

SUBMISSION TO AEMC  
**Alternatives to grid-supplied  
network services**  
*RULE CHANGE ERC0215*



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July 2017

The Alternative Technology Association (ATA) welcomes the opportunity to respond to the AEMC's consultation paper on rule change ERC0215 *Alternatives to grid-supplied network services*.

Founded 36 years ago, the ATA is a national, not-for-profit organisation whose 6,000 members are (mostly residential) energy consumers. Our extensive experience in energy policy and markets informs our advocacy and research which, amplified by our close collaboration with fellow members of the National Consumer Roundtable on Energy, makes the ATA an important voice for energy consumers Australia-wide.

ATA has a uniquely twofold perspective as a consumer advocate. With the continuing support of the Energy Consumers Australia (and formerly the Consumer Advocacy Panel) we represent all small energy consumers in advocacy that seeks to improve energy affordability and the structure and operation of the National Energy Market (NEM). Additionally, we speak with authority on behalf of the growing portion of the consumer base that has an interest in sustainability, energy independence, and demand-side participation.

*This submission was written as part of a project funded by Energy Consumers Australia ([www.energyconsumersaustralia.com.au](http://www.energyconsumersaustralia.com.au)) as part of its grants process for consumer advocacy projects and research projects for the benefit of consumers of electricity and natural gas. The views expressed in this document do not necessarily reflect the views of Energy Consumers Australia.*

## Overview

ATA is broadly supportive of the proposed rule change and the underlying principle that efficient network expenditure should encompass non-network solutions where appropriate. However, there are fundamental consumer protection issues that need to be addressed to avoid entrenching a two-tiered energy market in which the nature and extent of consumer protections depend on the mode of delivery of energy supply.

Below, we address the questions in the consultation paper directly.

### Question 1: Nature of issues

- a) **Do Western Power's concerns, as described in section 2.2, accurately identify the nature of any problems associated with distributor-led transitions from grid supply to off-grid supply in the jurisdictions that are part of the national electricity market?**

Yes. ATA agrees that the Rules are currently ambiguous as to whether installations without a physical connection to the distribution network can be considered part of the distribution system, and that this leads to uncertainty with regard to the ability of DNSPs to scope and

deliver stand-alone power systems (SAPS) as part of their regulated services. This mitigates against the potential of reducing network costs (and thus their customers' costs) by investing in SAPS to deliver network services when it is more efficient than maintaining or upgrading poles and wires. It also means that if a SAPS is warranted from a risk or cost perspective as a way of meeting other requirements (such as addressing bushfire risk<sup>1</sup>), affected customers lose the certainty, financial benefit, and customer protections afforded them as part of having energy supply via a regulated network business.

- b) In relation to customers who currently have a grid connection, is there workable competition for off-grid supply systems, or are there barriers that significantly impede businesses that are not economically regulated (non-distribution businesses) from providing off-grid supply to these customers?**

ATA is aware of a number of commercial businesses that provide SAPS to residential, business, and government customers. We are not in a position to comment on how effective competition is for these services – though our experience delivering an advice service to households wanting to go off-grid suggests that most consumers cannot make an informed choice without independent expert advice.

However, as Western Power noted in its rule change request,<sup>2</sup> it is unlikely that many consumers who are already connected to the grid would be prepared to pay the considerable cost of a fully independent supply even if it was cost-effective, because they do not otherwise face the full cost of supply due to the way network costs