⁷, we estimate that at least 5,460 end customers in retirement villages buy their power from an embedded network on-seller in the NERL states.

Victoria

Victoria sits outside of the National Energy Retail Law (NERL) and has its own system for exempting embedded network on-selling from the state's retail licensing requirements. This system (detailed in the next chapter) does not currently include any registration or application requirements, and so embedded networks in Victoria have even less visibility than elsewhere.

With regard to apartment buildings, it is reasonable to assume that embedded network on-selling is at least as common in Victoria as in New South Wales. Melbourne is at the centre of Australia's apartment boom: in 2015, the city accounted for almost half (46%) of all apartment development activity in Australia.¹⁸ The city is also where most major embedded network operators are headquartered, including:

- **WINenergy:** has around 15,000 residential and commercial customers in over 140 sites across Victoria, Queensland and NSW,¹⁹ most of these likely in Victoria,²⁰ including at least 12 Melbourne apartment developments comprising 3,474 dwellings²¹
- **Active Utilities:** operates embedded electricity networks in a number of larger Melbourne developments,²² including Upper West Side, a mixed-use precinct in Melbourne's CBD with some 2,207 apartments across four residential towers²³
- **Network Energy Services:** specialises in retirement villages and manufactured home estates and manages more than 100 sites with 15,000 customers across four jurisdictions²⁴
- **OC Energy:** has customers in at least seven Melbourne sites encompassing 1,893 apartments²⁵
- **ENSA:** describes itself as Australia's 'leading multi-service Embedded Network Provider'.²⁶

¹⁶ Strata Community Australia (Qld), 2 July 2015, *Response to Consultation Paper – National Electricity Amendment (Embedded Networks) Rule 2015*, p. 2.

¹⁷ This estimate is derived from ABS figures on retirement village dwelling and Property Council/PwC estimates of retirement village numbers. See: Australian Bureau of Statistics, 17 April 2013, 'Where and how do Australia's older people live?', ABS website; Retirement Living, 19 August 2015, 'First census on retirement living offers critical insights', Retirement Living website.

¹⁸ Commonwealth Bank (2015) *Property Insights*, p. 3.

¹⁹ WINenergy, 'About', WINenergy website (accessed 1 June 2016).

²⁰ WINenergy's 2012 application for a Victorian electricity retail licence noted that most of its then 'over 100' sites were in Victoria. See: WINenergy, 21 September 2012, *Application for Electricity Retailer Authorisation*, application to the ESC.

²¹ Listed at Appendix B.

²² Listed at Appendix B.

²³ Not all towers had been completed at the time of writing.

²⁴ Network Energy Services, 29 June 2015, *Submission to the Australian Energy Market Commission on the National Electricity Amendment (Embedded Networks) Rule 2015*.

²⁵ Listed at Appendix B.

²⁶ Energy Network Services Australia (ENSA), 'About', ENSA website (accessed 1 June 2016).

The (apparently) smaller and/or newer embedded network operators Energy-ON, OCEMS, Trans Tasman Energy Group, Plan Energy and Energy Intelligence are also based in Melbourne.²⁷

Despite the lack of firm data on embedded networks, it is clear that embedded network on-selling is no longer a fringe phenomenon. The data we do have suggest that across the NEM, residential customers of embedded network on-sellers already number in the hundreds of thousands. While they are not a major focus of this research, there is also a large and growing number of small commercial customers in embedded networks. Many of these residential and commercial customers deal with embedded network operators that look similar to an authorised retailer – and in fact may serve more customers than many smaller retailers.

Future developments in embedded networks

Given the incentives for owners and developers, it seems likely that embedded networks will continue to proliferate, encompassing more consumers. Arguing that embedded networks are 'best practice' in greenfield developments, WINenergy has suggested that it is 'inevitable' that embedded networks will 'become more commonplace, capture a larger number of end-use consumers and become a significant part of the NEM.'²⁸

The nature of embedded networks is also evolving. Systems are changing from basic 'set and forget' private networks to more advanced 'test beds' that combine renewable generation, storage, and energy efficient and 'smart' products, all managed within a control system.²⁹ Power generated within an embedded network may be used for common areas only; alternatively, it can contribute to end-users' ordinary supply. For example, the luxury 142-apartment Living Choice retirement development in Fullarton, South Australia, has a 200 kW solar system contained within its embedded network, which is managed by ENSA. The solar system powers common areas and off-sets consumption for participating residents who have signed up for 'theoretical ownership' of the system through a package incorporated into long-term leases.³⁰

Future embedded networks may also include battery storage and EVs, with some trial projects already underway. In Fremantle in Western Australia, the 80-home White Gum Valley solar precinct will have most of its energy needs met by an embedded network with on-site solar generation, battery storage and two shared EVs, to be owned and managed by the owners' corporation.³¹ Along with the investment in these technologies comes the potential for stronger efforts from some industry players to lock customers in, ensuring cost recovery and ongoing revenue.³²

²⁷ See: www.energy-on.com.au, www.ocems.com.au, www.tteg.com.au, www.planenergy.com.au, www.energyintel.com.au.

²⁸ Andrea Steele, 3 February 2015, 'A coming of age story', *Utility*.

²⁹ Dan Howard, 24 February 2016, 'Embedded networks: Are utilities ready to embrace the opportunities?', *Utility*.

³⁰ Valerina Changarathil, 25 August 2014, 'Solar installation at Living Choice Fullarton, former Julia Farr site, to brighten up retirement living, bring down power costs', *Adelaide Advertiser*.

³¹ Nicolas Perpetch, 13 April 2016, 'White Gum Valley solar precinct slashes electricity grid reliance, creates "citizens' utility"', *ABC News*.

³² See for example: Dan Howard, 24 February 2016, 'Are utilities ready to embrace the opportunities?', *Utility*.

Off-grid projects

In a more radical manifestation of decentralisation trends, we may soon see off-grid projects being implemented in remote and peri-urban areas. Although regulatory rules complicate implementation,³³ technological improvements and a declining cost curve mean that it is now economical, at least in theory, for some new and established communities to rely on a local grid with distributed generation, disconnecting entirely from the main network – or avoiding connection to it in the first place.

Some remote communities have long met their electricity needs through off-grid supply, often relying on diesel generation and rudimentary control systems.³⁴ In South Australia, several Aboriginal communities and remote towns are supplied through standalone systems, often servicing no more than one or two hundred customers. The Coober Pedy District Council, for example, supplies the town with its own diesel-powered grid.³⁵ Similarly, some remote communities in Queensland, such as the mining town Mt Isa, rely on local grids.

In the near future, however, off-grid projects are likely to have much wider application. The push is coming from three main sources: property developers considering the most economic arrangements for new housing developments; small communities with an interest in renewable, community-controlled energy; and network businesses planning how to serve communities at the network fringe.

Property developers

Property developers planning new housing estates and eager to avoid millions of dollars in grid connection costs are driving interest in off-grid projects. This activity is new and generally commercially sensitive, and there is no central source of data about the developments. However, there has been one major development announced and media reports of other possible projects.

In late 2015, developer LWP and two Australian subsidiaries of US asset management firm Brookfield, Brookfield Energy and Flow Systems, announced a deal to develop a new suburb that will not be connected to the main grid. Huntlee, near Newcastle in NSW, will accommodate 20,000 residents across 7,500 households, powered by 'Australia's first town-scale greenfield microgrid'.³⁶ With funding from the Australian Renewable Energy Agency (ARENA), Brookfield has launched a Huntlee feasibility study which is testing 'commercial and regulatory boundaries' for such projects.³⁷

While Brookfield in early 2015 suggested that it will be years before Huntlee-style off-grid systems are ready for the mass market,³⁸ some of the stakeholders we spoke to noted that there is a lot of activity in this area, with a number of property developers looking at off-grid projects.

In SA, specialist solar company ZEN Energy Systems has reportedly been in talks with around half a dozen major housing developers around Australia. These developers are considering the creation of self-reliant housing estates – each with between 2,000 and 4,000 dwellings – that rely on renewable and gas generation and battery storage to operate independently from the main grid. Richard Turner,

³³ Tony Wood and David Blowers, May 2015, *Sunrise, Sundown - How Australia can finally get solar power right*, Grattan Institute: Melbourne.

³⁴ Australian Government Australian Renewable Energy Agency (ARENA), *Projects: Delivering higher renewable penetration in new land and housing developments through off-grid microgrids*, ARENA website.

³⁵ An ARENA-funded project is currently integrating majority solar, wind and battery generation.

³⁶ ARENA, 5 November 2015, 'Making the case for energy-independent suburbs' (Media Release).

³⁷ Brookfield Infrastructure Group (Australia), 20 March 2015, *New Products and Services in the Energy Market* – submission to the COAC Energy Council.

³⁸ *Ibid.*

ZEN Energy Systems CEO, was quoted as saying 'From the developer's point of view they're saying "can I be the utility?" Yes you can. You can be the utility, the retailer.'³⁹

Small communities

There are also reports of small communities investigating a movement off-grid. In 2015, the 300-person town of Tyalgum in NSW engaged consultants to help it assess options for unplugging from the grid. The plan looked at how Tyalgum might meet local power needs entirely through local renewable generation – either at a central hub or distributed among all households and businesses.⁴⁰

In SA, ZEN Energy Systems has also developed what it calls the 'ZEN Communities Model', a framework for establishing private microgrids with local generation and storage that are either disconnected from the grid, or attached via a 'thin' connection, able to operate independently in an 'islanded mode'. According to the company, the model:

will provide a structure for community ownership and management and assist with arrangement of the required distribution exemption and licences prior to building. The resulting entity will be owned jointly by the community together with ZEN's Infrastructure fund, under a community ownership structure. The entity will take ownership of the network on completion of the build and the fund will provide the financial capacity to finance the required renewable generation and energy storage assets together with operation, management and retailing of the network.

Residents receive a dividend from their ownership on top of a lower power bill together with the comfort of knowing they are generating and sharing their own renewable energy. The community can have input into their own tariff structure and determine when to re-invest into further renewable generation and storage technologies to grow their energy independence.⁴¹

No current or completed projects are mentioned, so at this stage, the model appears to be a theoretical one.

Network businesses

Network businesses also recognise that in some cases, communities could be serviced more economically by off-grid distributed generation than by network connection. Ergon Energy in Queensland has said that it is looking to take some remote customers and communities off-grid,⁴² while SA Power Networks also suggests that localised generation and microgrids may better serve rural SA communities in the future.⁴³ Currently, however, ring-fencing regulation at both the national and state levels prevent or constrain network businesses' involvement in generation and retail, limiting their ability to implement off-grid networks.⁴⁴

³⁹ David Washington, 2 March 2015, 'Developers want housing estates "off grid"', *In Daily*.

⁴⁰ Tosh Szatow, 18 August 2015, *Transition Tyalgum: A plain for energy self-sufficiency*, Energy for the People; Penny Timms, 8 October 2015, 'Tyalgum: Will this small northern NSW town be the first in Australia to go completely off the grid?', *ABC News*.

⁴¹ ZEN Energy Systems, 'Greenfield Developments', ZEN Energy Systems website (accessed 10 May 2016).

⁴² Giles Parkinson, 15 October 2014, 'Ergon Energy looks to take some customers off the grid', *RenewEconomy*,

⁴³ Giles Parkinson, 30 April 2014, 'SA network operator: Rural communities could quit the grid', *RenewEconomy*.

⁴⁴ Wood & Blowers, 2015, *Sunrise, Sundown*.

Solar photovoltaics

Enabled and encouraged by favourable weather conditions and government Feed-in Tariff policies, Australia has the world's highest take-up of household solar photovoltaics (PV). Around 1.5 million Australian homes (16.5%) have solar PV installed, with penetration ranging from a low of 8.7 per cent in the Northern Territory to highs of 29.6 per cent and 28.8 per cent in South Australia and Queensland respectively.⁴⁵

The Australian emphasis on the residential sector is an anomaly: internationally, large-scale and commercial installations make up a much larger proportion of capacity. As the economics of solar power improve markedly for commercial customers in Australia, this is beginning to change. Commercial systems, which accounted for 12 per cent of installed capacity in 2014/15, are forecast to increase to almost one-quarter (23%) of installed capacity by 2024/25.⁴⁶ At the same time, large-scale solar generation projects are also being planned and established across the NEM.

While commercial and large-scale solar will come to play a larger role, residential solar PV penetration and capacity also continues to increase, and will likely be encouraged further by the availability and declining cost of home battery storage systems. The Australian Energy Market Operator's (AEMO) forecast is that by 2035–36, rooftop solar capacity will have more than tripled from today's levels.⁴⁷

Purchase models

Because solar PV incurs substantial upfront purchase and installation costs, take-up of solar PV by households and businesses occurs not only through outright purchase, but also through a range of more complex and ongoing transaction types, including Power Purchase Agreements (PPAs), leasing, and third party financing arrangements.

Solar Power Purchase Agreement

Under a solar PPA, a provider installs a solar PV system⁴⁸ at the customer's premises at no cost to the customer. The provider, who owns and maintains the system, sells some or all of the power it generates to the customer at an agreed per kWh price – one that is lower than what the customer would otherwise pay their retailer for power from the grid.

Solar PPAs usually have a set duration which is specified in the contract; this can range from a short one-year term to terms of up to around 25 years. A customer who wishes to terminate the agreement early is typically required to pay a fee, purchase the system outright or transfer the contract to a new owner or tenant.

PPAs are well-established in the European market, and have fuelled household solar uptake in the USA. In Australia, they have played a much smaller role, although this may be changing. There is no source of data on the number of residential or commercial customers with PPAs in place. However, AER individual and registrable exemptions again provide some information about the number and type of solar PPA providers in the energy market. As of June 2016, a total of 103 providers – most of them solar design, sale and/or installation businesses – held a registrable (8) or individual exemption

⁴⁵ Australian PV Institute, 22 March 2016, 'Mapping Australian Photovoltaic installations', APHV website.

⁴⁶ Australian Energy Regulator (AER), *State of the Energy Market 2015*, p. 30.

⁴⁷ Australian Energy Market Operator (AEMO), 16 June 2016, 'Flat forecasts for consumption from the grid' (Media Release).

⁴⁸ Although solar is the most common form of generation in a PPA, the model is also used with other types of distributed generation – for example, one of the individual exemptions we reviewed was for a biogas PPA for agricultural customers.

(95) to offer PPAs.⁴⁹ Some community energy projects also use a PPA model. While the exemption only applies in NERL states, many of these providers also operate in Victoria.

Until recently, PPAs in Australia appeared to be largely confined to commercial customers, but AER exemptions suggest that this is changing. We analysed the 20 most recent individual exemption applications⁵⁰ concerning PPAs, and found that of these providers, half planned to serve only commercial customers; nine intended to target both the residential and commercial market for PPAs; and one appeared to be primarily or solely servicing residential customers. Combined with the recent rapid growth in PPA exemptions – the number of such exemptions has roughly doubled over the past year⁵¹ – this suggests that residential customer PPAs and leases are likely to become increasingly common in coming years.

Solar lease

The solar lease is a similar model to the PPA, and sometimes 'masquerades' as a PPA. Under a solar lease, the provider pays for and installs solar panels at a customer's premises, and the parties enter into a long-term contract. All of the power the system generates is available to the customer for consumption or export to the grid. However, rather than paying for the generated power as in a PPA, the customer makes a regular payment to lease the equipment. This may take the form of an operating lease or a lease-to-buy arrangement.

Third party finance

Third party financing – which, confusingly, is sometimes referred to as 'solar leasing' – is another arrangement in the Australian market. Under this model, the solar provider facilitates financing for the solar system and installation through a third party, or, alternatively, allows customers to arrange their own finance. The customer owns the system outright and makes monthly repayments to the finance provider, who is not themselves 'selling electricity' or involved in any way with supply or connection.

Energy retailers in the solar market

Across the NEM, several energy retailers are also participants in the solar industry, designing, selling and installing solar systems. We reviewed retailer websites to identify those retailers that also sell solar systems to residential customers.

⁴⁹ A registrable exemption class covering most PPAs was introduced in March 2016; until then, all PPA providers were required to apply for individual exemptions. See: AER, March 2016, *Notice of Final Instrument: AER (Retail) Exempt Selling Guideline Version 4.0*, p. 17.

⁵⁰ Individual exemption applications are publicly available on the AER website and detail which market the provider intends to serve; this information is not provided for registrable exemptions.

⁵¹ Energy & Water Ombudsman NSW, May 2016, *Rising Inequality in the energy market: The decline of consumer protection*, p. 6.

Table 2. Retailer solar offerings for residential customers⁵²

Retailer	system sale and installation ⁵³	third party finance ⁵⁴	lease or PPA
AGL Energy	✓	✓	✓
Origin Energy	✓	✓	✓
EnergyAustralia	✓	✓	
Simply Energy	✓	✓	
Diamond Energy	✓ ⁵⁵		
Red Energy	✓	✓	
Momentum Energy	✓		
ActewAGL	✓	✓	
Enova Energy ⁵⁶	✓		
Ergon Energy	✓		

Table 2 identifies ten retailers with a current solar offering, and also contains detail on purchase models described on the retailers' websites. At the time of writing, only two retailers, AGL Energy and Origin Energy, were offering solar PPAs. These were available to both the retailers' own customers and those of other retailers.

AGL Energy

AGL has designed, sold and installed solar panels for a number of years. AGL offers its own solar systems through upfront purchase, third party financing via Macquarie Bank, or by PPA.

In February 2015, AGL's exempt subsidiary, AGL Solar⁵⁷, launched its solar Smart Plan for residential and business customers, making AGL the first major retailer to offer PPAs.⁵⁸ When the Smart Plan was introduced, early news reports and AGL media releases said that the Smart Plan had a contract term of 7–12⁵⁹ or 15⁶⁰ years. They also described a set minimum monthly energy purchase amount, with any additional generated power supplied 'free' and ownership transferring to the customer at the end of the contract⁶¹ – effectively making the Smart Plan a solar lease-to-buy product rather than a true PPA.

⁵² Table 2 is based on information publicly available on the retailers' website at the time of writing in early June 2016. It may not be a comprehensive description of offerings.

⁵³ Includes via subsidiary arms and/or third party installers.

⁵⁴ Includes retailer arrangements with specific third-party financiers as well as Terms & Conditions accepting customer-sourced third-party finance.

⁵⁵ Diamond Energy does not directly facilitate sale and installation but suggests a preferred solar panel provider and preferred 'Pure Power' solar installers, making special retail offers available to customers who use those installers.

⁵⁶ Enova Energy is a new community-owned retailer in NSW which has begun offering solar and storage systems but does not yet have retail energy offers on the market.

⁵⁷ AGL Solar is the trading name of AGL Energy Services Pty Ltd, which was granted an individual exemption effective 6 February 2015.

⁵⁸ David Twomey, 27 February 2015, 'AGL first retailer with new solar purchase plan', *Econews*.

⁵⁹ Angela Macdonald-Smith, 6 March 2015, 'AGL, Origin go head-to-head on solar offers', *Australian Financial Review Weekend*.

⁶⁰ AGL Energy, 30 June 2015, 'AGL makes solar more affordable for Queenslanders' (Media Release).

⁶¹ Twomey, 'AGL first retailer with new solar purchase plan'; Rich Bowden, 3 March 2015, 'Are AGL's new solar packages a trick or a treat for Aussie consumers?', *Solar Quotes* blog.

Since the solar Smart Plan was launched, however, its design appears to have changed. The agreement term seems to have been shortened, with the AGL Solar website currently suggesting that the Smart Plan lasts 'up to seven years'.⁶² Details are sparse but the website makes no mention of minimum purchase amounts or ownership transferring to the customer. It does note that customers can exit the Smart Plan early by paying it out, and that should they move house, they can either relocate the system or transfer the balance of the plan to new owners.⁶³

Origin Energy

Like AGL, Origin Energy has been operating in the solar market for a number of years, offering solar system design, sale, installation, finance and after-sales service. Origin currently sells solar systems to residential customers through outright purchase, two-year interest free payment plans⁶⁴ and third party financing.⁶⁵ Via exempt subsidiary Origin Energy Retail No. 2 Pty Ltd,⁶⁶ it also offers a PPA to customers in Queensland, Victoria, NSW and SA. Under the agreement, marketed as 'Solar as a Service' (SaaS), Origin installs and maintains a solar system (without storage). The customer agrees to buy all of the generated power at a locked-in rate for a fixed term of 7, 10 or 15 years. At the end of the contract, the customer can continue the arrangement, buy the system outright, or pay a fee to have it removed.

Simply Energy

More recently, Simply Energy subsidiary Simply Energy Solutions Pty Ltd was granted an individual exemption for PPAs, effective 17 March 2016. Simply Energy Solutions currently sells and installs residential solar systems via a third party contractor. However, it does not yet appear to have brought a PPA offering to market.⁶⁷

Go Energy

There has also been an attempt in the Australian market to integrate PPAs tightly into the core retail business model. Go Energy was an ASX-listed 'clean tech energy retailer' that targeted the business market with a bundled retail and solar PPA offering. The retailer designed and installed solar systems, selling the solar-generated power to the customer through a PPA alongside grid-sourced power. The company went into voluntary administration in April 2016.

Battery storage

Recent rapid developments in battery technology have led to the development of a range of home battery storage products. In particular, improvements in lithium-ion battery technology, driven partly by EV manufacturing,⁶⁸ mean that these batteries are now relatively cheap, compact and effective.⁶⁹ Australia, with its high electricity prices, strong solar uptake and favourable weather conditions, is being targeted as a key first market for batteries.

⁶² AGL Solar, 'Solar Smart Plan', AGL Solar website (accessed June 11 2016).

⁶³ *Ibid.*

⁶⁴ Origin Energy, 'Special Offers: Our 2 year interest free payment plan', Origin Energy website (accessed 9 June 2016).

⁶⁵ See: Origin Energy Electricity Limited, n.d., 'Customer Contract', s. 5.

⁶⁶ This is the entity responsible for the sale of electricity. Other Origin entities are involved in system installation and maintenance. See: Origin Energy, January 2016, *Agreement Terms: Origin Solar as a Service – Generation Power Purchase Agreement New South Wales, South Australia, Queensland, Victoria*, p. 25.

⁶⁷ Simply Energy Solutions website (accessed 11 June 2016).

⁶⁸ AEMO, 2015, *Emerging Technologies Information Paper*, p. 13.

⁶⁹ CME, September 2015, *Batteries and electricity network service providers in Australia: regulatory implications*, A report for the Public Interest Advocacy Centre (PIAC), p. 3.

For households with solar PV, battery storage enables increased self-consumption of solar power, since electricity generated during the day can be stored for use at other times. Battery storage also facilitates load-shifting to take advantage of time-of-use tariff structures. Additionally, some batteries can operate off-grid, providing back-up power during outages.

At present, it is difficult for individual consumers to assess the economics of battery storage for their household because the payback period depends on numerous factors, some of them unpredictable: location, orientation and size of the solar system; electricity usage patterns; battery type and potential trading opportunities. Nevertheless, most, even in the industry, agree that battery storage is not yet economic for most homes. High-end manufacturers are openly offering batteries with payback periods longer than their warranty periods, targeting early adopters who have other motivations – environmental concerns, an interest in technology, or dissatisfaction with energy companies – for purchasing a battery.

Prevalence

There is no authoritative data on current installation or sales of battery storage systems to residential customers. In 2015, AEMO estimated that around 500 residential consumers had battery storage systems installed.⁷⁰ Several new products are coming onto the market in 2016, and battery manufacturers and retailers are claiming strong consumer interest in their offerings.⁷¹ Battery manufacturer Enphase, for example, states on its website that 'thousands' of Australian and New Zealand customers have registered their interest in its AC Battery,⁷² the first shipment of which is expected to reach Australian shores in August 2016.

Projecting uptake

Predicting the extent and speed of battery storage uptake is challenging because of the range of factors involved,⁷³ the newness of the market, and the lack of any installation tracking mechanism⁷⁴. It is widely agreed, however, that as battery technology continues to improve and the price of storage systems decreases, uptake will grow – potentially quite rapidly.

In its 2015 modelling, AEMO forecast installed residential capacity across the NEM of 529 MWh in 2017–18, increasing to 3,445 MWh by 2024–25 and growing further to 7,982 MWh in 2034–35. AEMO suggests highest uptake will occur in Victoria, due to the availability of time-of-use tariffs, followed by New South Wales and Queensland. AEMO's modelling takes into account only economic motivations for uptake and is confined to installation of new solar and storage systems.

This omission of existing solar customers is significant given that it is this group of consumers who are likely to drive initial uptake of storage as the value of Feed-In Tariffs (FITs) declines and households look to maximise benefit from their solar systems. Taking into account these existing solar customers, other commentators have made less conservative predictions. In 2015, Bloomberg New Energy Finance forecast 33GWh of battery storage (most of it residential) across Australia by 2040,⁷⁵ predicting that by that point, half of all electricity would be supplied from behind the meter.⁷⁶ Also in 2015, wealth management firm Morgan Stanley predicted that by 2035, 40% of Australian households

⁷⁰ AEMO, 2015, *Emerging Technologies Information Paper*, p. 14.

⁷¹ Such claims are of course in the commercial interests of manufacturers and retailers seeking to generate interest in their products.

⁷² Enphase, 'Get connected to an Enphase installer', Enphase website (accessed 12 June 2016).

⁷³ CME, 2015, *Batteries and electricity network service providers*, p. 34.

⁷⁴ AEMO, 2015, *Emerging Technologies Information Paper*, p. 3.

⁷⁵ CME, *Batteries and electricity network service providers in Australia*, p. 34.

⁷⁶ Giles Parkinson, 16 July 2015, 'Solar and battery storage already cheaper than grid power in Australia', *RenewEconomy*.

would have installed solar and storage systems.⁷⁷ In June 2016, it forecast that one million Australian households will have battery storage in just four years, by 2020. Its 'high case' scenario is even more optimistic, suggesting uptake from 2 million households by 2020.⁷⁸

Among the industry, government and consumer stakeholders that we spoke to, those who were considering likely trends in battery storage uptake tended to emphasise its unpredictability and noted that uptake *could* be surprisingly rapid. One consumer representative said that it was possible that within a decade, half of the Australian population could have a material part of their energy provided by solar and storage systems. An established retailer also predicted that the solar and storage market will 'explode' in the next two to five years, diminishing the role of traditional retailers. A storage industry stakeholder predicted that existing solar households will begin driving uptake by the end of this year, with solar and storage developments profoundly re-working the energy market within the next five to 10 years.

Types of home battery

The first commercially available residential battery storage systems appeared on the Australian market in 2014. In 2016, a wide range home battery storage product is now on offer. Typically, these batteries use lithium-ion technology, although a range of other battery types are available. Most models offer around 5 mWh of usable storage capacity, ranging from around 1 kWh for smaller modular (scalable) batteries to larger 14 kWh models. Current prices range from around AU\$2,000 for smaller batteries up to around AU\$15,000 at the top of the range.

Some battery products, often referred to as 'plug and play', are all-in-one systems that contain all 'storage solution' components. The Enphase AC Battery, which combines a lithium-ion battery, micro-inverter and HEM system, is one example. Other offerings, such as the Tesla Powerwall, are standalone batteries that can be combined in a system with other manufacturers' components and software.

Energy retailers and distributors in the storage market

The manufacturers of these batteries have each adopted different distribution models for their residential storage products. Some are selling their batteries via major solar and storage wholesalers, meaning that they are then available for purchase, with or without installation, from a range of retailers and installers. Other batteries have more limited distribution via selected partners or even a sole retailer or installer.

Additionally, a number of battery manufacturers have partnered with traditional energy market players – retailers and distributors – either exclusively or alongside installers. **Table 3** identifies retailers with battery storage offerings, noting those that are offering the products only as part of a trial or pilot, as well as those clearly offering third party financing.

⁷⁷ Giles Parkinson, 24 March 2016, 'Incumbent utilities and battery storage: They still don't get it', *RenewEconomy*.

⁷⁸ Giles Parkinson, 20 June 2016, 'Morgan Stanley: Battery storage to grow four times quicker than market thinks', *RenewEconomy*.

Table 3. Retailer battery storage offerings for residential customers⁷⁹

Retailer	Model/s	Trial/pilot	Third party finance
AGL Energy	AUO PowerLegato; Sunverge SIS 11.6; Sunverge SIS 19.4		✓
Origin Energy	Tesla Powerwall		
EnergyAustralia	Tesla Powerwall		
Simply Energy	Tesla Powerwall		
Red Energy	Panasonic		✓
ActewAGL	Panasonic	✓	
Enova Energy ⁸⁰	not specified		
Ergon Energy	not specified	✓	

AGL Energy

AGL Energy was the first retailer to bring a residential battery to market. It is currently offering three storage products of different sizes, the smallest being the 7.2 kW AUO PowerLegato. AGL has also invested US\$20 million in US storage and energy management company Sunverge,⁸¹ and is its 'exclusive channel partner'⁸² in Australia. AGL is offering two Sunverge models: the SIS 11.6 and SIS 19.4, with 11.6 kWh and 19.4 kWh of storage respectively. The systems are being sold either alone or bundled with a solar system, and can be purchased outright or with a five-year third party financing arrangement via Macquarie Leasing.

Red Energy, Actew AGL and Ergon Energy

Panasonic has decided to sell its Residential Storage Battery System solely via electricity distributors and retailers.⁸³ In mid-2015, it announced agreements with Red Energy, Actew AGL and Ergon Energy (retail) to run two-year trials of its system.⁸⁴ Red Energy – which is optimistic about storage uptake and has made public its intention to re-orient its business model and 'learn to sell behind the meter'⁸⁵ – is targeting the premium end of the solar market with Panasonic as its sole battery supplier. The retailer is offering the battery alone⁸⁶ or bundled with solar and with a third party financing option via ANZ.⁸⁷

In the ACT, ActewAGL is selling and installing the Panasonic batteries at the subsidised price of \$4,990 under the ACT Government Next Generation Energy Storage Pilot.⁸⁸ And in Queensland, Ergon

⁷⁹ Table 3 is based on information publicly available on the retailers' websites at the time of writing in early June 2016. It may not be a comprehensive description of offerings. The table includes both retailers currently selling/installing batteries and those taking registrations of interest.

⁸⁰ Enova Energy is a new community-owned retailer in NSW which has begun offering solar and storage systems but does not yet have retail energy offers on the market.

⁸¹ *Ibid.*

⁸² AGL Energy, 10 February 2016, 'AGL enhances energy storage management capabilities with investment in Sunverge Energy' (Media Release).

⁸³ Giles Parkinson, 2 June 2015, 'Panasonic signs battery storage deal with 3 Australian utilities', *RenewEconomy*.

⁸⁴ *Ibid.*

⁸⁵ Giles Parkinson, 2 June 2015 'Panasonic battery storage to force utilities to change business models', *RenewEconomy*.

⁸⁶ Red Energy, 'Renewable energy home solutions – Home battery', Red Energy website (accessed 14 June 2016).

⁸⁷ Red Energy, 'Renewable energy home solutions – Solar and battery', Red Energy website (accessed 14 June 2016).

⁸⁸ ActewAGL, 'Battery storage', ActewAGL website (accessed 14 June 2016).

Energy's retail⁸⁹ and network arms are both running battery trials with various batteries including the Panasonic model.

Origin Energy, EnergyAustralia and Simply Energy

Tesla's distribution partners for the Powerwall include solar installers, insulation company CSR Bradford, electricity distributors, and retailers Origin Energy, EnergyAustralia and Simply Energy. Each of these retailers is currently offering the Powerwall alone or bundled with a solar system.

Distributors

Across the NEM, several distribution businesses have completed or are running residential battery storage systems trials.⁹⁰ These trials are investigating a range of consumer and network benefit issues, including how batteries are configured and used by consumers; how they influence consumption, including peak demand; how they interact with different tariff types; and how they perform and can be used when integrated into the network.

SA Power Networks' Salisbury trial is the largest of the current projects. Launching in June 2016, it involves 100 residential customers. Trial participants can purchase a Tesla or Samsung battery equipped with Reposit HEM software (see p. 26) at a deeply discounted price of \$3,600, or rent the system for \$18.55 per fortnight over three years.⁹¹ Other trials are summarised in **Table 4**.

Table 4. Selected NEM distributor trials of residential battery storage⁹²

Distributor	Trial	Size and location	Status
Ausgrid	Smart Grid Smart City	60 homes in Newcastle and Upper Gundy (battery component)	Completed 2014
AusNet Services	Residential Battery Storage Trial	10 homes in Victoria	Completed 2016
AusNet Services	Community mini grid	14 homes in Mooroolbark	Underway
CitiPower and Powercor	CitiPower Residential Battery Trial	20 homes in Northcote, Melbourne	Underway
Energex	Battery Energy Storage Systems Trial	15 locations in South East Queensland	Underway
Ergon Energy	Residential Utility Support System	10 homes in Townsville	Completed 2013
SA Power Networks	Residential Battery Storage Trial	100 homes in Salisbury, Adelaide	Launching 2016

As one of Tesla's distribution partners, CitiPower and Powercor is also selling battery storage to both business and residential customers through its unregulated business. Batteries can be either retrofitted to an existing solar system or installed as part of a solar and storage package.⁹³

⁸⁹ Ergon Energy Retail, 'Hybrid Energy Service', Ergon Energy website (accessed 14 June 2016).

⁹⁰ A number of grid-scale battery trials are also underway. See: Energy Networks Association, September 2015, *The Great Energy Quest: Case studies in Australian electricity storage*.

⁹¹ Ben Potter, 18 May 2016, 'SA Power Networks to trial Tesla, Samsung home batteries to avert network spend', *Australian Financial Review*; Giles Parkinson, 18 May 2016, 'South Australia launches biggest solar+storage trial to defray network costs', *RenewEconomy*.

⁹² See: Ausgrid, July 2014, *Smart Grid, Smart City – Distributed generation and storage trials*; AusNet Services, March 2016, *Demand Management Case Study – Residential Battery Storage Trial*; AusNet Services, 19 April 2016, 'AusNet Services launches groundbreaking community mini grid trial' (Media Release); CitiPower and Powercor, 'Our Residential Battery Trial', CitiPower and Powercor website; Energex, 'Battery Energy Storage Systems Trial', Energex website; Ergon Energy, 6 May 2015, 'Battery Storage – the future for electricity networks?', Ergon Energy website; Queensland Government Department of Energy and Water Supply, 'Battery storage trials in Queensland', DEWS website. (All accessed 14 June 2016.)

⁹³ CitiPower and Powercor, 'Solar and battery residential sales', CitiPower and Powercor website (accessed 20 June 2016).

Future business models for battery sale

With Australia's battery storage market still in its infancy, current models for their sale appear to be fairly straightforward, with residential consumers able to buy the products through upfront purchase or, in some cases, with third party finance, from a range of business including solar installers and traditional electricity retailers and distributors. Our scan of the market did not turn up any examples of PPAs applied to battery storage products, even among those energy retailers currently offering solar PPAs.

As prices fall, storage becomes more commonplace, and retailers refine their business models, other, more complex purchasing arrangements are likely to develop.⁹⁴ We may see electricity retailers tailoring tariffs to encourage battery uptake⁹⁵ and capture the benefits of aggregating customers' storage.⁹⁶ PPAs or similar models that allow businesses to install, own and operate storage at the end-user's premises could also emerge.⁹⁷

One stakeholder we spoke with remarked that while some energy retailers are engaging with solar and storage, they are not really making the mindset transition and embracing the new world, but rather cannabalsing their main business with arms-length entities. On the other hand, newly-authorized retailer and Energy & Water Ombudsman NSW (EWON) member, Mojo Power⁹⁸ perhaps offers an example of how developments in distributed generation and battery storage may influence more fundamental changes to electricity retail. Mojo Power has adopted a unique pricing model: it charges for electricity usage 'at cost', passing on wholesale flat, time-of-use or controlled load tariffs. Rather than applying a retail margin to usage, the company generates profit through a fixed monthly subscription fee, called an 'EnergyPass'. Starting at around \$25 per month, the subscription fee varies according to the level of service required. Mojo Power believes that its enabling pricing approach is unique, not just in Australia, but internationally, and has lodged a patent application for the model.⁹⁹

Because this pricing approach decouples profitability from customer consumption, the retailer suggests it is better-placed to help customers to reduce their bills through energy efficiency measures, solar and storage and selection of the most appropriate wholesale tariff.¹⁰⁰ As part of this suite of assistance, the company is planning to roll out smart meters – owned by the retailer – to allow customers to monitor their usage and spending, and to inform tailored advice.¹⁰¹

Home energy management

HEM refers to services and technologies that help consumers to monitor, analyse or control energy in the home. The category encompasses a breadth of products and services: simple home energy reports; monitoring tools such as in-home displays (IHDs) and energy web portals; and, at the most sophisticated end, networked HEM systems that can automate and control generation, storage and

⁹⁴ Giles Parkinson, 10 February 2016, 'AGL eyes virtual power plants in link with battery storage developer Sunverge' *RenewEconomy*.

⁹⁵ Giles Parkinson, 'Why smart software is a cheaper way to profit from solar than battery storage', *One Step Off the Grid*, 6 May 2016.

⁹⁶ AEMO, 2015, *Emerging Technologies Information Paper*, p. 14–15.

⁹⁷ CME, 2015, *Batteries and electricity network service providers*, p. 31.

⁹⁸ The AER approved the company's retailer authorisation application in September 2015. At the time of writing Mojo Power was not yet licensed to operate in Victoria.

⁹⁹ Mojo Power, 2 December 2015, 'The Mojo model', Mojo Power website.

¹⁰⁰ *Ibid.*

¹⁰¹ Azadeh Williams, 20 April 2016, 'Mojo Power has sights set on disrupting the Aussie energy market', *CMO.com*.

consumption in the home.¹⁰² HEM systems can be limited to the home itself, or they can be used by a utility as part of a demand response program.

Solar and storage with HEM

Home solar and storage systems require a control mechanism to manage power storage and discharge. Some batteries come with only basic controls, but can be used in conjunction with more sophisticated HEM systems.

Reposit Power

The most prominent Australian example¹⁰³ of a HEM system that can be used together with a home solar and storage system is Reposit Power's product. Customers purchase the Reposit Box, an energy management computer that is compatible with many batteries. Along with the Reposit Box comes a perpetual licence to use the Reposit software. Operating in a standalone mode, the Reposit system maximises benefit from the customer's solar and storage: using advanced algorithms to learn usage behaviour, predict generation, and manage changing tariffs, the system controls storage and discharge to best lower the customer's bill.

Customers who choose a compatible 'GridCredits' retail plan can also use the Reposit system to sell power back to the grid. Under a GridCredits plan, the retailer agrees to buy power from the customer at a specified rate when demand and prices are high. When a GridCredits 'event' occurs, the customer receives a notification, and a line on the customer's energy bill identifies all GridCredits payments. Diamond Energy is currently offering its GridCredits100 plan to select customers. Powershop and Simply Energy also have GridCredits plans in development.

Integrated HEM

Some batteries, such as the German-manufactured sonnenBatterie, have sophisticated in-built HEM systems. AGL's Sunverge batteries also come integrated with that company's HEM, the cloud-based Solar Integration System (SIS). SIS enables consumers to manage their own generation efficiently, but it can also serve utilities, who are able to aggregate and manage customers' stored power in a 'virtual power plant' – much like Reposit's GridCredits. However, as AGL is the exclusive partner of Sunverge in Australia, customers with the Sunverge battery may be locked into using SIS with an AGL retail plan.

HEM and convergence

HEM furnishes a clear example of the convergence between the energy, tech and telecommunications industries. In the US in 2014, for example, tech giant Google bought Nest Labs, a company that produces the Nest thermostat, a 'smart' device that controls temperature as well as a growing range of connected devices in the home. Through the 'Rush Hour Rewards' and 'Seasonal Savings' programs, utilities harness these capabilities for demand response.¹⁰⁴ Some utilities incentivise participation by providing the Nest thermostats, which are considered a luxury item, free or at a deep discount.¹⁰⁵ Other US telecommunications companies are also entering the energy industry to offer HEM services, among them US cable companies Verizon and Comcast.¹⁰⁶

¹⁰² Navigant Research, 2015, *Navigant Research Report: Home Energy Management*.

¹⁰³ There are other solar and storage HEM products on the market, such as SMA Solar Technology's Sunny Home Manager.

¹⁰⁴ Olivia Para, 1 July 2014, 'Nest thermostats: The future of demand response programs?', *POWER*.

¹⁰⁵ Katie Fehrenbacher, 1 March 2016, 'Nest shuttering data service MyEnergy', *Fortune*.

¹⁰⁶ Giles Parkinson, 26 April 2012, 'Energy wars about to be fought inside the home', *RenewEconomy*.

Telstra entering the market

We are now seeing signs of similar developments in Australia. In late 2012, Telstra released a detailed report targeted at electricity retailers and distributors, highlighting the links between telecommunications and energy and positioning Telstra as a potential partner:

Many of the future's most significant challenges are inextricably entwined with the need for secure, reliable two-way communications, Big Data management and a raft of new operational systems and processes. Telstra both understands the market and the technologies required and – as Australia's premier telecommunications company – is uniquely placed to help the electricity industry meet the demands of the smarter future [...] We welcome the opportunity to discuss how you could leverage the Telstra advantage[.]¹⁰⁷

By early 2016, however, it appeared that Telstra had decided to leverage this advantage for itself. In a February blog post, International and New Business Executive, Cynthia Whelan, signalled Telstra's intention to move into HEM, saying that the company was 'looking at the opportunities to help customers monitor and manage many different aspects of the home, including energy'.¹⁰⁸ The post announced that Telstra had set up a dedicated project team to investigate energy opportunities, to be headed by Powershop CEO, Ben Burge.

Details of Telstra's plans are scarce, however. Several early media reports on Whelan's post suggested that Telstra would be offering solar and battery storage solutions to residential customers in direct competition with utilities, and quoted Whelan drawing a link between energy and Telstra's 'Connected Home' strategy, saying 'We see energy as relevant to our 'Connected Home' strategy, where more and more machines are connected in what is called the internet of things'.¹⁰⁹ This line, however, no longer appears in Whelan's post, and we could find no other primary information about Telstra's plans.

Peer-to-peer trading

The growth in distributed generation has prompted growing consumer interest in opportunities to trade excess generated power with peers, rather than simply exporting it back to the grid under a FIT.

Virtual Net Metering¹¹⁰

Virtual Net Metering (VNM) is an arrangement by which an electricity customer with on-site generation is able to assign their exported generation to other sites nearby. These arrangements are 'virtual' insofar as the transaction is for billing reconciliation only and does not involve the actual transfer of electricity between the sites. A VNM transfer could occur, for example, between meters owned by the same entity (such as among council or university buildings); between different customers; from community-owned renewable generation to its owners; or from generator-customers to other customers via aggregation by a community retailer.¹¹¹

Although VNM transactions are made among peers (or a single entity), they nevertheless require retailer and distributor involvement for functions such as testing participant eligibility, brokering participant agreements, billing and calculating and applying an appropriate 'wheeling' charge –

¹⁰⁷ Telstra, September 2012, *Getting Smart: How electricity businesses can leverage the telco advantage*, p. 25.

¹⁰⁸ Cynthia Whelan, 5 February 2016, 'Technology and the energy opportunity', *Telstra Exchange*.

¹⁰⁹ See for example: Giles Parkinson, 9 February 2016, 'Telstra takes on energy utilities with home solar and storage plan', *RenewEconomy*.

¹¹⁰ Also known as 'remote net metering', 'neighbourhood net metering', 'group net metering' and 'local electricity trading'.

¹¹¹ Edward Langham, Chris Cooper and Nicky Ison, 2013, *Virtual Net Metering in Australia: Opportunities and barriers*, Report for the Total Environment Centre by the University of Technology Sydney Institute for Sustainable Futures, p. 7–8.

essentially, a lower network charge that accounts for reduced use of the transmission and distribution network beyond the local area.¹¹²

Actual applications of VNM in Australia are currently very limited: in 2013, it was occurring in just a handful of specific commercial sites.¹¹³ In a project due for completion in August 2016, the University of Technology Sydney is conducting research trials of VNM in five sites in Victoria, NSW, and Queensland, investigating in particular how to charge fairly for use of the network in VNM transactions.¹¹⁴ This work will inform a rule change request to the AEMC to enable wider application of VNM. More generally there appears to be mounting pressure on regulators to address barriers that currently hinder VNM.

Sharing economy platforms

The Federal Government's information paper on the current review of the Australian Consumer Law (ACL) suggests that 'the most significant market development' in Australia in recent years has been the rapid expansion of the 'sharing economy'.¹¹⁵ The defining feature of the 'sharing economy' (also 'collaborative economy' or 'peer-to-peer market') is the existence of platforms that connect buyers and sellers.¹¹⁶ Enabled by internet and smartphone technologies, these platforms lower transaction costs and enable buyers and sellers to find each other easily. From an economic perspective, a key feature of sharing economy platforms is that they unlock the value in otherwise unused assets by allowing them to be consumed as a service. To fit within the sharing economy classification, a platform must be owned and operated separate from the services exchanged.¹¹⁷ The platforms themselves profit by charging a fee or commission to one or both parties to the transaction.

In Australia, ride-sharing and accommodation platforms Uber and Airbnb are the most prominent examples of sharing economy businesses. Platforms that allow peer-to-peer lending and the sharing of household goods, task services, parking spaces, broadband and other products and services are also emerging.¹¹⁸

Our scan of the market also turned up one fully-developed energy sharing economy platform being brought to market in Australia: Melbourne-based Matter Technology Ltd's 'Digital Solar'.¹¹⁹ Based on software the company originally developed for PPA and embedded network applications, Digital Solar is an online platform that allows landlords to sell power from solar panels installed at a property to its residential tenants. The platform is used either with an existing solar system (which may include storage), or installed alongside a new solar system, the purchase of which Matter can also broker for the property owner.

To use Digital Solar, the property owner pays a \$9 per month, per property subscription fee. Tenants pay the landlord for the electricity they use via Digital Solar's online billing and payment system. While property owners and tenants negotiate the solar tariff directly, Digital Solar facilitates tariff-setting by recommending a price 20% less than the tenant's grid electricity tariff, which they are asked to input into an 'online property assessment generator'.¹²⁰ Via the Digital Solar website, the property owner

¹¹² *Ibid*, p. 6–7.

¹¹³ *Ibid*, p. 9–10.

¹¹⁴ ARENA, 15 June 2015, 'Investigating more flexible charges for local renewables' (Media Release).

¹¹⁵ Commonwealth of Australia, March 2016, *Australian Consumer Law Review – Issues Paper*, p. 87.

¹¹⁶ Deloitte Access Economics, 2015, *The sharing economy and the Competition and Consumer Act*, Report to the Australian Competition and Consumer Commission, p. 1.

¹¹⁷ Deloitte, 2015, *The sharing economy and the CCA*, p. 2.

¹¹⁸ *Ibid*.

¹¹⁹ Commonwealth, 2016, *ACL Review – Issues Paper*.

¹²⁰ Digital Solar, 'How do I set my tenant's Digital Solar tariff?', Digital Solar website (accessed 4 June 2016).

and tenant then sign an agreement that is set for the duration of the rental tenancy, and which automatically continues if the lease is renewed or extended.¹²¹

Digital Solar uses smart meter technology to monitor usage and manage the transaction. Because this all occurs within the home, it requires no involvement from a retailer or distributor, thereby bypassing the regulatory and other difficulties associated with VNM, and qualifying as a true sharing economy platform.

According to one media report, Matter has signed up its first users in Cairns in an arrangement facilitated by real estate agency Freeman's Residential, which began by pitching the idea to tenants, 'asking them if they want to save money on their power bill'.¹²² The same article reports that the company has plans to 'roll out a multi-tenant service to support apartment blocks' later in 2016.

A second Australian sharing economy platform in development is Local Volts: an 'online energy marketplace' designed to allow consumers to create set prices and trade surplus power locally with other businesses, households and communities. While the Sydney-based startup has been the subject of an *ABC News* article¹²³ and was mentioned by one of the industry stakeholders that we interviewed, it appears to be at a very early stage of development.¹²⁴

Overseas developments

Overseas, other models for facilitating trading among peers have been developed, each with a different degree of involvement from traditional utility players. These models may point to similar future developments in Australia.

In the UK, tech startup Open Utility developed Piclo, the country's first online peer-to-peer renewable energy marketplace.¹²⁵ The platform uses data about consumption, pricing and consumer preferences to match demand and supply every half hour. In October 2015, Open Utility partnered with renewable power supplier Good Energy for a six-month trial, supported with charitable and government funding. The trial worked with 37 generators and commercial customers across England, Scotland and Wales, who could choose preferred generation sources and find discounted or premium rates. Renewable energy retailer Good Energy facilitated the arrangement, balancing supply and demand, purchasing surplus or providing top-up supply and managing trading, contracts, billing and customer service.¹²⁶

Yeloha was a Boston-based startup that operated in Massachusetts. Homeowners with a suitable roof could sign up to the service as 'sun hosts'. Yeloha then installed solar panels at the property for free. Around a third of the generated power was given to the host, with the other two-thirds sold to 'sun partners', customer who signed up for the opportunity to buy their desired amount of solar power at a rate around 10% lower than they would ordinarily pay their utility. Although the actual purchase was from Yeloha, sun hosts and partners could choose who hosted or bought their power. In 2016 the company shut down, but said that it remained 'confident that solar sharing will shape the future of energy'.¹²⁷

¹²¹ Digital Solar, 'How long is the Digital Solar contract and what happens if the property is vacant?', Digital Solar website (accessed June 4 2016).

¹²² Adam Turner, 4 March 2016, 'Digital Solar opens up solar power to Australian renters', *The Sydney Morning Herald*.

¹²³ Amy Bainbridge, 17 February 2016, 'Trading solar-generated power between households to change the way consumers buy electricity', *ABC News*.

¹²⁴ At the time of writing, its website, www.localvolts.com, was a landing page only.

¹²⁵ Open Utility, 2016, *A glimpse into the future of Britain's energy economy*, p. 3.

¹²⁶ Open Utility and Good Energy, 'How it works', Piclo website (accessed 4 June 2016).

¹²⁷ Yeloha, 'It's sunset time', Yeloha website (accessed 4 June 2016).

In the Netherlands, which has a fully deregulated energy market, Vandebron¹²⁸ allows individuals to buy electricity directly from local farmers who have excess supply, with no utility involved in the transaction. Consumers visit the site and choose how much power they want to buy and for what length of contract, while also selecting which farm – each personalised with a photo and story – they buy from. Farms selling via Vandebron set their own prices, receiving a higher rate than they would selling to a traditional utility. Both customer and generator pay a flat monthly subscription fee to use the Vandebron platform.¹²⁹ Vandebron launched in 2014 and according to its website, has since attracted almost 90,000 households.

The future of peer-to-peer trading

In a 2015 paper for the Australian Competition and Consumer Commission (ACCC), Deloitte Access Economics noted that '[t]here is an almost universal view among academic, market and technology commentators that the sharing economy will continue to grow.'¹³⁰ Whether this extends to energy, where the complexities of trading are so much greater than in most other industries, remains to be seen. In interviews with stakeholders, we found that in the main, only those at the more innovative end of the industry appeared to have given much thought to the issues. One interviewee was 'utterly convinced' that more peer-to-peer trading models would soon emerge in the Australian market, predicting that much of the initial platform development may be undertaken by existing tier two retailers rather than new market entrants.

Electric vehicles

EVs are consumer passenger vehicles with an electric motor that is powered by rechargeable battery packs. The category includes both battery electric vehicles (BEVs), which rely solely on a battery-powered electric motor, and plug-in hybrid electric vehicles (PHEVs), which combine an internal combustion engine and an electric motor powered by a battery that (unlike standard hybrid vehicles) can be recharged from the grid.¹³¹

EVs are of interest in the electricity market not only because EV charging represents a potential source of demand, but also because EVs can function as a form of battery storage. This opens up possibilities for a future role in demand management through 'vehicle-to-grid' (V2G) technology, approaches to which are being researched and piloted in a number of countries. Nissan, for example, has investigated the role EVs could play in distributed energy management systems, envisioning a future 'smart street' in which self-driving electric vehicles charge wirelessly and autonomously in charging bays overnight before returning to power the home in the morning.¹³²

Current and projected EV uptake in Australia

If such a vision is to be realised, however, it remains some years into the future, particularly for Australia, where the EV market is in its infancy. EVs were introduced to the Australian market in 2010, and today, just a few models – all of them significantly more expensive than conventional vehicles – are available.

¹²⁸ See: www.vandebron.nl

¹²⁹ Ben Schiller, 30 September 2014, 'The sharing economy takes on electricity, so you can buy your power from neighbors', *Co.Exist*.

¹³⁰ Deloitte, 2015, *The sharing economy and the CCA*, p. ii.

¹³¹ AEMO, 2015, *Emerging Technologies Information Paper*, p. 60.

¹³² Nissan Europe with Foster + Partners, 2016, 'What is the fuel station of the future?' (video).

Consequently, uptake of EVs in Australia is low. In 2014, electric vehicles represented just 0.1 per cent of new vehicle sales, and in mid-2015, a total of only around 2,000 EVs (most of the PHEVs) had been sold across the NEM.¹³³ This compares to higher uptake in early adopter markets in the Netherlands, Norway, Sweden and the USA, where EVs represented more than 1 per cent of new car sales in 2014.¹³⁴

Predictions for future EV uptake vary enormously in line with different assumptions about policy drivers, technological progress, market conditions and other factors.¹³⁵ Citing high upfront costs, consumer awareness and concern barriers and a lack of policy incentives, AEMO has conservatively estimated that EVs will make up 2 per cent of passenger vehicle sales in 2019–20, rising to just 5 per cent by 2029–30.¹³⁶ Based on this low projected uptake, AEMO predicted a negligible impact on grid demand.¹³⁷

At the other end of the spectrum are the dramatic predictions of US energy academic Tony Seba, who recently told Australian audiences that the combined impact of solar power, battery storage, EVs and self-driving cars is set to profoundly and rapidly transform both the energy and automotive industries. Highlighting EV performance and safety advantages, low recharge costs and rapidly decreasing upfront costs, Seba predicted that by 2025, every new vehicle sold will be electric.¹³⁸

There is considerable scepticism about this claim and, in particular, its applicability to the Australian automotive market,¹³⁹ and most other projections are for fleet shares of between around 1 to 23 per cent by 2025.¹⁴⁰ Nevertheless, the wide variation in forecasts does suggest that the uptake and impact of EVs is, at the very least, unpredictable.

Implications for the energy market

While EVs remain a fairly marginal issue, they are already having some impact on the energy market. In our final days of preparing this report, AGL Energy announced that on 1 November this year, it will launch a new retail plan for customers with an EV. Under the plan, customers will be able to charge their vehicles via their home charging station for an 'all you can eat' charge of \$1 per day.¹⁴¹

Future uptake could have more significant energy market implications. For example, EV charging stations and EVs themselves may become part of embedded networks or off-grid projects, while other businesses could emerge to offer EV charging services – which in turn may affect household electricity supply as EVs themselves function partly as a form of energy storage. Such developments could further blur product/service and industry lines, potentially creating jurisdictional gaps as well as raising regulatory and consumer protection issues.

¹³³ AEMO, 2015, *Emerging Technologies Information Paper*, p. 60–61.

¹³⁴ ClimateWorks Australia, 2016, *The path forward for electric vehicles in Australia – Stakeholder recommendations*, p. 7.

¹³⁵ ClimateWorks, 2016, *The path forward*, p. 8.

¹³⁶ AEMO, 2015, *Emerging Technologies Information Paper*, p. 63.

¹³⁷ *Ibid.*, p. 65.

¹³⁸ Angela Macdonald-Smith, 24 May 2016, 'It's the end of energy and transportation as we know it', *Australian Financial Review*.

¹³⁹ Angela Macdonald-Smith, 2 June 2016, 'Local market on go-slow in electric vehicle race', *Australian Financial Review*.

¹⁴⁰ Paul Graham et al, 2015, *Future Grid Forum – 2015 Refresh: Technical report*, CSIRO report for the Energy Networks Association, p. 41.

¹⁴¹ Sophie Vorrath, 21 June 2016, 'AGL to offer \$1 a day 'all you can eat' electric vehicle charging', *RenewEconomy*.

Key points

- Technological advances and decreasing costs are driving the proliferation of new products, services and business models in the energy market. The energy industry is fragmenting and decentralising; the boundaries between it and other industries are blurring; and the consumer role is transforming as consumers increasingly produce and sell energy.
- Across the NEM, residential customers in embedded networks probably number in the hundreds of thousands, often dealing with entities that look, for all intents and purposes, like ordinary retailers. In coming years, embedded networks are likely to continue to grow and evolve.
- Off-grid projects – entire estates, suburbs or communities that rely on local networks separate from the main grid – have recently become economical in more circumstances. Developers, communities and network businesses are investigating off-grid opportunities and we may see such projects coming to fruition in the relatively near future.
- Australian residential uptake of solar PV is high and will continue to grow, encouraged by continuing price decreases and the availability of home battery storage. Solar PPAs and leases are relatively novel purchase approaches that are likely to become increasingly common in the Australian market, both residential and commercial. Traditional retailers are active in this market.
- Recent rapid developments in battery technology have seen a range of home battery storage products come onto the Australian market in 2016, sold by a range of retailers and installers including energy retailers and distributors, who are also conducting a number of residential battery storage trials. The battery storage market is in its infancy and projecting future uptake is difficult; nevertheless, many stakeholders expect battery storage to have a profound effect on the energy market.
- HEM technology combined with solar and storage systems are opening up new avenues for consumers and utilities to harness their generated power for maximum benefit. We may also see telecommunications companies entering the energy space, leveraging their expertise to offer HEM services.
- Distributed generation is fuelling growing interest in peer-to-peer trading. While VNM is currently constrained by regulatory and other barriers, some peer-to-peer trading models are emerging and may continue to develop – potentially led by tier two retailers.
- Current uptake of EVs is very limited and may be slow to grow, although predictions vary markedly. If and when EV take-up becomes significant, this could have significant energy industry impacts.

Access to consumer protections

As the energy market is evolving with increased innovation in product and service delivery and financing models, the regulatory framework and policy context within which it operates is also undergoing considerable change. Stakeholders we interviewed, however, questioned whether the regulatory changes are sufficiently flexible and fast-paced to keep up with market developments, as well as the extent to which current regulation results in actual consumer protection.

Indeed, the complexity posed by the regulatory framework may have itself become a barrier to jurisdictional change within ombudsman schemes, resulting in inequity of protection and access to effective dispute resolution across state and territory jurisdictions.

This section of the report provides a high-level overview of the retail framework for consumer protection, including access to complaint resolution through ombudsman schemes and the ACL (including state jurisdictions) in the eastern and southern states and territories.¹⁴²

Its focus is on the electricity industry, where innovation and competition is most at play. Recent and future developments in regulation will be explored, including some of the major debates highlighted by stakeholders and those detailed in written submissions to regulatory consultation processes. Also provided is an overview of the relevant legislative and regulatory energy framework applying in Victoria (a non-signatory to the *National Energy Customer Framework* (NECF)) including the licensing framework.

Energy market reforms

The reform of Australia's energy market over the past 25 years has been accompanied by the development of a complex array of statutory instruments and governance arrangements at the national and state or territory level. The pace and extent of reform has differed across the jurisdictions due to a range of factors including structural changes and privatisation of assets which have, in turn, influenced the debates about consumer protection policy and the extent of regulatory protection necessary to support increased market competition.¹⁴³

¹⁴² Western Australia and the Northern Territory are not connected to the NEM and have their own electricity systems and regulations, although we note that in 2015, the AER became the electricity network regulator in the Northern Territory. It will also acquire this role in Western Australia in 2017, pending legislative approval and other regulatory processes. See: AER, *State of the energy market 2015*, p. 1.

¹⁴³ For helpful guide to the hierarchy of statutory instruments for the NEM and Natural Gas Markets, including the interaction of legislation, regulation, rules, procedures and jurisdictional legislation and interpretation of acts, see: AEMC, 1 January 2016, *Guide to the application of the NECF, Summary of interactions*.

National market governance

The NECF is the governance framework for the sale and supply of electricity through to end-use consumers of the NEM and for the eastern natural gas markets. It covers:

- the customer retailer relationship (rights and obligations)
- the customer distributor relationship (rights and obligations)
- retailer authorisations to sell electricity and/or natural gas
- retailer and distributor requirements.

The NECF governance instruments:

- are enacted through the *National Electricity Law* (NEL), the *National Gas Law* (NGL)
- in part, chapters of the *National Electricity Rules* and *National Gas Rules*
- *National Energy Retail Law* (NERL)
- *National Energy Retail Rules* (NERR) and
- *National Energy Retail Regulations* and
- AER Guidelines.

The framework has commenced in the ACT, Tasmania, South Australia, NSW and Queensland. Various derogations have been made in each state jurisdiction to accommodate local conditions and policies. Victoria, although a signatory to the NEM, is not a signatory to the NECF.

The NERL enshrines consumers at the centre of the governance regime. Its objective is 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.¹⁴⁴

National energy market agencies

The Council of Australian Governments (COAG) created three agencies to undertake the functions of market operation:

- **The AEMC:** makes the *National Electricity Rules* and *National Gas Rules* that govern the NEM, parts of the natural gas and energy retail markets.
- **The AER:** sets network business revenue recovery and maximum price charges, monitors markets and enforces rules and legislation, publishes reports on energy services and where it has jurisdiction, authorises retailers to sell energy, approves retailer policies for customers in hardship and manages a range of other functions.
- **The Australian Energy Market Operator (AEMO):** manages the day-to-day wholesale and retail energy operations of the NEM and various gas markets, the short term trading market and market functions such as customer transfer and choice of supplier.

State-based regulators in every state and territory have a regulatory role based on their legislation and energy market arrangements.¹⁴⁵

Australian Consumer Law

Under Federal jurisdiction, energy consumers are also provided with protections through the operation of the ACL and Competition and Consumer Regulation,¹⁴⁶ which works in conjunction with

¹⁴⁴ *National Energy Retail Law (South Australia) Act 2011*, Division 3, c. 13.

¹⁴⁵ COAG Energy Council, 'Market Structure', COAG Energy Council website.

energy-specific laws. The ACL applies nationally and in all states and territories, and to all Australian businesses. The ACL is administered by the ACCC and state and territory consumer protection agencies and is enforced by all Australian courts and tribunals, including the courts and tribunals of the states and territories.

The ACL includes:

- a national unfair contract terms law covering standard form consumer and small business contracts
- a national law guaranteeing consumer rights when buying goods and services
- a national product safety law and enforcement system
- a national law for unsolicited consumer agreements covering door-to-door sales and telephone sales
- simple national rules for lay-by agreements
- penalties, enforcement powers and consumer redress options.¹⁴⁷

Under the *Intergovernmental Agreement for the Australian Consumer Law*, the ACL, having been in operation for seven years, is currently under review.¹⁴⁸ The review's scope includes an assessment of the flexibility of the ACL to respond to new and emerging issues to ensure that it remains relevant into the future as the overarching consumer policy framework in Australia. A number of interviewees commented on this review, noting that it will look at a range of disruptive industries and the extent to which these are appropriately dealt with under the ACL and or other laws.

Victorian energy market governance

In Victoria the retail governance framework interaction is provided by:

- the *Electricity Industry Act 2000* and *Gas Industry Act 2001*
- the *Essential Services Commission Act 2001*
- the *Energy Retail Code* Version 11
- other subordinate codes and guidelines.

The objectives of the *Electricity Industry Act 2000* and *Essential Services Act 2001* confer on the Victorian regulator, the Essential Services Commission (ESC), somewhat broader objectives than the NERL, including the roles of promoting the long-term interests of consumers (having regard to price, quality and reliability of supply), promoting full retail competition, and promoting protections for customers. In 2015 an additional object was added in relation to assisting customers with payment difficulties.¹⁴⁹

The ESC also has regulatory responsibilities prescribed by the *National Electricity (Victoria) Act 1997* and the *National Electricity Code*, which together establish the NEM in Victoria. To that end, in

¹⁴⁶ The ACL is a cooperative reform of the Australian Government and the States and Territories, through Council of Australian Governments (COAG). An Intergovernmental Agreement (IGA) signed by the Council of Australian Governments underpins the establishment of the ACL.

¹⁴⁷ The protections in the ACL are generally reflected in similar provisions in the *Australian Securities and Investments Commission Act 2001* (ASIC Act), so that financial products and services are treated in the same way. See: Australian Consumer Law website, 'The Australian Consumer Law'.

¹⁴⁸ For the Review Terms of Reference, see the Australian Consumer Law website, 'Terms of Reference'.

¹⁴⁹ Authorised Version No. 076, *Electricity Industry Act 2000*, No. 68 of 2000, Authorised Version incorporating amendments as at 1 January 2016, Division 1, s. 10; Authorised Version No. 050, *Essential Services Commission Act 2001*, No. 62 of 2001, Authorised Version incorporating amendments as at 7 June 2016, Part 2, s. 8.

addition to complying with the requirements of Victorian licences, codes and guidelines, electricity companies operating in Victoria must also comply with the NEL and Rules.¹⁵⁰

In the Victorian context, the ESC performs some of the functions of both the AEMC and AER in reviewing the rules and regulations and overseeing retail compliance, performance and enforcement, whereas the AER has jurisdiction for economic regulation of the electricity and gas networks in Victoria. AEMO also provides the market settlement function for Victoria's electricity and natural gas markets.

Moves towards harmonisation

Despite the differences between the national and Victorian retail regulation frameworks, there have been recent moves to bring the two regimes closer together. The ESC is obliged to look to consistency of regulatory approach with the other states. To this end, it recently reviewed the *Energy Retail Code* with the aim of harmonising it with the NECF to the extent possible.¹⁵¹

In February 2015, the ESC received state government terms of reference to conduct an inquiry and report on the best practice financial hardship programs of energy retailers. This followed the legislative changes to the *Essential Services Act 2001* to add the object regarding payment difficulty.¹⁵² The legislation also set out the expectation that retailers would facilitate continuity of supply to domestic customers as they work through their payment difficulties. The terms of reference for this inquiry established that regulation should aim to 'ensur[e] that wherever possible, energy customers remain connected to supply, and that disconnection of customers is only used as a measure of last resort by energy retailers'.

The final report, *Supporting Customers, Avoiding Labels*, was released in February 2016. While this report outlines the design of the proposed regulatory framework, the ESC has noted that much work will be needed to codify the framework in the *Energy Retail Code*. There remains the possibility that this revised approach to hardship may have significant implications for future reviews of the NERL, NECF and subsequently to the AER's *Exempt Selling Guideline*.

Driving reforms to the NEM: choice of retailer and price deregulation

Following the establishment of the NEM and its governing institutions and functions, the focus of national reform has been on phasing in retail competition and phasing out retail price regulation. However, some states have been well in advance of others in this reform. Victoria kicked off Full Retail Contestability (FRC) in 2002 and Tasmania was the final state in the NEM to adopt FRC from 1 July 2014.

Victoria removed electricity price regulation in 2009, South Australia in 2013 and NSW in 2014, all following AEMC assessments of effective retail competition. Electricity retail price regulation continues to apply in Queensland, Tasmania and the ACT and, for gas only, in NSW. Queensland has delayed the removal of price regulation in south east Queensland until July 2016. Effective choice of retailer appears to be limited in those jurisdictions with retail price regulation. This is illustrated by the numbers of customers who are on market contracts versus those on standard contracts.¹⁵³

¹⁵⁰ ESC, 'What we do', ESC website.

¹⁵¹ ESC, 1 January 2015, *Energy Retail Code Version 11*.

¹⁵² ESC, February 2016, *Supporting Customers, Avoiding Labels. Energy Hardship Inquiry – Final Report*, p. 2.

¹⁵³ Retail contracts may vary, however the Retail Law requires minimum terms and conditions to apply. Contracts can include discounts on a retailer's standard rates, along with other inducements and may have a fixed term, with exit fees for early withdrawal. Retailers must obtain a customer's explicit informed consent prior to entering a market contract. Customers not on a market contract are placed on a standard contract with the retailer that most recently supplied energy at those

There is a significant difference in the percentage of customers on electricity market contracts across the jurisdictions:

- Victoria – 88 per cent
- South Australia – 84 per cent
- NSW – 69 per cent
- Queensland – 46 per cent (70 per cent in south east Queensland)
- ACT – 24 per cent
- Tasmania – 12 per cent.¹⁵⁴

This variability in jurisdictions is also reflected in switching rates. Retail choice can have considerable price benefits for consumers, however, retail choice brings with it complexity and this can influence consumer readiness to participate in the market, particularly for older consumers, those with limited or fixed incomes and those in regional areas. For those that take up contracts without fully understanding them, and particularly where the contract does not suit their usage profile or was not as they expected, the experience of market choice may not deliver the expected benefits. However, where choice is most active, in Victoria, the ESC has estimated that the average fully-discounted electricity bill for domestic customers on electricity market offers has fallen by between 11 and 13 per cent since the Commission's 2013–14 report on energy prices.¹⁵⁵

In Victoria, however, the early transition to the introduction of competition and price deregulation was accompanied by the development of strong consumer protection laws. Concerns by policymakers and regulators about how consumers were faring during the transition were based on early door-to-door sales behaviour, rising disconnections and increasing complaints to the Energy and Water Ombudsman (Victoria) (EWOV), which peaked in 2014. This in part explains why Victoria has implemented legislative changes to address payment difficulty and hardship and is yet to join NECF.¹⁵⁶

Power of Choice

A further push for national reform of the NEM followed the AEMC's *Power of Choice* review and presentation of recommendations to federal and state governments through COAG in 2012, aimed at giving consumers more options in the way they use electricity. The reforms anticipate market changes over the next 15–20 years. The reforms are predicated on the fact that consumers will have more services and product options and information that will enable them to benefit from these increased choices, including use and price.¹⁵⁷

COAG's future agenda: embracing technologies

COAG has also recently identified a further work stream aimed at 'embracing emerging technologies'. The Energy Council has stated that advanced meters, household solar and battery storage together with cost-reflective pricing and retail price deregulation will give consumers more options about how they purchase and use energy. They note, however, the importance of ensuring 'appropriate consumer protections and safeguards' are in place to support the operation of the market. To this

premises (or, for new connections, with a retailer designated for that geographic region). A standard retail contract includes model terms and conditions that a retailer may not amend. See: AER, *State of the energy market 2015*, pp. 127, 129.

¹⁵⁴ AER, 2015, *State of the energy market 2015*, p. 129.

¹⁵⁵ Their calculation assumes that all discounts, including conditional discounts, have been applied and the reason for the fall included a greater availability of conditionally discounted offers in 2014–15 as well as the removal of the carbon price. See: ESC, January 2016, *Energy Retailers Comparative Performance Report – Pricing 2014–2015*, p. xv.

¹⁵⁶ ESC, 2015, *Comparative Performance report – Customer Service 2014–2015*, p. viii.

¹⁵⁷ For the AEMC's reform program, see: AEMC, November 2015, *Strategic Priorities for Energy Market Development, Final Priorities*.

end the Energy Council is currently working on a program to modernise the regulatory framework to ensure that consumers can benefit from the emergence of new and innovative energy technology.¹⁵⁸

Future review of the NECF

The Energy Council is also currently reviewing the NECF to assess the impacts of new technologies and products and determine whether the framework requires enhancement in light of ongoing market change. This review presents a significant opportunity to reassess the consumer protections framework against changes in the market.

It is likely that such a consultative review would be widely welcomed. Stakeholders we spoke to raised the need for more flexibility in the rule determination and regulatory review process to enable quicker responses to changes in market conditions. One regulatory spokesperson noted that we need to 'invigorate our thinking' on what it means to regulate an essential service and what a legitimate expectation might be for ombudsman adjudication.

Another strong theme was that the complexity of regulation nationally and across the sectors makes viability and compliance difficult for existing retailers and potential new entrants. Consumer stakeholders raised that the jurisdictional complexity and variability further compounds inequities for consumers.

Stakeholders across all sectors have suggested that consumer protection should be designed with the needs of consumers as the centrepiece, providing clarity on rights and obligations and simplicity of access to EDR.

The retail and network exemption framework

Not all small consumers currently have access to the same level of consumer protections and choice. Consumers who purchase their electricity through on-sellers in embedded networks or where their supply is sourced through a combination of generation technologies are subject to regulation by an exemptions framework.

Both exemptions frameworks were developed as a means of providing a regulatory protection regime commensurate with the proportion and circumstances of these exceptions to the mainstream supply and sale of electricity by separate metering to suburban housing stock and smaller flat and townhouse accommodation and commercial complexes.¹⁵⁹

The exemptions were designed primarily to avoid an unnecessary cost burden on accommodation/building premises owners, sellers and managers. Certainly, it is now acknowledged that when the exemptions regime was developed, the rapid and significant development of high-rise apartments with embedded networks had not been anticipated.

Alongside the growth in embedded networks, the rapid emergence and growth of new products, services and transaction types means that many energy consumers are now covered in part or wholly by an exempt consumer protections framework. As such, it is time that consideration is given to the future trajectory for these classes of consumers.

Despite the policy and regulatory focus on increasing competition and choice for consumers in the NEM, there has been mounting recognition that the growing number of consumers in embedded networks currently face barriers to retail choice and the full benefits of advanced metering technology. They also have lower consumer protections, including a lack of access to energy

¹⁵⁸ COAG Energy Council, 'Market Development', COAG Energy Council website.

¹⁵⁹ AER, March 2016, *(Retail) Exempt Selling Guideline Version 4*, p. 5.

ombudsman schemes. The Consumer Utilities Advocacy Centre (CUAC) identified a number of these issues in its 2012 report on energy reselling in apartment buildings.¹⁶⁰

Reviewing the exemptions frameworks

The AER's review of its *(Retail) Exempt Selling Guideline* and the current Victorian exemptions review have also raised the profile and awareness of a number of groups. Many consumer submissions to these reviews supported the extension of key consumer protections for exempt consumer classes, whereas submissions by industry and alternative energy sellers broadly urged that further clarity be provided and largely supported removal of barriers to innovation and deployment of technology. Submissions from consumer advocates, exempt service providers and the retail industry were generally supportive of access to the ombudsman as a key consumer protection. A broad range of submissions also supported a level playing field for all sellers, with industry submissions in particular arguing for the elimination of cross-subsidies, including in ombudsman funding models.

In its response to the review of the GEO, the Victorian Caravan Parks Association did not support licensing changes because of concerns about regulatory burden and cost. However, it did support expansion of the jurisdiction of the ombudsman to provide effective dispute resolution for their sector, on the basis that this would be less onerous than Victorian Civil and Administrative Tribunal (VCAT) processes.¹⁶¹

An interesting policy view was put by not-for-profit community providers of alternative technology that because these providers were offering products and services in line with the values of their customers, consumers should be able to trade off consumer protections on the basis that they were aware about the product or service on offer and it was being delivered through more 'trusted' providers. When we asked interviewees about this position, it invoked some of the strongest views from stakeholders across all sectors, who argued that:

- not-for-profit status should not be a criteria for lowering protections (no basis)
- groups providing technology may know little about complaints resolution or payment difficulty and hardship
- over time or with change of ownership and tenancy, existing or new consumers may fail to understand the implications of the service provided
- changes in organisational membership and processes may vary over time, delivering poorer outcomes.¹⁶²

Vulnerable consumers in caravan and residential parks

In December 2015, SACOSS published an important report focused on customer protection for the vulnerable segments of exempt consumers residing in permanent caravan parks and residential parks.¹⁶³ The report sought customer views and provides a comprehensive analysis of the regulatory protections for these consumers.

Significantly, the report found that the level of protections for these exempt customers is lower, despite their greater average social and economic vulnerability. This gap in consumer protections was

¹⁶⁰ Consumer Utilities Advocacy Centre, 2012, *Growing Gaps: Consumer Protections and Energy Resellers, A CUAC Research Report*.

¹⁶¹ Victorian Caravan Parks Association, 2015, *Response of the Victorian Caravan Parks Association to the Issues Paper Modernising Victoria's Energy Licence Framework*.

¹⁶² AER, March 2016, *(Retail) Exempt Selling Guideline - Draft Decision*.

¹⁶³ SACOSS, December 2015, *The Retail and Network Exemption Framework: Emerging Issues for Consumers, Report on the growing concern with consumer protections arrangements for exempt consumers*.

clearly important to exempt consumers. The report recommended that this should be considered within the regulatory context. The report also noted a gap between the AER's requirements for registration and the conditions of exemption and the actual practices of exempt sellers and network operators (as reported by exempt consumers).

The report concluded that additional regulatory commitment to principles of equity is needed, particularly for vulnerable consumers:

Without an independent complaints handling mechanism and an effective monitoring, reporting and enforcement regime for the exempt customer sector, reforms to the consumer protection conditions in the AER's Guidelines may not lead to much improvement in the lived experience of exempt customers. Nor will it adequately align with the policy objectives set out in the NERL.

The SACOSS report was published before the AER released its revised *(Retail) Exempt Selling Guideline* (Version 4). Consumer advocates we interviewed, however, argued that the new guideline has not sufficiently improved consumer protections for this cohort. In particular, it has not improved obligations to provide access to an independent complaints handling mechanism.¹⁶⁴

Power of choice and embedded networks

Based on this growing awareness and recognition of the need to further address *Power of Choice* reform within embedded networks, COAG requested the AEMC (through AEMO) to undertake a rule change to clarify metering and other arrangements for consumers in embedded networks, with the aim of reducing barriers to competitive offers and supporting competition in demand side services.

The AEMC published its determination in December 2015. The rule will take effect in December 2017 in Victoria, NSW and South Australia and its application in Queensland, Tasmania and ACT will be dependent on those governments making legislative changes to recognise other arrangements for embedded networks.

The rule provides additional clarification and obligations between retailers, embedded network operators and embedded network customers. Specifically, it creates a new accredited provider role for an Embedded Network Manager (ENM) to perform market interface functions linking embedded customers to the AEMO National Energy Market Systems. The rule also set in play two further regulatory changes:

- the AEMO's procedures to set out the functions, responsibilities and governance arrangements for the ENM and specify which embedded networks operators have to appoint an ENM
- the AER's network exemption guideline (this has now been reviewed and is described below) and
- further recommendations have been made to state and territory jurisdictions.¹⁶⁵

The AEMC's *Power of Choice Rules Update* infographic provides a useful guide to how these rule change processes work together within the *Power of Choice* reform agenda.¹⁶⁶

The AEMC's *Competition in Metering Final Rule Determination* provides a framework for the competitive provision of advanced meters for residential and small business consumers and is based

¹⁶⁴ *Ibid.*, p. 8.

¹⁶⁵ AEMC, 17 December 2015, *Embedded Networks Final Determination*.

¹⁶⁶ See: AEMC, 17 December 2015, *Australian energy market commission – embedded networks final determination, Power of choice rules update*.

on the premise that competition in meter provision will drive innovation at the lowest cost. The determination was published on 26 November 2015 is scheduled to commence on 1 December 2017.

Under the rule, distribution network businesses will continue to provide metering services at a consumer's premises until a consumer and their retailer decide to install an advanced meter, or until a meter needs replacement. However, it is likely that a range of parties will use this change to package new products and services. Meter services can be provided by a Registered Participant – a Metering Coordinator. The rule applies to SA, ACT, NSW, and Queensland.

Following on from this rule, the AER must develop and publish distribution ring-fencing guidelines by 1 December 2016 and AEMO must develop and publish information regarding the application process for registration as a Metering Coordinator by 1 March 2017.¹⁶⁷

It should be noted that in Victoria, a government-mandated rollout of smart meters was finalised in 2013–2014. These smart meters are compliant with the AEMO market transaction process and also allow for access to usage data. Smart meters were mandated for small consumers (residential and small business), however, embedded network meters, while they are predominantly advanced meters, do not allow market transaction and the full benefits of usage data. To this extent, the lack of choice of retailer in embedded network apartment dwellings is likely to be felt more keenly by consumers in this jurisdiction.

Following the AEMC rule change, AEMO has begun a consultation process on the *Power of Choice Procedure Change (Package 1) 22 April 2016*. Participant submissions were due on 31 May 2016 and the final report will be published on 26 August 2016, to take effect on 1 December 2017. Relevant to this paper this includes:

- *National Electricity Amendment (Expanding competition in metering and metering related services) Rule 2015*
- *National Electricity Amendment (Embedded Networks) Rule 2015*.

AER (Retail) Exempt Selling Guideline – Version 4

The AER finalised its review of the *Retail Exempt Selling Guideline* in March 2016 following public consultation on a draft decision paper. In making its decision, the AER is required to be guided by the objective of the NERL and by exempt selling policy principles which help ensure that customers of exempt sellers are not unreasonably disadvantaged compared to customers of authorised retailers.¹⁶⁸

Box 1. Categories of Exemption

- A **deemed exemption** applies automatically to certain classes of energy sellers and they do not have to apply or register (eg. caravan park or holiday parks, persons who sell to less than ten small businesses or residents, businesses that sell unmetered gas in Queensland).
- **Registerable exemptions** apply where the scale of energy selling activity is larger than deemed (eg. persons who sell metered energy to ten or more small tenants or residents within a site, retirement villages or caravan parks selling metered energy to permanent residents, or people or businesses who sell energy to large customers). Energy sellers can register (registerable exemptions are not approved by the AER). A new class of registerable exemption class has been added to cover persons selling electricity through PPAs to customers who are

¹⁶⁷ *National Electricity Amendment (Expanding competition in metering and related services) Rule 2015; National Energy Retail Amendment (Expanding competition in metering and related services) Rule 2015*.

¹⁶⁸ Division 11, Part 2 of the Retail Law.

connected to the national electricity grid.

- **Individual exemptions** apply to activities not covered by deemed or registrable exemptions, and require AER approval (eg. sale of energy at a particular site or individual or group of customers in one-off or tailored conditions). Usually individual exemptions are intended for unusual or one-off arrangements and allow conditions to be tailored accordingly.
- Other situations such as retrofitting (eg. conversion of an existing site to an embedded network allowing sale of electricity directly to residents or tenants of the site). Retrofitting requires the explicit informed consent of all affected residents or tenants. Commercial sites are eligible for a relevant class exemption, however, residential retrofits require an individual exemption.

The Retail Law does not apply to off-grid arrangements in states and territories that have specifically excluded these arrangements under their adopting legislation.

The AER's *Notice of Final Instrument* explains the basis for the changes made by the AER in this review, including the consultation processes undertaken, the views of stakeholders and considerations of the AER against its legal requirements.¹⁶⁹

Addressing new technologies

The AER acknowledged the background of increasing energy prices; consumer demand for managing consumption; the growth in new alternative energy products; and changes to consumer participation in energy market – matters that were not anticipated when the NERL was drafted. These developments include the purchase of PPAs, wheeling arrangements, co-generation and microgrids. However, where these involve the sale of energy as in solar PPAs (SPPAs), the AER states that these are captured under the Retail Law and must therefore be regulated by retailer authorisation or exemption.

The AER's decision incorporates the regulation of alternative energy sellers in the Guideline including:

- the AER's approach to secondary sources of supply
- regulation is fit for purpose, flexible and does not duplicate other legislation and
- new information requirements specific to PPA providers who need to apply for an individual exemption.

The AER created a new class of exemption (R8) for PPA providers that sell to commercial and residential customers where the agreement is for less than 10 years and has transparent termination and buy-out clauses. These protections were not extended to small business customers.¹⁷⁰

PPA providers selling to residential customers and whose agreements do not meet these criteria will still need to apply for individual exemptions. Customer protections will be the same as for sellers currently granted individual exemptions for PPAs.¹⁷¹

The AER has not extended the new R8 class to other alternative energy providers at this time as '...other arrangements are still evolving and it would be premature to consign an exemption class yet.'¹⁷²

¹⁶⁹ AER, 2016, *Notice of Final Instrument: AER (Retail Exempt Selling Guideline Version 4.0)*.

¹⁷⁰ *Ibid.* p. 9.

¹⁷¹ *Ibid.* p. 19.

¹⁷² *Ibid.*

EDR in relation to products and services provided by alternative sellers

The AER restates its position that other legislation, including the ACL, places sufficient obligations on sellers to disclose information about products and services supplied by alternative energy sellers. They also note the ACL provides customers with protections in relation to unfair contract terms.¹⁷³

Retrofitting

Another major change in Guideline 4 is clarification of the obligations on exempt sellers who plan to retrofit an embedded network. The AER has decreased obligations if all affected commercial customers provide explicit informed consent for a conversion – the exempt seller will be eligible for a deemed exemption (D1).

The AER acknowledged that to protect residential consumers (particularly vulnerable energy users), property owners for residential sites will continue to need to apply for individual exemptions and applications will be assessed by the AER on a case by case basis.¹⁷⁴

Pricing

In relation to the amount exempt sellers can charge customers, the AER has removed references to the ambiguous term 'fair and reasonable' and instead clarified that an exempt seller may not charge more than the relevant standing price (the local area retailer's standing offer rate for each of the usage and supply charges) or any administration fees. The existing cap remains and sellers are able to charge under the cap.

Despite this change, exempt customers are likely to be paying higher prices for electricity than in market jurisdictions where there is effective competition and price deregulation.¹⁷⁵

Concessions

To help ensure customers receive entitlements in jurisdictions that do not allow them to directly claim government rebates and concessions, the AER amended Guideline 4 to mandate the claiming of government rebates on behalf of exempt customers. The requirement will only apply where the rebate can only be claimed by the exempt person and not where the customer can claim it themselves.¹⁷⁶

Access to dispute resolution

The AER did not make membership of an ombudsman scheme an obligation for exempt sellers. It does indicate that such an extension was broadly supported by submissions and suggests that ombudsman schemes may well have the capacity to extend jurisdiction through constitutional change by voluntary participation and the potential for state and territory legislators to effect change. The AER proposes working collaboratively with ombudsman schemes to take action in collaboration and with their support:

One of the issues raised in our consultation on the Guideline was exempt customers' access to a comparable level of dispute resolution as is available to market customers (ombudsman schemes or the ACT Civil and Administrative Tribunal (ACAT)). Stakeholders considered exempt sellers should have appropriate dispute resolution mechanisms, including participation in the ombudsman schemes.

¹⁷³ *Ibid.*

¹⁷⁴ *Ibid.* pp. 11–12.

¹⁷⁵ *Ibid.* p. 13.

¹⁷⁶ *Ibid.* p. 15.

While each ombudsman sets the participation and membership requirements for their particular scheme we note that it is open to most schemes to provide differentiated membership or participation models. For example, we understand Energy and Water Ombudsman South Australia's (EWOSA) model provides for non-retailer members to participate voluntarily. To date only water authorities have joined but this option is also open to exempt sellers. We also note the Queensland Government is consulting on access to its ombudsman scheme for on-seller customers. We consider it is important that small energy customers have access to cheap, robust and effective dispute resolution mechanisms. We encourage the ombudsman schemes to extend participation to exempt sellers and we will work collaboratively with these schemes to determine the best way of ensuring exempt customers and sellers can access effective dispute resolution services.¹⁷⁷

Electricity Network Service Provider Registration Exemption Guideline – 27 August 2013

Under the NEL and the *National Electricity Rules*, anyone who engages in an electricity distribution activity must be registered with AEMO as an electricity network service provider or gain an exemption from this requirement from the AER. Persons involved in on-selling of electricity may need to conform to this and the *Retail Exempt Selling Guideline*. Similar to the Retail Exempt Selling Guideline, there are also three categories of exemption, deemed registerable and individual. As the focus of this research is on the customer interface this Guideline is referenced for completeness only.¹⁷⁸

Box 2. On-selling energy in embedded networks

Exemptions were developed to manage the practice of on-selling energy, but unlike an authorisation, an exemption restricts your selling activity to a defined class (or classes) of customers, usually to a specific site (or sites) as set out in the terms of the exemption. Most but not all exemptions are held by **on-sellers**. A person that sells energy to customers to supplement the energy that customer buys from a retailer (for instance, energy that is generated by solar panels or other equipment they own) may also be eligible for a retail exemption.

Exempt sellers have to follow strict conditions and meet a range of obligations to their customers but the regulatory requirements are generally lower than those of a retailer.

Many energy on-sellers use **agents or service providers** to manage the sale of energy to their customers particularly within embedded networks. This includes communicating with customers, organising connections and disconnections, issuing bills and handling energy-related complaints.

If the **service provider** buys energy from a retailer and sells it directly to residents or tenants on behalf of the person or business, then they are the energy seller and they are the party that is required to have an exemption or authorisation. The AER does not generally consider that class exemptions are appropriate for service providers as selling energy is a core activity.

Within an embedded network, the **embedded network operator** (for example, a shopping centre owner) provides embedded network customers with network services. Many embedded network operators also sell electricity to embedded network customers (for example, a business leasing space in a shopping centre).¹⁷⁹

¹⁷⁷ AER, March 2016, *Notice of Final Instrument – Retail Exempt Selling Guideline Version 4.0*, p. 32.

¹⁷⁸ AER, August 2013, *Electricity Network Service Provider Registration Exemption Guideline*, pp. 4, 7, 8.

¹⁷⁹ AEMC, 17 December 2015, *New Rules for Embedded Networks*.

Reform of the Victorian exempt selling framework

In Victoria, customers of on-sellers in embedded networks experience similar issues to their counterparts in the NECF jurisdictions, including lower consumer protections and lack of access to EWOV.

Two concurrent reform processes are underway in Victoria aimed at reforming the government's GEO and modernising the Energy Licence Framework. At the time of writing, both of these processes are in the final stages of decision-making, with separate consultation processes having been completed. The ESC and the Department of Economic Development Jobs, Transport, and Resources (DEDJTR) are working alongside each other to develop both final decisions.

In August 2015 the Victorian Government issued a report entitled *Victoria's Renewable Energy Roadmap – Delivering jobs and a clean energy future*, in which it contemplated a number of changes to the authorising framework to provide clarity to the industry. On 8 December 2015, a *General Exemption Amendment Order* was issued in the Gazette to provide an exemption for PPAs and solar PPAs. The exemption takes these activities outside the energy consumer protection and dispute resolution framework. However, the remaining matters in the Review are still in process.¹⁸⁰

In Victoria, energy is supplied by privately-owned businesses required to hold a licence to operate and requiring conditions with energy laws, regulations, codes and guidelines. The ESC is responsible for granting and refusing licences, determining the conditions under which the energy business must operate, and enforcing compliance with these conditions.

The ESC released its *Licence Issues Paper* in June 2015. This followed an earlier review by the then-Department of Primary Industries, conducted in 2011 when it was anticipated that Victoria would become a signatory to the NECF. However, a decision was made to retain the framework at that time, and while Victoria remains outside the NECF, there has been recognition that the licensing and exemptions regime no longer accommodates the changes in on-selling in embedded networks and in the provision of alternative energy services.¹⁸¹

Review of the GEO

The Department released an issues paper for public consultation in 2015, seeking feedback on potential amendments.¹⁸² Under the GEO, exemptions may be granted by the Governor in Council under section 17 of the *Electricity Act 2000*. The Act provides that a person must not engage in the generation of electricity for supply, sale or transmission of electricity unless that person holds a licence issued by the ESC or is exempted from holding a licence.

An Order in Council provides the entity with an exemption which will typically list the entity, customer and activities covered by the exemption. The Department can make recommendations to the Minister for Energy and Resources that an exemption be granted. Specific exemptions are assessed on a case-by-case basis, but the GEO also creates a category which can apply to residential and small business customers.

The GEO provides categories of deemed exemption not requiring an application to the Department. Entities must self-assess whether they fall within the categories of:

¹⁸⁰ Victorian Government, Tuesday 8 December 2015, *Victoria Government Gazette*, No. S 393.

¹⁸¹ ESC, June 2015, *Modernising Victoria's Energy Licence Framework – Issues Paper*.

¹⁸² Department of Economic Development, Jobs, Transport, and Resources (DEDJTR), 2015, *Review of the General Exemption Order Issues Paper*.

- generation of electricity for supply or sale where the total output is (using generators connected to the transmission or distribution network of less than 30MW)
- the intermediary distribution or supply of electricity to a short term resident, long-term resident, small business customer or large business customer within the limits of a premises owned or occupied by the person engaging in that activity
- the metered intermediary sale of electricity within the limits of the premises owned or occupied by the person engaging in that activity.

The above classes of deemed exemption are also subject to conditions that may impact on an entity's eligibility. If an entity does not comply with their conditions of exemption they are effectively operating without a licence, and may be subject to a penalty issued by the ESC.¹⁸³

The *Gas Industry Act 2001* contains a similar exemption framework to the *Electricity Industry Act 2000*. Entities seeking an exemption from the requirement to hold a licence in relation to gas activities can contact the Department seeking an exemption by Order made by the Governor in Council.¹⁸⁴

The GEO review is examining:

- consumer protections
- classes of exemptions
- enforcement
- choice of retailer
- dispute resolution and
- issues specific to alternative energy sellers.

There has been lack of clarity about the extent of obligation for exempt entities to meet consumer protections. The requirement is to comply with the 'applicable provisions of the Retail Code', however, the *Energy Retail Code* does not specify the applicable conditions for embedded network sellers. As a result, both embedded network on-sellers and their customers have been unclear about their rights when trying to resolve disputes.¹⁸⁵

Customers of embedded networks do not have Smart Meters, but do have meters with similar capabilities, such as remote readings, de-energisation and re-energisation. As the *Energy Retail Code* has additional consumer protections that attach to Smart Meters, consumers in embedded networks lack the additional consumer protections specifically developed to address those important meter functions.¹⁸⁶

Classifying retail exemptions

Currently the GEO only has one class of exemption. The review is considering whether there may be benefits in having specific classes, including that this may support clarity of activity and potential enforcement action. Registration is not required and this means that very little is known about embedded network activities in Victoria.¹⁸⁷

¹⁸³ *Ibid.* p. 3.

¹⁸⁴ Unlike the electricity framework, there is no equivalent to the GEO for gas activities. This means that all gas distribution, generation and sale must be undertaken either under a licence issued by the ESC or a specific exemption. The Department will is not considering the creation of a gas GEO as part of the current review.

¹⁸⁵ *Ibid.* p. 5.

¹⁸⁶ *Ibid.* p. 5–6.

¹⁸⁷ *Ibid.* p. 6.

Choice of retailer

In theory, customers in embedded networks are able to access competition if they choose to remove themselves from the embedded network, and it is a condition of licence that the exempt person must inform their small or large customers in writing of this. However, in practice this is difficult to achieve. Consumers must first secure a retail offer, and this is made difficult because of the challenges in setting up accounts (due to required metering, wiring and access to the building). If they do secure a retail offer, they then have to arrange removal of the embedded meter and replace it with a Smart Meter from the distribution network service provider with a National Meter Identifier visible for the market settlement process. The costs are high enough to deter owners but more particularly tenants, even in the event that there is an agreement with the landlord. The review also notes the impending impact of the AEMC recommendation that embedded networks be brought into the metering settlement process.¹⁸⁸

Better information for new developments

For customers purchasing off a plan, the review considers the need for better information about the embedded network prior to settlement.¹⁸⁹

Obligations on exempt network operators

The ESC is responsible for distribution licences and the Victorian Government is responsible for network licensing exemptions. The GEO exempts bodies that are distributing electricity subject to applicable provisions in the *Electricity Distribution Code*. However, in addition, exempt networks must comply with the AER's electricity network service provider registration exemption guideline.¹⁹⁰

Pricing

Similar to small customers in the NECF, consumers in embedded networks are subject to GEO price regulation that restricts customers being charged more than the standing offer available by the local retailer (due to the limited competition available). The result is that embedded network customers are likely paying significantly higher prices than available in the market.¹⁹¹

Enforcement

The enforcement regime under the Victorian GEO does not provide the ESC with power to impose a range of non-administrative penalties. Its options are limited compared to licensed entities.¹⁹²

Dispute resolution

The jurisdiction of EWOV only extends to customers of licensed retail, distribution and transmission bodies as this is a licence condition under the *Electricity Industry Act 2000* and the *Gas Industry Act 2001* and therefore does not apply to customers of exempt bodies. Consumers within embedded networks can utilise the Victorian Civil and Administrative Tribunal (VCAT) to resolve disputes that cannot be resolved directly with the embedded network operator. Customers who contact EWOV are often referred to CAV for advice.

The Department expresses its view in the issues paper that EWOV has many advantages over VCAT in the resolution of energy disputes, including that EWOV is:

¹⁸⁸ *Ibid.* p. 7.

¹⁸⁹ *Ibid.* p. 8.

¹⁹⁰ *Ibid.* p. 9.

¹⁹¹ *Ibid.* p. 9.

¹⁹² *Ibid.* p. 9–10.

- accessible
- free for consumers
- less litigious in its approach to resolving complaints
- has expert knowledge of the energy regulatory framework
- can achieve fair and reasonable outcomes for energy disputes.

It notes that in order to extend the scheme's jurisdiction, however, EWOV *must* undertake a feasibility study to determine the impact of extending the scheme or its operations. The Department states that it is difficult to do this as the number and nature of embedded networks in Victoria is unknown (due to the lack of a registration requirement) and may need to be addressed as part of the implementation of a registration system for exempt bodies in Victoria.¹⁹³

Alternative Energy Sellers

When DEDJTR released its consultation paper, the GEO did not have a deemed category to cover the activities of alternative energy sellers. The paper considered a number of options, including licensing. However, this part of the review may no longer be as relevant due to the government passing specific legislation (see p. 45).

Modernising the Licensing Framework: the ESC review

The purpose of the ESC review is to modernise the licensing framework and in particular to examine what the ESC considers to be:

- A lack of flexibility and proportionality to respond to emerging energy technologies and business models – in particular, that the licence categories do not accommodate a number of industry developments such as decentralised supply and embedded generation, re-distribution and re-sale, aggregation, storage and sale of small scale generation.
- A lack of clarity and consistency between the Framework and the National regulation of electricity generation and energy networks, in particular how this licence regime operates together and potentially reduces unnecessary duplication.
- Inconsistency in conditions between licences, in particular core obligations of licensees, including on retail licensees to supply a customer with the *Energy Retail Code* and the obligation to make a standing offer. The review contemplates a need to provide certainty to consumers and retail licensees about the status of the ERC as a universal standard applying equally to all small customers.
- Inefficiencies in licence administration.

The driver for the review is a concern that the Framework is limiting innovation, stifling competition and contributing to higher prices. The ESC also expresses a view that this in turn may provide inadequate industry compliance and a loss of confidence by consumers in engaging in the market.

Key points

- The regulatory framework for consumer protection across the NEM is extremely complex, with an interplay of national, state and territory legislation creating different consumer protections across the eastern and southern states.
- Customers of exempt sellers generally have lower consumer protections, including lack of

¹⁹³ *Ibid.* p. 10–11.

access to the energy ombudsman.

- A number of regulatory reviews are underway at the national and state and territory level to improve clarity and address consumer protection in exempt networks.
- The AER supports ombudsman efforts to extend participation by exempt sellers through a range of potential actions including collaboration of effort.
- Outcomes from reviews of the Victorian licensing framework and GEO are imminent and will further clarify consumer protections in that state.
- Other states are also considering their exempt selling laws.

Access to dispute resolution

While energy ombudsmen have jurisdiction to consider most complaints about energy market issues, there are a range of matters that fall outside of the schemes' remit. In these cases, consumers do have other avenues for EDR and complaint, although these are typically less accessible and effective.

Energy ombudsmen

Energy ombudsmen are the primary avenue for EDR in the energy industry. The schemes, which were set up with the intention that they would be a one-stop shop for energy complaints, have broad jurisdiction and are able to deal with disputes about most energy issues. Although a number of new and emerging products and services do not fall within jurisdiction, disputes about many of the innovations identified in our scan of the market could still be considered by the ombudsmen.

As well as having the widest remit, the energy ombudsman schemes are widely agreed to be the most effective EDR avenue for energy consumers. Generally speaking, the industry ombudsman model is one that tends to attract fairly strong support in Australia. In its 2014 review of access to justice arrangements, for example, the Productivity Commission found a general stakeholder consensus that ombudsmen provide a timely and effective service with good outcomes.¹⁹⁴ Internationally, too, there is broad agreement that the spread of the ombudsman model has improved access to justice and redress for consumers.¹⁹⁵

With regard to the energy ombudsmen in particular, this support was echoed by the cross-section of stakeholders who we spoke to. Support appeared strongest in the consumer sector, where advocates are keenly aware of the consumer benefits of a dispute resolution service that is accessible, informal, fast and free for consumers. Regulators, too, expressed support for the schemes, which they consider effective in design and in practice. While industry stakeholders did highlight the cost of the schemes, they were also broadly supportive of the ombudsman approach, noting, for example, the benefits of a neutral third party to bring parties together to resolve problems, including systemic issues. Across all sectors, a number of stakeholders noted the importance of specialist expertise in energy dispute resolution.

Scheme jurisdiction

The jurisdiction of the energy ombudsman schemes – which complaints they can and cannot consider – is set out in legislation and in each schemes' governance documents. At base, scheme jurisdiction is tied to the traditional market through legislative and governance requirements linking jurisdiction to scheme membership, which is in turn tied to licensing and authorisation.

¹⁹⁴ Productivity Commission (PC), 5 September 2014, *Access to Justice Arrangements Inquiry Report*, Vol. 1, p. 318.

¹⁹⁵ Chris Gill et al, 15 July 2013, *The future of ombudsman schemes: drivers for change and strategic responses*, Queen Margaret University, Edinburgh, p. 9.

On top of these basic membership requirements, the schemes' governance documents set out a range of fairly standardised rules covering matters such as who may make a complaint, how, and within what timeframes. All schemes will also rule out a complaint (or a component of it) currently, previously or more appropriately considered in another forum, such as the courts; and all have discretion to exclude complaints that they consider frivolous or vexatious, without merit or made not in good faith.

Membership

Scheme membership is the primary determinant of whether an energy ombudsman has jurisdiction to consider a complaint about a particular entity. For all three schemes, jurisdiction extends to members' employees, agents and contractors.

In Victoria, the *Electricity Industry Act 2000* and the *Gas Industry Act 2001* require that electricity distribution and retail licences contain a condition obliging the licensee to enter into an ESC-approved dispute resolution scheme – EWOV being the only such scheme.¹⁹⁶ Licence-holders apply in writing to join and, upon approval by the EWOV Board, become 'members' of the scheme.¹⁹⁷ LPG retailers who agree to comply with the voluntary *Victorian LPG Retail Code* are also required to join the EWOV scheme as members and to agree to be bound by EWOV's decisions.¹⁹⁸

Similarly, as a condition of their licences, electricity and gas distributors in NSW are required to join, be bound by and comply with the decisions of an ombudsman scheme approved by the Minister – in other words, EWON – under the *Electricity Supply Act 1995* and the *Gas Supply Act 1996*.¹⁹⁹ Under the *National Energy Retail Law* (NSW), retailers and distributors must also be members of (or otherwise subject to) and comply with the requirements of an energy ombudsman scheme with respect to their operations in NSW.²⁰⁰

Energy and Water Ombudsman (SA) (EWOSA) membership works in a similar manner to EWON. Under the *Electricity Act 1996*, transmission and distribution and licence-holders and retailers selling to small customers must have a condition in their licences requiring their participation in an ombudsman scheme approved by the Essential Services Commission of South Australia (ESCOSA).²⁰¹ Under the *Gas Act 1997*, distribution licence-holders must have a condition in their licences requiring their participation in an ombudsman scheme approved by ESCOSA, and retailers must have a condition in their licences requiring a specified process be followed to resolve disputes with their customers.²⁰² In addition, retailers authorised under the *National Energy Retail Law* (SA) must participate in an ombudsman scheme.²⁰³ The *National Energy Retail Law* (SA) itself also prescribes that energy retailers and distributors must be members of (or otherwise subject to) and comply with the requirements of an energy ombudsman scheme with respect to their operations in SA.²⁰⁴

This membership mechanism brings a number of the innovations identified in our market scan into the jurisdiction of the energy ombudsmen. For example, while Reposit's hardware and software and the functioning of its HEM system are out of jurisdiction, GridCredits tariff and billing matters could be considered. Similarly, future retailer-led applications of VNM could be in jurisdiction. New retailers

¹⁹⁶ *Electricity Industry Act 2000* (Vic) s. 28 (1); *Gas Industry Act 2001* (Vic) s. 36.

¹⁹⁷ EWOV, 2010, *Constitution of Energy and Water Ombudsman (Victoria) Limited*, c. 8.

¹⁹⁸ Australian Liquefied Petroleum Gas Association Limited, 2009, *Victorian LPG Retail Code – Version 2*, cc. 1.1 and s. 21.4.

¹⁹⁹ *Electricity Supply Act 1995* (NSW) s. 96C; *Gas Supply Act 1996* (NSW) s. 11A.

²⁰⁰ *National Energy Retail Law* (NSW) ss. 86(1) and 86(2).

²⁰¹ *Electricity Act 1996* (SA) Part 3, Division 1, ss. 23(1)(k) and 24(2)(l).

²⁰² *Gas Act 1997* (A) ss. 26 and 26A.

²⁰³ *Electricity Act 1996* (SA) Part 6A, s. 63AC(1) and *Gas Act 1997* (SA) Part 5A, s. 59B.

²⁰⁴ *National Energy Retail Law* (SA) ss. 86(1) and 86(2).

Mojo Power and Enova Energy are EWON members, and although some of their activities may not be covered, their new pricing models do not raise jurisdictional issues.

Other participation mechanisms

In addition to these membership requirements, EWOV and EWOSA both have additional mechanisms for voluntary scheme participation. EWOV can make an agreement with other (unlicensed) energy industry entities (labelled 'contracting participants') for them to comply with the scheme in relation to agreed aspects of the electricity or gas services that they provide.²⁰⁵ Licensed entities who are members of EWOV can also use the 'contracting participants' mechanism to include within EWOV's remit energy service matters that would otherwise be out of jurisdiction.²⁰⁶

EWOSA's Constitution and Charter stipulate that entities exempt from licensing requirements (including under the *Electricity Act*, *Gas Act* or the NERL) may nevertheless agree to participate in and comply with the scheme.²⁰⁷ Although this could in theory facilitate the participation of exempt energy sellers, the mechanism was developed with small water entities in mind and has only been used for that purpose.

In NSW, the *Electricity Supply Act 1995* and the *Electricity Supply (General) Regulation 2014* contain provisions allowing the ombudsman to deal with complaints concerning exempt sellers. However, exempt sellers are not required to be members of the scheme, and as such, although EWON can handle complaints, it can neither recover fees and charges nor impose binding decisions upon exempt sellers.

This impacts on the effectiveness of the service and means that the cost of handling exempt seller cases is paid by scheme members, including water businesses.²⁰⁸ The decision to manage exempt seller complaint costs in this way was made some years ago, when exempt selling was a more marginal phenomenon and complaint numbers were expected to remain low.²⁰⁹ Indeed, EWON currently receives relatively few complaints about exempt sellers – ranging from between around 80 up to around 100 complaints per year over the last four years²¹⁰ – and the growth in AER retail exemptions has not, to date, been reflected in an increase in complaints.

Nevertheless, among the NSW stakeholders we spoke with, there was growing concern about the cross-subsidy to exempt sellers. One stakeholder argued that this cross-subsidy was particularly problematic because the ombudsman was, in any case, a 'toothless tiger' in exempt selling complaints. There was broader concern about potential for cross-subsidy to increase as a growing proportion of energy market transactions occur under exempt selling arrangements. It should also be noted that low complaint numbers do not necessarily indicate an absence of problems. With regard to exempt selling in particular, inconsistent and often poor consumer information provision about dispute resolution options is likely to play a part in low complaint numbers.

In NSW, EWON also has jurisdiction to consider complaints about exempt solar PPA providers, including the retailer subsidiaries identified in our market scan, although again, it cannot impose binding decisions or recover charges. Interestingly, in its application for a retail exemption to offer PPA products, AGL Energy Services Pty Ltd stated that 'AGL Solar customers will also be given access

²⁰⁵ EWOV, 30 May 2006, *Energy and Water Ombudsman Charter*, c. 1.1.

²⁰⁶ EWOV, 2006, *Charter*, c. 2.3.

²⁰⁷ EWOSA, *Constitution of Energy and Water Ombudsman (SA) Limited as amended 25 June 2014*, ss. 7.1 (e) and (f); Energy and Water Ombudsman (SA), 2013, *Charter of Energy and Water Ombudsman (SA) Limited*, s. 4.1.

²⁰⁸ EWON, 2016, *Rising Inequality in the energy market*, p. 9.

²⁰⁹ *Ibid.*

²¹⁰ Data supplied by EWON.

to jurisdictional ombudsman schemes where available'.²¹¹ It is not entirely clear how 'where available' should be interpreted, but if it wished, AGL could presumably make the ombudsman service available to its solar customers in Victoria and SA by way of EWOV's contracting participant mechanism and EWOSA's voluntary participation option for exempt sellers. To our knowledge, however, it has not taken steps to do so.

Matters in and out of jurisdiction

Each of the schemes also sets out in its governance documents which complaint matters are in and out of jurisdiction. All three schemes exclude complaints about the content of policy and regulation, as well as price setting and matters outside of the control of the participant or member. Crucially in the context of this report, complaints about some of the commercial activities of members and participants are also excluded from jurisdiction. **Table 5** shows the relevant Charter clauses for each scheme.

Table 5: Ombudsman scheme Charters on out of jurisdiction member activities

EWOV
'The functions of the ombudsman do not extend to complaints relating to: [...] (b) commercial activities of a Participant which are: (i) (in the case of a Participant which holds one or more licences in relation to its water, electricity or gas services and is not a Contracting Participant) outside the scope of the Participant's licence(s); (ii) (in the case of a Participant which does not hold any licence in relation to its water, electricity or gas services), commercial activities which are not within or closely related to the core water, electricity or gas services provided by that Participant; or (iii) (in the case of a Participant which both holds one or more licences in relation to its water, electricity or gas services and is, in relation to other water, electricity or gas services provided by it, a Contracting Participant) outside the scope of the Participant's licence(s) and not within or closely related to the water, electricity or gas services in relation to which that Participant is a Contracting Participant' – EWOV Charter 4.2
EWON
'EWON will not consider a Complaint, or the parts of a Complaint, that in the opinion of EWON: [...] (f) is not sufficiently related to the provision of Energy [...] Services and instead relates to other commercial activities of the Member' 'Energy Services' are defined as 'the product or service provided to satisfy an energy demand or need in New South Wales and includes the transmission, distribution, connection, supply and retailing of the energy source; [...] and commercial arrangements associated with these activities' – EWON Charter 5,1 & 1.1
EWOSA
'The jurisdiction of the ombudsman does not extend to complaints relating to: [...] (c) commercial activities which are outside the scope of the Member's licence and in the case of a Member which does not hold a licence, commercial activities which are not within or closely related to the core services provided by such member' – EWOSA Charter 5.2

In NSW, EWON's Charter rules out complaints about commercial activities of its members that are 'not sufficiently related to the provision of energy services', defined as the 'product or service provided to satisfy an energy demand or need' including the 'transmission, distribution, connection, supply and retailing of the energy source' and associated commercial arrangements.

²¹¹ AGL Energy Services Pty Limited, 30 September 2014, *Application to Australian Energy Regulator for Individual Exemption under the National Energy Retail Law*.

For EWOV and EWOSA, this exclusion is again linked to licensing: commercial activities that are not covered by the member's licence/s are considered out of jurisdiction. WINenergy, which in Victoria is both a licensed retailer and an embedded network operator, offers one example of how this plays out in practice. WINenergy's retail licence covers its activities retailing electricity to medium and large customers,²¹² including bulk sale to the embedded networks that it itself operates.²¹³ As WINenergy's licence does not cover on-selling to residential customers within those embedded networks, EWOV cannot handle complaints from these customers. In the first three-quarters of the 2015–16 financial year, EWOV registered 53 such WINenergy cases, most of which were then referred to Consumer Affairs Victoria (CAV).²¹⁴

Out of jurisdiction cases

Consumers are rarely aware of the limits to the energy ombudsman's remit, and so all of the schemes receive some cases that are out of jurisdiction. We requested case data from each of the schemes about out of jurisdiction cases that were both related to energy and from customers within the state. Data supplied showed that EWOV, EWON and EWOSA have different ways of capturing and recording information about cases that are out of jurisdiction, and unfortunately, the data we received is not comparable across schemes (Tables 6, 7 and 8). There also appear to be data quality issues, with somewhat patchy and inconsistent recording of detail on out of jurisdiction cases²¹⁵ – understandably, given the schemes' focus on core business of resolving disputes that are within jurisdiction.

Table 6. EWOV out of jurisdiction energy cases,²¹⁶ 2014–15

Type	No.	%
Non-scheme participant	379	46%
Private solar installer	351	43%
Commercial activities out of scope	92	11%
TOTAL	822	100%

Table 7. EWON out of jurisdiction energy cases, 2014–15

Type	No.	%
Other ²¹⁷	259	62%
Solar	101	24%
LPG	44	11%
Switching site/broker	9	2%
Credit repair	3	1%
TOTAL	416	100%

²¹² ESC, 19 June 2013, *Electricity Retail Licence – WINenergy Pty Ltd (ABN 71 112 175 710) trading as WINauspower*, p. 6.

²¹³ WINenergy, 21 September 2012, *Application for Electricity Retailer Authorisation*, application to the ESC.

²¹⁴ Data supplied by EWOV.

²¹⁵ For example, many cases recorded by EWOV as 'non-scheme participant' and 'private installer' cases were nevertheless allocated against a member energy retailer.

²¹⁶ Data supplied by EWOV excluded cases out of jurisdiction for reasons not relevant to the research, such as because they concerned pricing or policy issues.

²¹⁷ This category includes landlord/tenant disputes, commercial disputes and incomplete records where the main issue could not be identified.

Table 8. EWOSA out of jurisdiction energy cases, 2014–15

Type	No.	%
Solar installer	132	40%
Pricing	100	30%
Other ombudsman	86	26%
LPG	10	3%
Capital contribution/timeframe/other	5	1%
TOTAL	333	100%

This data is not firm, making it difficult to assess how many energy-related but out of jurisdiction cases each scheme receives. The picture becomes even murkier if we try to determine what proportion of these cases concern issues that arguably should be included within jurisdiction – such as energy on-selling or an electricity retailer's solar PPA – and which concern, for example, policy or pricing issues. It is clear, nevertheless, that each scheme receives some out of jurisdiction cases about the excluded commercial activities of energy members, as well as a number of cases about private solar installers.

More detailed EWOV data and EWOV's analyses elsewhere also show that it received out of jurisdiction cases from customers in embedded networks, and that such cases have increased in recent years – reaching 154 in 2014–15, almost three times higher than the 2011–12 number (63), and a 40% increase over 2013–14 (110 cases).²¹⁸ EWOSA advised us that from the beginning of the 2016–17 financial year it will identify embedded network and off-grid cases in its out of jurisdiction data.

Other energy dispute resolution forums

Consumers who find that their complaint cannot be handled by an energy ombudsman generally have other avenues for complaint, advice and information, and dispute resolution: these include consumer regulators, courts and tribunals, other industry ombudsmen and industry codes. Energy ombudsmen refer customers with out of jurisdiction complaints to these other forums, which also receive enquiries and complaints directly.

Consumer regulators

Under the 'multiple regulator' model, the ACL is jointly enforced by the ACCC and consumer agencies in each state and territory. These state-based consumer agencies can assist with a range of energy-related issues that fall under the ACL but that are not covered (or only partially covered) by energy-specific frameworks.²¹⁹ Among the matters that would fall under this category are those associated with solar and storage hardware and HEM systems.

Although these regulators do help to resolve disputes between traders and consumers about goods and services covered by the ACL,²²⁰ they typically focus on providing information and advice, taking on a direct dispute resolution role in only a small number of cases. Where ACL regulators do intervene

²¹⁸ EWOV, 6 August 2015, Submission to the Review of the General Exemption Order – Issues Paper, p. 2.

²¹⁹ Some issues, such as marketing, are covered in both the ACL and energy-specific legislation, codes and guidelines.

²²⁰ Commonwealth of Australia, 2010, *Compliance and Enforcement – How regulators enforce the Australian Consumer Law*, p.6.

directly in dispute resolution, they take an informal approach and do not have the power to force traders or consumers to settle a dispute.²²¹

Consumer Affairs Victoria

Victoria's consumer law regulator, CAV, has a limited dispute resolution function. In 2014–15 it resolved a total of 8,975 disputes, one-third fewer than in the previous year – a trend that reflects CAV's deliberate shift away from dispute resolution in favour of 'providing information and advice so that consumers can resolve their own disputes'.²²²

While CAV does handle a range of energy-related enquiries and disputes, these have decreased markedly in recent years. Interestingly, CAV appears to receive fewer embedded network complaints than the numbers referred to it by EWOV, which would seem to suggest that many customers do not continue to pursue a complaint after finding that EWOV is unable to assist them.

Fair Trading NSW

In NSW, Fair Trading offers consumer information and advice to help consumers resolve disputes; it also in some cases attempts to negotiate settlements with a trader on behalf of a consumer.²²³ While Fair Trading, like CAV, emphasises information and advice, it plays a greater dispute resolution role than its Victorian counterpart, handling 45,108 complaints in 2013–14.²²⁴ Fair Trading deals with LPG matters – which are out of EWON's jurisdiction – as well as solar hardware issues. Like CAV, Fair Trading previously received substantial complaints about energy marketing. Customers of exempt sellers also have the additional option of complaining to Fair Trading about breaches of the ACL. In our discussion with Fair Trading, they noted that NSW consumers are better-informed about EWON's energy role; as such, referrals more often flow from EWON to Fair Trading than in the other direction.

Consumer and Business Services

In SA, the state consumer regulator is Consumer and Business Services (CBS), which has a section that provides consumer advice and alternative dispute resolution. Of the total 4,087 complaints that CBS handled in the 2014–15 financial year, 310 (8%) concerned electricity or utilities issues. This included 280 electrical complaints (including solar panel system issues) within its residential building construction complaint category and 30 utilities and fuel supply complaints within the category of general services.²²⁵

Role and effectiveness

We heard criticism of state consumer regulators from some of the stakeholders we spoke to. One consumer sector stakeholder argued that the state agency does not provide satisfactory dispute resolution for consumers, and criticised the lack of transparency about dispute outcomes. Other stakeholders were less critical, but noted the constraints on state regulators' capacity to handle energy disputes and variation in performance across states. With regard to exempt selling, the lower standard of consumer protections also limits what state agencies can do to assist these customers. Consumer regulators themselves are likely to favour an approach that instead enables customers of on-sellers in embedded networks to take disputes to an ombudsman.

²²¹ Commonwealth, 2010, *Compliance and Enforcement*, p.12.

²²² Consumer Affairs Victoria (CAV), *Report on Operations 2014–15: Making markets fair*, p. 16.

²²³ NSW Fair Trading, 'Our services', Fair Trading website (accessed 11 June 2016).

²²⁴ NSW Fair Trading, 2014, *Year in Review 2013–14*, p. 11.

²²⁵ Government of South Australia Attorney-General's Department, 2015, *Consumer and Business Services CBS Annual Report 2014–15*, pp. 23, 25.

Courts and tribunals

Consumers also have the option of escalating a dispute to a state small claims court or tribunal, which may produce direct resolution and redress for the individual consumer concerned. In Victoria, VCAT is the primary dispute resolution forum for consumers to resolve disputes with embedded networks.²²⁶ VCAT's Civil Claims List also hears cases about goods and services supplied in Victoria.²²⁷

The NSW Civil and Administrative Tribunal (NCAT) is a similar amalgamated one-stop shop tribunal whose Consumer and Commercial Division handles a wide range of disputes including those to do with the supply of goods and services, residential and retail tenancies, retirement villages, boarding houses, holiday parks, social housing providers and residential communities.²²⁸ EWON refers many out of jurisdiction matters to NCAT, including solar, LPG and switching site and broker complaints.²²⁹

In South Australia, the South Australian Civil and Administrative Tribunal (SACAT) has a more limited remit, but handles disputes about tenancy-related issues.²³⁰ The South Australia Magistrates Court hears minor civil claims about faulty services as well as some disputes between landlords and tenants.²³¹

In addition to rights to pursue disputes through these 'small claims' tribunal processes, consumers may also pursue legal action through the courts (most likely Magistrates Courts in Victoria and SA and Local Court in NSW), but the costs are likely to be prohibitive.

Role and effectiveness

While these tribunals aim to be accessible, efficient, effective and responsive, there is broad agreement that they are a much less desirable dispute resolution avenue than energy ombudsmen. A broad cross-section of the stakeholders we spoke with – including regulators, industry and consumer advocates – noted that courts and tribunals lack specialist energy expertise and have processes that are more expensive, intimidating and cumbersome for consumers.

These drawbacks have also been noted in policy reviews. The Productivity Commission's 2014 Inquiry into Australia's Access to Justice Arrangements, for example, found that tribunals were not always meeting expectations for a low-cost, informal dispute resolution.²³² Similarly, DEDJTR in its current review of the Victoria GEO acknowledges EWON's 'many advantages' over VCAT as a forum for energy dispute resolution, arguing that EWON is 'accessible, free for consumers, less litigious in its approach to resolving complaints and has expert knowledge of the energy regulatory framework'.²³³

It is also worth noting here that from a consumer perspective, the jurisdiction of these courts and tribunals to handle energy-related matters is by no means obvious or clear. Their websites note complex internal divisions, each with their own areas of coverage and rules for inclusion and exclusion – none of which are comprehensively described or especially intuitive. None of the websites make reference to energy, electricity or any specific industry issues. This opacity is another barrier to access; it also highlights how important it is that energy industry players offer clear consumer advice about when and how tribunals and courts are an appropriate avenue for energy dispute resolution.

²²⁶ DEDJTR, 2015, *Review of the General Exemption Order Issues Paper*, p. 10.

²²⁷ VCAT, 'Civil Disputes', VCAT website (accessed 11 June 2016).

²²⁸ NCAT, 'About NCAT', NCAT website (accessed 11 June 2016).

²²⁹ Out of jurisdiction case data provided by EWON.

²³⁰ SACAT, 'About SACAT', SACAT website (accessed 11 June 2016).

²³¹ Courts Administration Authority of South Australia, 'Civil jurisdiction', Courts SA website (accessed 11 June 2016).

²³² PC, 2014, *Access to Justice Arrangements*, p. 345.

²³³ DEDJTR, 2015, *Review of the GEO Issues Paper*, p. 10.

Clean Energy Council

In the solar industry, consumers also have complaint avenues associated with voluntary retail and installation codes administered by the Clean Energy Council (CEC), the peak body representing Australia's renewable energy industry. While both of these codes provide an avenue for complaint, the processes are focused on preventing future breaches and may not produce direct redress for the customer.

The *Solar PV Retailer Code of Conduct* promotes best practice in the sale of solar PV systems and contains standards on pre- and post-sale activities including advertising, quoting and sales, contracting and grid connection.²³⁴ Consumers who believe that a CEC-approved retailer has breached the code can submit a complaint online, which the CEC may investigate to determine whether a breach occurred. The CEC informs customers of the investigation outcome²³⁵ and may impose a sanction ranging from a requirement for a written undertaking that the breach will not be repeated to public naming and appointment of an independent auditor.²³⁶

The *Accreditation Code of Conduct* applies to all CEC-accredited solar installers (individual tradespeople) and sets out the standards of conduct expected of solar system designers and installers, including where systems incorporate battery storage.²³⁷ Where a customer has a complaint about faulty installation workmanship, they can lodge a dispute via the CEC website.²³⁸ The CEC has a demerit point and suspension system where installers breach the code or fail to observe Australian standards on installation.²³⁹

Other ombudsmen

Occasionally, disputes related in some way to energy may fall under the jurisdiction of an ombudsman scheme in another sector. The key example of this is customers who have purchased solar panels or battery storage using third party finance, who will have access to the Financial Ombudsman Service (Australia) (FOS) or the Credit and Investments Ombudsman should a dispute arise with the credit provider.

Consumer information about dispute resolution

If a dispute resolution system is to be effective, customers need to know about, or be directed to, the relevant EDR services.²⁴⁰ Accurate and accessible written information plays an important role in achieving this awareness.

Embedded network on-selling

To add to our understanding of the energy EDR system in an area (mostly) outside of energy ombudsman jurisdiction, we audited the consumer information about EDR provided by a sample of embedded network operators and energy and consumer regulators.²⁴¹

²³⁴ Clean Energy Council (CEC), October 2015, *Solar Retailer Code of Conduct*.

²³⁵ CEC, October 2015, *Solar Retailer Code of Conduct Complaints Procedure*.

²³⁶ CEC, October 2015, *Solar Retailer Code of Conduct*, p. 32.

²³⁷ CEC, 'Accreditation Code of Conduct', CEC website (accessed 11 June 2016); CEC, 2015, *Solar Retailer Code of Conduct*, p. 32.

²³⁸ CEC, 'Dispute form', CEC website (accessed 11 June 2016).

²³⁹ CEC, 14 February 2013, *Relevant CEC Terms and Conditions for demerit points and suspensions*.

²⁴⁰ Commonwealth, 2016, *ACL Review – Issues Paper*, p. 46.

²⁴¹ Sources are listed in **Appendix C**.

Information from embedded network operators

For embedded networks, we audited the dispute resolution information publicly available on the websites of some of the key embedded network operators, focusing on businesses that have more developed consumer interfaces on their public websites. The audit took in information on main webpages and in linked documents, such as Terms & Conditions, Customer Charters and Complaint Handling policies. Results should be considered indicative: we reviewed only a sample of providers and were limited to publicly available information, which may be different or more limited than that provided directly to consumers.

Positively, most of embedded network operators we audited offered fairly comprehensive information about internal dispute resolution (IDR) processes (Table 10).

Table 10. Embedded network operator consumer information on IDR

Operator	Policy, procedure or process	Complaint contact details	Internal complaint escalation
WINenergy	✓	✓	✓
Active Utilities	✓	✓	✓
ENSA	✓	✓	✓
Network Energy Services	×	×	×
OC Energy	✓	✓	×
Energy-ON	✓	✓	✓

Most of the websites we reviewed either made available or referenced a policy, procedure or process for handling complaints, and provided contact details for complaint purposes (either a general customer service or specific complaints contact). Most operators also advised customers of the availability of internal escalation. The main exception was Network Energy Services, whose website contained information about billing, payment, concessions and hardship, but no complaints information.

While IDR information was generally adequate, we found that information about EDR avenues was patchy and often incorrect and/or inconsistent (Box 3).

Box 3. Embedded network operator consumer information on EDR

WINenergy's website notes that customers have access to third party resolution. Its 'FAQ' correctly advises consumers that they can contact the 'relevant tribunal in your state' for dispute resolution, listing VCAT and NCAT as examples. It also states that 'WINenergy act on behalf of the exempt seller and therefore are exempt from state Ombudsman schemes.'

Active Utilities has information about EDR options in both its *Complaints Handling Policy* and its *Power Supply Terms and Conditions*, which includes supplementary conditions for each jurisdiction. This information is conflicting and incomplete.

The *Complaints Handling Policy*, which also covers Active Utilities' telecommunications services, states that Active Utilities will inform customers who are dissatisfied with its IDR 'about your options for EDR such as the TIO and/or the AER'. It makes a number of similar references to the AER and goes on to provide AER contact details alongside TIO details under an 'External Contacts' heading.

Its *Power Supply Terms and Conditions*, on the other hand, correctly references court or tribunal avenues:

'If You are not satisfied with the outcome of the dispute resolution procedure set out in this clause 9 You may have the matter heard by the appropriate Court or Tribunal in the State in which the Services are provided to You by Us. In this regard, please contact Us if you require details of the appropriate Court or Tribunal.'

Supplementary Terms and Conditions for Victoria make a more specific reference to VCAT, while Terms and Conditions for NSW contain no additional EDR information (and no reference to EWON).

ENSA's Terms & Conditions state that 'where ENSA is unable to resolve the complaint or dispute through negotiation, The Customer may take the complaint to either the Ombudsman or the Small Claims Tribunal (where the retailer is an Embedded Network)'. 'Ombudsman' is then defined as 'the Energy Ombudsman scheme operating in the State where your supply address is located'.

An FAQ page on ENSA's website also references ombudsmen in relation to billing investigations: 'if you want to dispute the investigation's findings, your State Ombudsman may be of assistance.'

Although **OC Energy** does not directly refer its customers to an ombudsman, it makes two incidental references to ombudsman complaints.

Describing specific marketing complaint processes, its *Complaint Handling Policy* states that: 'we will [...] ensure that we provided all required information to you [...] including [...] your right to complain to us in respect of any energy marketing activity of the retail marketer conducted on behalf of us and, if the complaint is not satisfactorily resolved by the us [sic], of the your [sic] right to complain to the energy ombudsman'.

Its *Customer Charter* also implies that customers can access the ombudsman in its discussion of disconnection procedures: 'You will not be disconnected in any of the following circumstances: [...] if any formal complaint you have made to an Energy and Water Ombudsman, directly related to the reason for disconnection, remains unresolved'.

Energy-ON's Complaint Handling Policy states: 'It is important to note that the Energy Ombudsman in each state does not have the authority to manage complaints on behalf of customers in an Embedded Network. Notwithstanding this fact, Energy-ON acts in all dealings with its customers in a fair and balanced way and agrees to submit to an independent body for resolution of a dispute if required.'

A later section of the policy then states that 'if, after a period of time, the complaint remains unresolved, you may request that it be referred for mediation to the Institute of Arbitrators and Mediators, Australia, or any successor body.'

Clearly, customers in embedded networks are being given confusing and sometimes contradictory and incorrect information about the EDR avenues open to them. It seems that in some cases, this reflects embedded network operators' own lack of understanding of both the regulatory framework and the EDR avenues that apply to exempt selling in the states in which they operate.

WINenergy advises its customers that the reason they cannot complain to the ombudsman (even in NSW) is because WINenergy is not itself the exempt seller, but only acts on its behalf. This raises a critical issue about the relationship between exempt sellers and embedded network operators in relation to ombudsman jurisdiction.

Information from other sources

As well as referring to their providers, embedded network customers may go to a range of other sources for information about EDR options. We reviewed the information about embedded networks and energy complaints provided by consumer and energy regulators on their websites. This review revealed that these sources do not address embedded network customers when offering general energy dispute advice, while EDR information targeted specifically at embedded network customers is not always comprehensive or helpful.

Table 11 summarises the consumer information available on energy regulator websites.

Table 11. Energy regulators – Consumer information about embedded networks and complaints

	AER	AER (EME)	ESC (Vic)	IPART	ESCOSA
Website has a 'complaints' page	✓	✓	✗ ²⁴²	✓	✓
• complaints page describes IDR process	✓	✓	✗	✓	✓
• complaints page references/links to ombudsman	✓	✓	✗	✓	✓
• complaints page addresses embedded networks	✗	✗	✗	✗	✗
Website has embedded networks page(s)	✓	✓	✗	✗ ²⁴³	✗
• embedded network page identifies EDR options	✓	✓	✗	✗	✗

As Table 11 shows, most energy regulator websites have a dedicated page with consumer information about making complaints and resolving disputes with energy retailers. These pages all offer advice on making a direct retailer complaint as well as explaining the ombudsman role and linking to ombudsman websites. However, none of these pages mention the exclusion of embedded network customers or explain where they can go with complaints.

In addition to its complaint pages, the AER has pages with information for embedded network customers on both its general and its Energy Made Easy websites. Interestingly, Energy Made Easy advises embedded network customers (both residential and commercial) who cannot solve a problem directly to contact the AER itself via its telephone Infoline. The AER's general website, on the other hand, offers the following advice:

Can the energy ombudsman help with a problem?

In New South Wales, customers of exempt sellers can contact the Energy and Water Ombudsman NSW if they are unable to resolve an issue with their energy seller. Customers of exempt sellers in South Australia may be able to contact the Energy and Water Ombudsman SA but only if the exempt seller has become a member. In all other states and territories, energy customers in embedded networks can only contact their ombudsman if they buy their energy from an authorised retailer.

While this information is technically accurate, we do question its practical use for many embedded network customers. Although EWOSA could, in theory, accept embedded network members, this has not occurred in practice; information about this purely theoretical possibility therefore seems unnecessary and potentially unhelpful. At the same time, customers outside of NSW and SA are not given any advice on the EDR avenues that *are* open to them.

²⁴² The ESC website does not have a page specifically about complaints. However its 'About the Energy Industry' page for consumers refers consumers with questions or problems to the Victorian Government's *Switch On* website, which in turn refers to EWON.

²⁴³ However, a search on the IPART website does bring up a NSW Fair Trading document with detailed advice for residential park tenants, including information about EDR via NCAT and EWON.

Consumer regulators are a second potential information source. We reviewed the websites of state consumer regulators in Victoria, NSW and SA for information about energy and embedded networks specifically (Table 12).

Table 12. Consumer regulators – Consumer information about energy and embedded networks

	CAV	Fair Trading	CBS
Website has an energy dispute resolution page	✓	✓	✓
• energy page describes IDR process	✗	✓	✗
• energy page references/links to ombudsman	✓	✓	✓
• energy page addresses embedded networks	✗	✗	✗
Website has embedded networks page(s)	✓	✗	✓
• EDR avenues identified	ESC	✗	CBS, SACAT

In Victoria, CAV has a webpage with fairly in-depth information about embedded networks. This page identifies lack of access to EWOV as the 'main issue' for embedded network customers. Interestingly, it then advises customers with problems to contact the ESC, mentioning neither VCAT nor CAV's own dispute resolution services. Similarly, CAV's general energy disputes webpage²⁴⁴ notes that it handles some energy complaints, but does not include embedded networks in its list of energy matters. EWOV's out of jurisdiction case data also points to possible problems in CAV's referral processes, showing a number of embedded network (and solar and other) complaints that are referred from CAV to EWOV and then back to CAV, or on to a different body.

In NSW, the Fair Trading website has an electricity and gas dispute resolution page that explains the IDR process and directs customers to EWON. CBS in South Australia offers basic reference to EWOSA on a general energy advice page, and has a set of pages specifically about residential park tenancies which addresses electricity supply issues and directs tenants to CBS and SACAT for assistance.

²⁴⁴ Much of the information on this webpage is outdated.

Key points

- Energy ombudsman jurisdiction is broad but does not cover all energy market transactions.
- There is wide support for ombudsman schemes, which are generally seen as the most accessible and effective avenue for EDR in the energy market.
- While there are other EDR avenues for energy market transactions and issues that fall outside of energy ombudsman jurisdiction, these tend to be less accessible and/or effective than ombudsman schemes.
- Many embedded network operators appear to have appropriate IDR processes and to make information about these available to their customers. However, consumers in embedded networks are not provided with helpful, accurate and consistent information about their EDR options.

Future directions for energy ombudsmen

Comprehensive, appropriate market coverage is an essential foundation for industry-based customer dispute resolution: an effective ombudsman scheme should be able to deal with both the 'vast majority' of complaints in an industry, and with all aspects of such complaints.²⁴⁵ Energy ombudsman scheme jurisdiction, while it has been fairly static for some time, has come close to this ideal of comprehensive industry coverage – but this may soon come under threat.

Ombudsmen, regulators, industry and consumer groups have long been aware of the gap in scheme coverage presented by embedded networks. The rapid growth in AER registrable and individual exemptions, the proliferation of embedded network operator businesses, Australia's documented boom in high-density apartment development, and the disclosures and predictions of industry figures all point to growth in embedded network on-selling. Notwithstanding the lack of firm figures – itself the result of an inadequate regulatory framework – it is now clear that the number of customers buying energy from on-sellers in embedded networks is both substantial and likely to increase further. Included among this customer segment are some of the country's most vulnerable consumers in caravan and residential parks.

There is also sufficient evidence of emerging energy industry trends likely to create more gaps in ombudsman scheme coverage. Taking embedded networks one step further, we may soon see the emergence of new housing estates that are entirely disconnected from the main grid, and with it, the entire regulatory framework attached to the NEM. Meanwhile, the business models coalescing around solar and new battery storage technologies are also set to take at least a share of many customers' energy supply arrangements into a space that is comparatively unregulated and outside of current ombudsman jurisdiction.

We believe that these developments merit serious consideration and ongoing monitoring. Prompt action is also needed to address the now-urgent issue of access to effective EDR for the customers of embedded network on-sellers.

Ombudsman jurisdiction – what should be included?

As a first step, it would be useful for the ombudsman schemes to clarify their thinking on the principles that should underpin matters that come within their jurisdiction in the light of existing and emerging issues covered in this report. Such consideration should not be limited to the current legal

²⁴⁵ Australian Government Treasury, 2015, *Benchmarks for Industry-based Customer Dispute Resolution*, p. 8; Australian Government Treasury, 2015, *Key Practices for Industry-based Customer Dispute Resolution*, p. 21.

and regulatory restrictions on jurisdiction but look more laterally, providing added awareness for stakeholders as well as policy and regulatory development and review.

Broad coverage

This research has benefited from the views and insights of key stakeholders including on the major issue of jurisdiction. There was broad support for including, to the extent possible, most energy matters within the energy ombudsman schemes. Providing a simple one-stop shop destination was seen as important for consumers in eliminating confusion about where to seek assistance, although some regulatory bodies and industry representatives were agnostic on a one-stop shop approach, stressing that jurisdiction should be commensurate with risk.

There was general agreement that ombudsman schemes should cover all classes of consumers, particularly low-income and vulnerable consumers. A further consideration, particularly for these consumers, was the type of access provided by ombudsman schemes, which provide a best practice service, free, independent, informal dispute resolution where binding decisions can be made. This compares with state fair trading jurisdictions which are unable to resolve matters that do not conciliate, leading to more formal processes, time delays and costs associated with pursuing matters in tribunals. Many thought that tribunal processes pose particular problems for urgent supply issues and in particular, for vulnerable and disadvantaged consumers, for whom a more legal approach can be a strong disincentive.

Service/supply and product/hardware

On the service/supply versus product/hardware split, there were a range of views. Most acknowledged that for energy 'gadgets' or hardware components, complaints were appropriately dealt with through the ACL and state jurisdictions and tribunals, both because this would be commensurate with detriment and because state jurisdictions were well-placed to deal with products, warranties and so on.

What was less clear was the extent to which stakeholders thought the component parts of innovative generation comprise a supply 'service'. A number of stakeholders were struggling to unpick these transactions, and to decide whether the off-grid supply component of electricity in combination with on-grid supply should be considered as an essential service. Indeed, one regulator's response was that this is exactly what is needed, to pick all of the example transactions apart and determine appropriate complaint resolution for each.

We note that the AER's Exempt Selling Guideline distinguished the need for stronger consumer protections (individual exemptions) for PPAs where contracts exceed ten years. The Victorian Government has provided an exemption for small customer PPAs including a condition that dispute resolution will be through the ACL (with no reference to contract times).

Consumers put the view that the complexity of combining off-grid and on-grid supply, particularly as it relates to tariff components and accurate billing, is more complex than on-grid supply, and that therefore these transactions should sit firmly within the ombudsman scheme jurisdiction. One consumer advocate raised that there was some evidence that these supply combinations were being marketed by existing retailers to their hardship customers, with the off-grid component of supply provided through the retailer's exempt commercial business. The advocate suggested that it would be extremely difficult for these customers to understand why, should they have a payment difficulty in the future, they could take the retail component of their matter to the ombudsman but would be required to take the off-grid supply matter to their state or territory fair trading office.

We think that there are good reasons to consider an ongoing supply relationship as an appropriate principle for ombudsman access. There is a precedent for ombudsman scheme jurisdiction over product-related issues where they are part of an ongoing supply relationship. In telecommunications, the TIO *Terms of Reference* give it jurisdiction to deal with equipment-related complaints that concern hardware supplied by a member provider and that affect the consumer's access to the telecommunications service.²⁴⁶ Such matters include issues such as faults with and failure to supply handsets, routers and other equipment used to access the service.

No matter how energy is supplied, it remains an essential service. It is difficult to distinguish whether or not the supply is a discretionary or non-discretionary service, particularly when considering matters of payment difficult and disconnection. The very nature of the complexity of the service supply models we have examined in this report indicate that consumers are in fact more likely to confront problems with service reliability, quality, data and customer service-related. Ombudsman schemes would offer the kind of expertise necessary to deal with matters where there is an ongoing relationship with the seller. Conversely, in addition to hardware issues, there are other matters that are more appropriately handled through the statutory powers of the ACCC, Australian Securities and Investments Commission (ASIC) and state jurisdictions, such as product safety, insolvency, fraud, criminal matters and poor industry behaviour.

Embedded network on-selling

The implication of the principle that ongoing supply issues should attract the consumer protection of ombudsman access would require a rethinking of ombudsman jurisdiction. Ideally, embedded network on-selling should be brought into ombudsman jurisdiction. This is a longstanding issue impacting on a significant and growing number of people, with equity implications for consumers.

The AER has not only identified a concern about lack of ombudsman access in its *(Retail) Exempt Guideline*, but in its explanatory paper, positively encouraged ombudsman schemes to extend their jurisdiction. Similarly, the Victorian Government's GEO issues paper notes the view that ombudsman schemes are an appropriate dispute resolution option for exempt selling.²⁴⁷

All stakeholders expressed broad support for bringing exempt selling into the ombudsman schemes, with the caveats that this must be effective (including the ability to make binding decisions) and that funding mechanisms must be appropriate.

Consumer studies have also highlighted the equity issues for customers of embedded networks in apartment buildings. While owner-occupiers experience inequities, the position for tenants, particularly social housing tenants, is of special concern.

The Tenants Union of Victoria, in its submission to the GEO review, highlighted a number of issues for tenants of exempt networks, including lack of choice; confusion around concessions and rebates; lack of transparency of rates and billing (bills not received); additional fees often charged; and lack of information provided at the beginning of a tenancy agreement. It called for access to the EWOV to 'ensure that consumers in embedded networks are treated equally to other energy customers, with access to appropriate dispute resolution processes.'²⁴⁸

The SACOSS report focused on the lower consumer protections available for long-term residents in embedded network caravan and residential parks, citing the importance of those protections,

²⁴⁶ TIO, *Terms of Reference*, 'Complaints we handle' 2.7 (a) and (b).

²⁴⁷ AER, March 2016, *Notice of Final Instrument – (Retail) Exempt Selling Guideline Version 4.0*, p. 32.

²⁴⁸ Tenants Union of Victoria, September 2015, *Submission to the Review of the General Exemption Order Issues Paper*, p. 3.

including access to ombudsman schemes, to the surveyed residents.²⁴⁹ Caravan park and residential park owners have less capacity to engage with the ombudsman and the economic impacts are a more significant issue, yet, balanced against this is the fact that these residents are among the most vulnerable in the community. Their sometimes tenuous tenancy status makes complaint resolution more difficult. There was general support for including this exempt selling class in the ombudsman jurisdiction, with the proviso of working through the practical impediments of the funding model. It is noteworthy that the Victorian Caravan Parks Association supported inclusion in the EWOV in its submission to the GEO review.²⁵⁰

The issues relating to small business customers of commercial embedded networks was not a focus of this research. In interviews, embedded network service providers indicated that contrary to a commonly held view that commercial sites involve large businesses who are able to fend for themselves, many small businesses in commercial shopping centres, for example, are often struggling with costs and viability, may not have English as their first language and experience a significant power imbalance when transacting with owners. Embedded network service providers supported inclusion of commercial embedded networks in ombudsman jurisdiction. We note that further work is needed to better understand these issues in any consideration of jurisdiction.

Solar PPAs and other long-term arrangements

If the principle of ongoing relationship applies to ombudsman jurisdiction, then ideally ongoing relationships for solar and storage service would be included in jurisdiction. Given the predicted growth in the off-grid/on-grid supply model and the high upfront costs of purchasing solar and battery storage, it is likely that leasing models will persist and grow.

The solar and innovative technology industry, including community not-for-profit organisations, argued strongly as a sector to the AER and Victorian exempt selling review processes that consumer protections and ombudsman jurisdiction compliance would create significant barriers for start-up companies. There were mixed views on this in our stakeholder interviews, with some consumer representatives arguing that compliance is a basic condition of business. Retailer and distribution businesses supported the view that on-grid supply should be covered by the ombudsman, but defined off-grid supply as a private network.

Other matters

The particular problems of remote vulnerable communities being serviced by off-grid supply were raised by a couple of consumer groups, who noted that communities – including vulnerable Aboriginal communities – from time to time experienced off-supply periods of up to five days. If at all possible, consideration should be given to jurisdiction in these circumstances.

While the focus of this report has been on electricity, an obvious jurisdictional consideration should be the inclusion of Liquid Petroleum Gas in SA and NSW. Despite the fuel source being through gas canisters and replacements, it is a significant fuel for many consumers in regional and rural areas.

The nature of the financial services industry has meant that licensing is the default, and while ASIC has been very willing to tailor licence requirements, the requirement for ombudsman membership is the last one to be removed. Similarly, in the telecommunications industry, which has few barriers to entry, legislated TIO membership is one of only a few basic requirements on all market players. We think that a similar underpinning attitude is appropriate in energy: ombudsman access should be

²⁴⁹ SACOSS, 2015, *The Retail and Network Exemption Framework*.

²⁵⁰ Victorian Caravan Parks Association, 2015, *Response of the Victorian Caravan Parks Association to the Issues Paper Modernising Victoria's Energy Licence Framework*.

considered a basic consumer protection and a default position. It is exclusion, not inclusion, that should require specific justification.

It is possible that ombudsman schemes provide an even more important role where there are fewer consumer protections and a less vigorous monitoring and enforcement regime. Part of this role should be that of 'canary in the mine', where identification of consumer complaints and identification of systemic issues to the regulators serves as an important indicator of market health – a particularly important role in such a dynamically moving market.

Next steps

There are a number of complexities and issues to navigate in bringing about change, but there are some powerful drivers for this and some sensible directions for next steps. At the very least, each ombudsman scheme may find it useful to continue this conversation.

Making jurisdiction a strategic priority

We suggest that jurisdiction become a strategic priority for the current and future planning period for each individual scheme. We note that, in comparison with the other ombudsman schemes, energy and water jurisdiction has remained relatively static for some time. The AEMC, AER, AEMO, Victorian Government, ESC and the Queensland Government have processes in train to bring forward changes to address issues for consumers in embedded networks and to embrace the nation's changing energy technology mix. In this context, it is important for ombudsman schemes to determine their views and to engage with these changes. Schemes also have obligations to carry out feasibility studies prior to changing jurisdiction, the timing of which may be preceded by other steps including some of those listed below.

Collaborating with energy ombudsmen

There are considerable benefits in working collaboratively with the other energy ombudsman schemes nationally and, where possible, forming similar views on jurisdiction and funding models. The schemes already have an established network, the Australian and New Zealand Energy and Water Ombudsman Network (ANZEWO). This is a coalition of energy and water ombudsman schemes and offices. While it is not a formal or structured body, it is a collegiate network that operates to encourage support between the organisations and to work towards consistency and best practice. It may be possible to use this network (or a subset of this network) as a vehicle for a more formal ongoing forum for the development of approaches to jurisdiction.²⁵¹

Working with regulators

In interviews with regulators about the prerequisites necessary for expanding ombudsman jurisdiction to incorporate exempt networks, we sometimes had a circular discussion: what comes first, the chicken or the egg? In this case – what has to change first – the national and state/territory laws and regulations, or the ombudsman scheme's constitution?

The legal hook for those schemes operating in NECF states and territories is through the NERL. Section 88 of the NERL requires that any person or business who sells energy to another person for use at premises must have either a retailer authorisation or a retail exemption. Under the NERL

²⁵¹ ANZEWO members are: EWOV; EWON; EWOSA; Energy and Water Ombudsman Queensland; Energy and Water Ombudsman Western Australia; Energy Ombudsman Tasmania; Australian Capital Territory Civil and Administrative Tribunal; Electricity and Gas Complaints Commission, New Zealand.

retailers are required to offer the full suite of consumer protections, including that they must be a member of, or subject to an energy ombudsman scheme for each jurisdiction where it sells energy.²⁵²

The AER, in determining the provisions that pertain to the various classes of exemptions for exempt sellers of energy, must apply the exempt policy principles set out in the NERL. The exempt policy principles are designed to ensure that customers of exempt sellers are not unreasonably disadvantaged compared to customers of authorised retailers. In relation to access to customer protections (including access to ombudsman schemes), Section 114 (1)(c) states that 'exempt customers should, as far as practicable, not be denied customer protections afforded to retail customers under this Law and the Rules.'

As a matter of principle then, exempt customers should receive the same protections as customers of authorised retailers. However, the AER must also consider whether it is practicable for various classes of exempt sellers to provide the full suite of protections, taking into account the full set of policy principles or, in the event that they do not fall within a class of exempt sellers, by way of an individual exemption tailored to their arrangement. These considerations include:

- principles around the characteristics of the exempt seller including core versus incidental business
- characteristics of the exempt seller
- profit intentions
- amount of energy to be sold
- appropriate obligations governing the applicant's behaviour
- costs and benefits of obtaining a retailer authorisation
- consideration of customer-related factors
- other relevant seller-related matters.²⁵³

A change to the Rules and (subsequently the NERL and policy principles) may be necessary in order to change the AER's current determination on ombudsman access for particular classes or individual exempt sellers. A rule change through the AEMC can be initiated by any person, however, in this instance this would preferably be done through COAG.

An additional consideration is whether the AER is able to determine that an obligation be attached for membership of an energy ombudsman scheme if the scheme's constitution does not currently provide for this. This should be the subject of legal advice. We suggest that the schemes should immediately take up the AER's offer to work through these technical, regulatory and legal issues.

We note that there is the complication of state and territory laws that exclude certain exempt selling arrangements, such as off-grid supply, or in Victoria, PPAs. To the extent possible, it would be useful if the state policy makers could confer on these issues through the Standing Council on Energy to arrive at comparable policies and laws. We also suggest that the schemes include state policy makers in various forums relating to the next steps.

In Victoria, the obligation to be a member of EWOV does not apply to exempt bodies. However, the Victorian Government in its GEO review and the ESC in its licensing review are considering significant changes to the licensing and exemptions framework and the possible extension of these obligations to various exempt seller functions. We suggest that EWOV have further discussions about the matters raised in this report with both the Department and the ESC prior to these decisions being brought down.

²⁵² *National Energy Retail Law*, s. 88. A breach of this provision attracts a civil penalty.

²⁵³ These principles are set out in the *National Energy Retail Law* ss. 114–116.

More focused monitoring of the market would also assist in a better understanding of the extent and impact of exempt selling networks and future trends. A particular issue for consideration is whether competition in metering increases choice of retailer (and therefore potentially expands consumer protections including choice of retailer and access to ombudsman schemes). We appreciated that the AER was able to provide data on registered exempt sellers. However, as previously noted, more needs to be done to assist our knowledge and understanding of the volume, experiences and outcomes of end-use consumers in embedded networks. We suggest that additional sources of data be considered at the national level, through the AEMC. In Victoria, lack of registration presents a critical problem which needs to be addressed.

Bringing in embedded networks

We submit that a staged approach to addressing gaps in embedded network coverage is preferred. Work towards bringing the exempt network on-sellers in large apartment buildings into the schemes would be a logical first step. This could begin with a forum of key stakeholders to discuss issues, barriers and suggested approaches such as the establishment of a stakeholder working group(s), prior to conducting a formal feasibility study. Work on these processes could be shared across participating schemes.

The learning from this process could be used to guide further jurisdictional change. The work burden could be greatly reduced by scheme collaboration in areas such as working with a new industry sector, orientation for new members, the development of funding models, the development of internal knowledge and sharing of staff.

Despite the pressing equity issues, incorporating caravan park and residential park on-sellers into the schemes is a more complex exercise, involving larger number of providers, as well as capacity and funding issues. As EWON has jurisdiction, albeit constrained, we suggest that EWON may wish to take a lead on establishing a working group to explore approaches to jurisdictional change in consultation with the other schemes. A similar process could be developed for exploring solar and innovative technology jurisdiction with another scheme taking the lead.

Reconsidering the funding model

Clearly, any expansion of ombudsman scheme coverage to include smaller and more diverse players will necessitate a redesign of the funding model. This was a major theme in discussions with stakeholders, who almost universally identified a need for a fair, equitable funding model that limits cross-subsidy between members. Established retailers were particularly concerned about subsidising new entrants, and in NSW, there appeared to be a growing concern about the current funding approach with regard to exempt sellers. On the other hand, many acknowledged that small players could not afford high membership (or case) fees and suggested fees and charges proportionate to business size or market share.

Some stakeholders acknowledged that as well as apportioning costs fairly among members, the funding model needs to provide reliable base funding for the schemes to operate and, in particular, to maintain their expertise even at times when complaints are low. One raised the possibility of a more radical re-think of the funding approach, including consideration of a move away from 100 per cent direct industry funding to a combination of direct funding and funding via licensing fees.

Australian ombudsmen in other industries already deal with large and diverse memberships. While this clearly presents operational challenges, existing schemes illustrate a range of possible charging

approaches and demonstrate that it is possible to design funding models that accommodate diverse players.

Telecommunications Industry Ombudsman

The Telecommunications Industry Ombudsman (TIO), for example, has more than 1,500 members²⁵⁴ across three categories: carriers, carriage service providers, and 'other' members. These member companies have diverse offerings, from standard telephone services to Voice Over Internet Protocol (VOIP), internet and phone calling cards; and they range in size from start-ups and sole traders through to the multi-billion dollar companies Telstra, Optus and Vodafone. The scheme needs to manage a tension between its large and very small members, who have different interests.

At present, the TIO charges no membership fee, recovering costs purely on a complaints formula. Each year, members must pay 'Volume Related Costs', directly related to the number and relative cost of that member's complaints (including any special advice required), as well as 'Operating Costs', the share of which is based on the member's percentage share of total Volume Related Costs. The TIO Board can also charge special levies for capital or operating expenses, either to all members or to a class of members.²⁵⁵

Historically, the TIO has encountered difficulties enforcing membership and recovering charges from some of its members. These difficulties appear to be related in part to the fact that while carriers (network owners) require a licence, providers of services such as internet and phone calls do not; they are compelled to join the TIO not as a condition of licence or registration, but via a legislative requirement in the *Telecommunications (Consumer Protection and Service Standards) Act 1999*. In 2000, the TIO was forced to refer a number of members to the Australian Communications Authority²⁵⁶ for non-payment of debts.²⁵⁷ Today, the TIO has a specific procedure to deal with businesses that refuse to join the scheme or that fail to respond to communications, comply with decisions, or pay invoices.²⁵⁸

The TIO funding model is under review and may soon change. The scheme recently engaged KPMG to conduct a review of the model based on member input, financial modelling and research on comparable organisations, with options for an effective, consistent and sustainable funding approach to be put to the TIO Board in 2016.

Financial Ombudsman Service Australia

FOS has an equally diverse but even larger membership than the TIO. In 2015–16, FOS members numbered 14,107,²⁵⁹ ranging from individual authorised credit representatives through to big four banks. Around 80 per cent of the disputes FOS handles are generated by the top 100 financial service providers (FSPs).

FOS was created in 2008 from the merger of three schemes with different cost structures and funding models. After an initial period of transitional rates, FOS established a single regime incorporating a scaled membership fee; dispute fees based on the dispute stage reached; and a user charge derived from dispute volume in the previous year. Under this model, an FSP that generates no disputes pays

²⁵⁴ 1,539 as at June 30 2015. See: Telecommunications Industry Ombudsman (TIO), *2014–15 Annual Report*, p. 15.

²⁵⁵ TIO, *Constitution of Telecommunications Industry Ombudsman Limited*, s. 7 & 9.

²⁵⁶ A predecessor to the Australian Communications and Media Authority (ACMA).

²⁵⁷ Anita Stuhmcke, 2002, 'The rise of the Australian Telecommunications Industry Ombudsman', *Telecommunications Policy* 26, p. 74.

²⁵⁸ TIO, 'Refusal to Join or failure to comply with the TIO Scheme', TIO website (accessed 20 June 2016).

²⁵⁹ Comprising 4,849 licensees and 9,258 authorised credit representatives. See: Financial Ombudsman Service Australia, 2015, *Annual Review 2014–15*.

only the membership fee, which is as low as \$300 for a small financial planner. Where a dispute reaches the final Determination stage, however, costs can be very high – and must be paid even if the dispute is decided in the FSP's favour. To mitigate against this 'bill shock' potential, FOS has a rebate system for FSPs that only generate one dispute.

This model does present operational challenges. Designing a funding model that covers small, medium-sized and large members fairly while also maintaining some income stability is difficult. While 80 per cent of the scheme's costs are fixed, 80 per cent of its revenue is variable, which is not how one would run a typical business. FOS has had accounting firms consider alternative fee structures, and it recently conducted a major internal review of funding. While it has made tweaks, however, it has retained the initial model.

Funding model review

Designing a new funding model is, of course, a complex and detailed exercise. It is complicated further by uncertainty about both what jurisdictional changes are desirable and feasible, as well as the number and type of new members that would consequently be captured.

We suggest that the ombudsmen, perhaps jointly, commission a review of the funding model to canvass options for consideration. A sensible approach may be to do an initial scoping review to inform planning and consultation, looking at multiple potential jurisdiction change scenarios. This could be followed by a more detailed design once a decision has been made about what is to be brought into the scheme or schemes.

Ongoing change in the energy market is a certainty, and while these changes and their implications are unpredictable, we think it is reasonable to assume that ongoing review of and change to energy ombudsman jurisdiction will be needed. Any new funding model should incorporate assumptions that can be adapted to changed market conditions.

Improving consumer information and guidance

Our audit of the information available to embedded network customers about their EDR options suggested that there is much room for improvement (see p. 58). Embedded network operators, who collectively service tens of thousands of energy customers, are typically giving them confusing, contradictory and sometimes downright incorrect information about whether and where they can seek external assistance. Perhaps worse, energy and consumer regulators are also at times muddying the picture with incomplete or unhelpful advice and referral. Time constraints meant that we were not able to take a similarly in-depth look at consumer information in other out of jurisdiction areas – but we would be surprised if it was much better.

Leadership role

We think that as the pre-eminent experts on EDR in the energy industry, and as organisations with deep experience communicating with consumers, the energy ombudsmen could take a greater leadership role in developing accurate, simple and practical consumer advice about EDR. This advice should be comprehensive, identifying key customer protections and dispute resolution avenues for the whole range of potential energy disputes, including those that are not within the ombudsman's remit. The ombudsmen could then encourage other stakeholders who may be looked to for advice – regulators, government departments, industry and consumer organisations – to similarly update and improve their consumer guidance.

Convergence and the consumer interface

In a 2011 paper on EDR in telecommunications, former Deputy Commonwealth Ombudsman John Wood observed that the nature and structure of the market for services was set to change profoundly:

[The] continued development of communication technologies together with sophisticated networking and billing systems will allow a wide variety of services to be offered by companies who previously have not been in that industry retail market, making traditional industry sector boundaries no longer so visible. Under current EDR arrangements, a single bundled bill in this new world would provide consumers with a considerable challenge about knowing who to turn to in the event of difficulty in resolving the problem with the biller.²⁶⁰

Current developments in the energy industry – among them Telstra's planned entry into HEM services – add more evidence for the view that previously separate industries are converging, potentially complicating consumer access to EDR.

This convergence was a theme in many of our discussions with stakeholders. Ombudsmen themselves tended to agree that even where providers are operating across industry lines, there is as yet no 'convergence of the problem'. In other words, for schemes themselves, the lines remain clear and the issues are not so intricately enmeshed that they cannot be divided and referred appropriately. With regard to financial services, for example, the blanket licensing requirement in that sector mean that there is always a clearly identifiable FSP to deal with.

While sectoral divisions seem to be understood at the 'back end', the lines for consumers are less clear, and this creates opportunities for complaints to fall through the cracks. Consumer groups emphasised the importance of a simple interface between consumers and EDR, noting that a one-stop shop ombudsman with wide jurisdiction also makes the support role of workers such as financial counsellors easier. Similarly, in its recent submission to the ACL review, Consumer Action called for the establishment of a Retail Ombudsman to further empower consumers and promote consumer confidence.²⁶¹

In energy and other industries, ombudsman schemes have referral systems in place to direct customers to the appropriate ombudsman or other EDR or advice forum. However, as service industries continue to both converge and deepen in their complexity, maintaining and improving this easy and effective system for referring and transferring customers to appropriate help will only grow more important.

We therefore think it is critical that the energy ombudsman keep a focus on this issue, regularly checking that referral advice and systems are up-to-date, comprehensive, practical and as simple as possible for consumers to understand and use. The disparity between EWOV figures on embedded network referrals to CAV and that agency's own recorded case numbers (see p. 56), for example, may suggest that some improvement can be made to this referral process.²⁶² As noted above, ombudsmen can both improve their own practices and play a leadership role promoting quality referral across the sector.

²⁶⁰ John T.D. Wood, September 2011, *Fair Go: Complaint Resolution for Digital Australia*, An Occasional Paper for the Australian Communications Consumer Action Network, p. 42.

²⁶¹ Consumer Action, June 2016, *Submission to the Australian Consumer Law review*.

²⁶² It could also reflect data collection errors on either side, or a degree of drop-off that is unavoidable when consumers are faced with an additional complaint step. Nevertheless, we think it highlights the importance of ongoing, active attention to referral processes and how well they are working.

Improving data collection

Earlier in this report, we noted that the scheme data on out of jurisdiction cases is not detailed, complete or accurate enough to paint a clear picture of the nature of these cases or trends in their makeup. We think that there is scope to improve data collection to better inform ombudsman thinking and practice, as well as policy and regulatory development.

Current data collection

Our request for data on out of jurisdiction cases highlighted gaps and problems in this data across all schemes. In NSW, for example, EWON reported that it had to go through a painstaking process to provide out of jurisdiction data, creating and combining new reports, substituting estimates in some areas, and dealing with incomplete records. In SA, what appeared to be a huge spike in one category of out of jurisdiction cases was instead probably a reflection of changed recording practices.

EWON provided us with data in a very granular form, which made a number of specific quality issues quite evident. For example, EWON's out of jurisdiction categories do not appear to be mutually exclusive, meaning that cases of the same type can be and are recorded in different ways. An AGL solar installation case, for example, might easily be categorised as 'commercial activities outside of scope', 'not about a scheme participant' (since AGL's solar arm is a different entity to the member retailer), or 'private installers'. In another example, the 'provider' category includes three different options that could be applied to a WINenergy embedded network case: 'not allocated', 'exempt retailer' and 'WINenergy'. These are just two examples of the type of inconsistency that make it very difficult to disentangle cases of different types.

Benefits of better data

Higher quality data could provide important intelligence on emerging trends, such as:

- traditional retailer shifts from regulated to non-regulated activities
- any increase in embedded network complaints, including the issues of concern and the providers involved
- and any emergence and growth of solar PPA complaints.

Information about these developments would serve several important purposes. Firstly, it would inform the schemes' own ongoing review of their jurisdiction, alerting them to new issues or entities that should be brought into the schemes. It could also be used to identify referral problems, showing where, for example, another body is routinely referring customers to the ombudsman with out of jurisdiction complaints; or highlighting a new out of jurisdiction issue for which the ombudsman needs to develop an advice and a referral pathway. Finally, and crucially, this data is also of use to policymakers and regulators keen to identify and address emerging market issues.

We recognise that taking out of jurisdiction enquiries, providing basic consumer advice and referral, and carefully recording the details of these cases represents a cross-subsidy from scheme members to exempt sellers and other parties. Nevertheless, properly collecting, analysing and reporting on the data that is uniquely available to ombudsmen is, we think, properly considered part of the legitimate role of a modern industry ombudsman scheme.²⁶³ These practices ultimately benefit both consumers and industry as a whole.

²⁶³ In the UK, where ombudsman schemes often overlap and compete with each other, there is reportedly at least one lower-cost scheme that has entirely done away with the enquiry and referral function. Clearly, this is a bad outcome for consumers and an example that illustrates that a sensible, effective approach to industry-based dispute resolution will inevitably require some degree of cross-subsidy.

Designing a better approach

Designing a good data collection approach is complex and, we think, something that requires a careful, expert thinking and a comprehensive review, rather than the ad hoc addition of new issues or categories. Among the crucial things that we think should be routinely captured in an easily quantifiable manner are:

- the name of the provider
- the type of product or service involved
- the issue/s of complaint
- the source of the referral to the ombudsman
- who the consumer was subsequently referred to.

Many of these are already available fields in case management systems, but as highlighted in the EWOV examples above, they may require redesign to properly capture the information of interest.

Monitoring market developments

Our scan of developments in the energy market highlighted a few emerging phenomena that are in their infancy, but which, should they proliferate, could have an enormous impact on the market or take large numbers of customers out of the jurisdiction of energy ombudsman schemes. Among such latent issues are EVs, off-grid projects and peer-to-peer trading. While ombudsman action on these issues would be premature at this stage, we do think their potential impact and the speed with which they may take off highlights just how important it is that the ombudsmen are closely monitoring market developments and beginning to think about how they might impact consumers and the schemes.

Other issues

During the research and particularly in our discussions with stakeholders, some issues arose that were related to our topic, but not directly enough to merit detailed coverage in this report. Nevertheless, we raise them here briefly as potential areas for future ombudsman consideration.

Safety

Although we had not included any specific questions regarding safety, and it is outside the scope of this report, we think it is important to note that stakeholders from all sectors raised a number of concerns about safety, including:

- battery storage product standards and quality including potential to cause fires
- installation and accreditation
- cross-subsidy of distribution businesses to solar and battery storage installers (on basis that the distribution business responds to a faults/supply matter, including through the ombudsman)
- lack of information (including consumer understanding) about maintenance and safety.

Suggestions made included that the product and supply safety regulators work together to identify any additional actions that need to be taken.

Maintaining ombudsman expertise

This research has focused on issues of jurisdiction – but this is, of course, not the only way that ombudsmen are likely to be affected by rapid industry change. For example, innovation in the

regulated part of the market that is squarely within jurisdiction also has implications for ombudsman operations. An example is the recent market entry of Mojo Power with its unique pricing model. A market with an ever-increasing array of metering arrangements, tariff options and supplementary services will demand correspondingly wider and more detailed knowledge within ombudsman schemes, as well as requiring more ongoing learning to stay up-to-date. Maintaining the ombudsman's reputation for energy expertise in this environment may require a special focus on internal information sharing and learning.

Informing better IDR

Ombudsmen are not only experts in EDR; their work also gives them insight into IDR processes and the practices that encourage escalation, or conversely, early resolution. EWOV's 2015 research *Can I speak with a manager?*²⁶⁴ is an example of how energy ombudsmen have used their unique window on IDR processes to inform and encourage complaint handling improvements within industry. Promoting improvements in IDR – both via the incentive of avoided EDR costs and through this educative role – is one of the acknowledged benefits of industry ombudsman schemes.

For those areas of the energy market that remain beyond the reach of accessible and effective EDR, high-quality IDR processes take on even greater importance. We think that there are probably some energy providers whose services are currently out of jurisdiction – such as some embedded networks and community energy projects – who lack IDR knowledge, understanding and experience, but who would be receptive to advice and guidance in this area. In other words, there may be goodwill, but a lack of understanding of the issues that can arise and fair, effective mechanisms for resolving problems.

These providers could certainly benefit from ombudsman advice and guidance on internal complaint handling. We recognise that providing such advice to non-members falls well outside of the ombudsman role, and that it is an activity ombudsman boards would be unlikely to want to fund. We do wonder, nevertheless, if there might be a low-cost or collaborative way to share ombudsman knowledge, perhaps by partnering with key organisations to disseminating existing resources.

Dispute resolution in a sharing economy

Reflecting on the future of ombudsman schemes, Australian Information Commissioner John McMillan in 2014 observed that in responding to change in the digital age, ombudsmen schemes need to be open not only to change adaptations, but to rethinking 'the role, functions, style and method of the office'.²⁶⁵

Our major focus in this report has been potential changes to jurisdiction that should not require such fundamental rethinking. As a first step, we have suggested bringing in new players who are still established businesses providing a product and/or service. Peer-to-peer transactions facilitated by sharing economy platforms, should they proliferate and become a significant part of the energy landscape, could pose a more fundamental jurisdictional issue for ombudsman schemes.

FOS, for example, is currently considering whether and how crowdfunding – a type of peer-to-peer lending – might be incorporated into the scheme. A central issue is that crowdfunders are not equipped to deal with the scheme in the same way as traditional financial services providers.

²⁶⁴ EWOV, March 2015, 'Can I speak with a manager?' *An analysis of energy and water company performance in handling your complaint*.

²⁶⁵ John McMillan, 30 April 2014, 'Future directions for ombudsman offices – four trends, two reflections', presentation to the *Australian and New Zealand Ombudsman Association Conference*, Wellington.

Crucially, lacking capital and resources, they may be unable to pay awards, meaning that the EDR process fails to actually assist consumers, thereby undermining scheme credibility.

Dealing with individuals rather than businesses, in lending or in energy, would seem to call for an entirely different type of dispute resolution to what ombudsmen currently offer. Developing such an approach would probably mean returning to first principles in dispute and designing a wholly new process to sensibly apply them to novel circumstances. Would this be stretching the ombudsman concept too far, undermining the features that have made the model so effective to date? This may be a question the ombudsmen need to consider at some point in the future. Already, there is a small body of literature developing on the theme of dispute resolution in the sharing economy, which may help to stimulate ombudsman thinking.

Seizing the moment

We believe that now is the time for the ombudsmen to consider the issues raised by energy market change and, crucially, to begin to take action to reconfigure their jurisdiction to ensure effective EDR access in the market that is now emerging, and to be poised to adapt more flexibly to future change. If the energy ombudsmen do not take action, the risk is that rapid market change will erode scheme jurisdiction and effectiveness, and with it, ombudsman reputation and influence. Energy customers will be worse off, and the ombudsmen will be less able to take remedial action.

Today, however, energy ombudsmen enjoy a level of cross-sectional support that is unusual for any institution: while stakeholders do, of course, have their criticisms, most broadly support the ombudsman model and acknowledge the schemes' expertise, accessibility and effectiveness, as well as their broader role identifying systemic issues and informing policy and regulatory development.

Our discussions with stakeholders also revealed significant momentum for change. Many stakeholders are struggling to make sense of rapid market evolution and its interaction with an incredibly complex regulatory framework. Nevertheless, they understand why energy ombudsman access matters and how current energy market developments – positive though they may otherwise be – threaten that access. This support and momentum for change is something that the ombudsmen can capitalise on, bringing players together to test possible solutions and work collaboratively through the complexities of implementing change.

Key points

- Comprehensive, appropriate market coverage is an essential foundation for an effective ombudsman scheme.
- The evidence about both existing jurisdictional gaps and trends that could further erode ombudsman jurisdiction is strong enough to merit serious consideration, action and ongoing monitoring. The ombudsmen should act now, capitalising on their broad support and the current momentum for change. In the midst of these changes, ombudsman schemes should make jurisdiction a strategic planning priority and allocate appropriate resources.
- There are a number of significant regulatory changes in train in relation to exempt selling and technology and it is therefore important that ombudsmen clarify their views on jurisdiction in order to participate effectively in those processes. This includes immediate opportunities to work with regulators to explore and scope these matters.
- There are significant opportunities for energy ombudsman schemes to work collaboratively, increasing the efficiencies and lowering financial and human resource costs.
- A staged approach to increasing jurisdiction is likely to result in better outcomes, allow for organisational learning and reduce additional strain on scheme resources.
- Any change to ombudsman jurisdiction that brings in a larger and more diverse membership will necessitate redesign of the schemes' funding models. Schemes in other industries show that designing and implementing an equitable, workable model that encompasses many diverse members is challenging – but achievable. We think that the Ombudsmen should commission a funding model review to begin identifying options.
- For consumers who do not have access to an energy ombudsman, confusing, incomplete and incorrect advice on EDR options is compounding the problem. As experts on EDR and communicating with consumers, we think that the ombudsmen should take a leadership role in the industry to improve information about EDR options, including where the ombudsmen do not have jurisdiction. They should also pay ongoing attention to referral processes to, from and between ombudsmen, regularly reviewing these processes to ensure that they are working effectively and that emerging issues are being addressed.
- More detailed and accurate data on out of jurisdiction cases would highlight important trends, informing ombudsmen as well as other stakeholders. We think that the data collection approach could be improved to capture these benefits.
- Energy market change raises a host of issues that are outside of the scope of this research, but that deserve ombudsman attention. These issues include battery and storage system safety; maintaining and building expertise in a changing market; supporting quality IDR and considering how dispute resolution might work in a sharing economy.

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Appendix A – Stakeholder interviews

Consumer advocates

Rosemary Sinclair, CEO, Energy Consumers Australia (ECA)
Lynne Gallagher, Director of Research, ECA
Kerry Connors, Manager, Grants, ECA
Ed Santow, CEO, Public Interest Advocacy Centre (PIAC)
Jane Leung, Senior Policy Officer, PIAC
Mike Bailey, Policy Lead, NSW Council of Social Service
Teresa Corbin, CEO, Australian Communications Consumer Action Network
Mark Henley, Manager Advocacy and Communications, Uniting Communities
Jo de Silva, Senior Policy Officer, South Australian Council of Social Service
Gerard Brody, CEO, Consumer Action (CA)
Janine Rayner, Senior Policy Officer, CA
Petrina Dorrington, Acting Executive Officer, CUAC
Damien Moyse, Energy Projects and Policy Manager, Alternative Technology Association (ATA)
Dean Lombard, Senior Energy Analyst, ATA

Regulators

Adam Wilson, CEO, Essential Services Commission (SA) (ESCOSA)
Delia Rickard, Deputy Chair, ACCC
Philip Cullen, Senior Strategic Advisor, Consumer and Small Business Strategies, ACCC
Michelle Groves, CEO, AER
Sarah Proudfoot, General Manager Retail Markets Branch, AER
Suzanne Crowle, Director Engagement and Complaints, NSW Fair Trading
Jill Andrews, Team Manager, NSW Fair Trading
Chris Spangaro, Senior Director, AEMC
Mehnaz Yoosuf, Advisor, AEMC
Andrew Levens, Director Market Engagement, CAV
Travis Cunningham, General Manager, Information and Analysis, CAV
Gemma Dodson, Manager, Information and Analysis, CAV
Samantha Phillips, Manager, Information and Analysis, CAV
Ruth Herbert, Senior Project Officer, Trader Compliance Services, CAV
Adam Creed, Senior Project Officer, Trader Compliance Services, CAV
Dorothy Morton, Senior Conciliator, Trader Compliance Services, CAV
David Young, Director, ESC
Tammy Venturoni, Senior Regulatory Manager, ESC

Policymakers

Rebecca Knights, Director, Energy Markets, Department of State Development (SA)
Katharine Hole, Executive Director Strategy Policy & Coordination, Department of Industry (NSW)
Jacqueline Grave, Manager National Energy Policy, Department of Industry (DoI) (NSW)
Shelley Ashe, Senior Policy Officer, DoI
Leanne Nash, Energy Concessions, DoI
Mark Feather, Executive Director, DEDJTR (Vic)
Alex Badham, Acting Director National Energy Market Development, DEDJTR (Vic)
Joy D'Souza, National Energy Market Development, DEDJTR (Vic)

Industry

Simon Lucas, Company Secretary, CitiPower and Powercor
Brendan Bloore, General Manager Customer Service, CitiPower and Powercor
Glen Thomson, General Manager Energy Solutions, CitiPower and Powercor
Andrew McKay, Manager Customer Relations, CitiPower and Powercor
Simon Harding, Industry Operations Manager, AGL Sales
Pamela Henderson, General Manager Customer and Corporate Services, Ausgrid
Lucy de Lacey, Acting Manager, Customer and Corporate Services, Ausgrid
Alistair Parker, General Manager Asset Management, AusNet Services
Shelley Cusson, Customer Services Group, AusNet Services
Briar Hall, Leader Customer Vulnerability and Recovery, EnergyAustralia
Ramy Soussou, General Manager Regulatory Affairs and Stakeholder Relations, Red Energy/Lumo Energy
Ben Barnes, Regulatory Manager, Red Energy/Lumo Energy
Jonathan (Jon) Briskin, General Manager Retail Customer Operations, Origin Energy
Tim Norton, Executive Chairman, WINenergy
Dr Iain Jennings, Executive Director, 1Circle
John Grimes, CEO, Australian Solar Council and CEO, Energy Storage Council
Luke Osborne, Director and COO, Reposit Power

Ombudsmen

Shane Tregillis, Chief Ombudsman, Financial Ombudsman Service Australia
Judi Jones, Telecommunications Industry Ombudsman, TIO
Diane Carmody, Deputy Ombudsman, TIO

Appendix B – Embedded network sites in Victoria

Our web searches identified as WINenergy sites:

- Guild Apartments (317) and the Guilfoyle (353) in Southbank
- QV1 (458), Vision (524) and Monarc (228) Apartments in the CBD
- Alexander Lombard Tower (396) and Sienna Apartments (243) in Travancore
- CentVM (109) in Preston
- the Nicholson (199) in Coburg
- Lochmore Apartments (91) in Bundoora
- Mosaic Apartments (235) in Dandenong.

As Active Utilities sites:

- PRECINCT (446) and Eden on the River (557) in Abbotsford
- Upper West Side (2,207) and the Eureka Tower (556) in the CBD.

As OC Energy sites:

- Society Apartments (242) and ILK Apartments (388) in South Yarra
- Carlson Apartments (149) and 108 Flinders (190) in the CBD
- Evo Apartments (175) in Parkville
- STK Apartments (338) in St Kilda
- Tip Top (411) in Brunswick East.

As OCEMS sites:

- Smith & Co (242) in Collingwood
- Notting Hill apartments (257) in Notting Hill
- Footscray Plaza (237) in Footscray.

Appendix C – Consumer information audit

We reviewed the following sources, all accessed in May–June 2016:

Embedded network operators

WINenergy

- About
<https://www.winenergy.com.au/about/about>
- FAQ
<https://www.winenergy.com.au/customers/knowledge-base/faq>

Note: WINenergy's Customer Charter was not available on the website in May/June 2016

Active Utilities

- Complaints Handling Policy
http://support.activeutilities.com.au/hc/en-us/article_attachments/200420630/AU_Policy_-_Complaints_Handling_Feb_2014.pdf
- Power Supply Terms and Conditions
http://support.activeutilities.com.au/hc/en-us/article_attachments/200447524/Active_Utilites_Terms_and_Conditions_January_2014.pdf
- Electricity Customer Charter
http://support.activeutilities.com.au/hc/en-us/article_attachments/200439150/Active_Utilities_Customer_Charter_-_Electricity_2014.pdf

ENSA

- Terms and Conditions
ensa.net.au/tenants-owners/forms-policies/terms-conditions/
- Moving In/Out (FAQ)
<http://ensa.net.au/tenants-owners/moving-in-out/>
- Energy Customer Charter
<http://ensa.net.au/tenants-owners/forms-policies/energy-customer-charter-2/>

Network Energy Services

<http://www.networkenergy.com.au/>

Note: No dispute resolution information on website

OC Energy

- Complaints Handling Procedure
<http://ocenergy.com.au/complaints-handling/>
- Customer Charter

<http://ocenergy.com.au/charter/>

Energy-ON

- Complaint Handling Policy
<http://energy-on.com.au/energy-on/wp-content/uploads/2016/03/Energy-On-Complaints-Handling-Policy-March-2016-Final.pdf>
- Customer Charter
<http://energy-on.com.au/energy-on/wp-content/uploads/2016/02/Energy-On-Customer-Charter-March-2016.pdf>

Energy regulators

Australian Energy Regulator

- 'Information for electricity customers in embedded networks'
<https://www.aer.gov.au/consumers/information-for-electricity-customers-in-embedded-networks>
- 'Making a complaint'
<https://www.aer.gov.au/consumers/making-a-complaint>

Australian Energy Regulator (Energy Made Easy)

- 'Complaints'
<https://www.energymadeeasy.gov.au/get-energy-smart/dealing-problems/complaints>
- 'Tenants who buy energy from a landlord'
<https://www.energymadeeasy.gov.au/get-energy-smart/about-energy-offers/tenants-who-buy-energy-landlord>
- 'Buying energy in a commercial building – customers of exempt sellers'
<https://www.energymadeeasy.gov.au/get-energy-smart/energy-and-your-business/buying-energy-commercial-building-customers-exempt-sellers>

Essential Services Commission of South Australia

- 'Making complaints'
<http://www.escosa.sa.gov.au/consumer-information/energy/making-complaints.aspx>

IPART

- 'Making complaints'
http://www.ipart.nsw.gov.au/Home/For_Consumers/Making_Complaints

Consumer regulators

Consumer Affairs Victoria

- 'Embedded electricity networks', updated 5 June 2016
<https://www.consumer.vic.gov.au/shopping/energy-products-and-services/what-are-energy-products-and-services>
- 'Help with energy retail problems', updated 15 December 2015
<https://www.consumer.vic.gov.au/shopping/energy-products-and-services/help-with-energy-retail-problems>

Fair Trading

- 'Electricity and gas supply dispute resolution'
http://www.fairtrading.nsw.gov.au/ftw/Consumers/Buying_services/Electricity_and_gas_supply_dispute_resolution.page?

Consumer and Business Services

- 'Bond, rent and service charges in residential parks'
<http://www.sa.gov.au/topics/housing/renting-and-letting/residential-park-tenancies/bond-rent-and-service-charges-in-residential-parks>
- 'Resolving a dispute with a residential park operator'
<http://www.sa.gov.au/topics/housing/renting-and-letting/residential-park-tenancies/resolving-a-dispute-with-a-residential-park-operator>
- 'Gas, electricity and water'
<http://www.cbs.sa.gov.au/the-right-door/gas-electricity-and-water/>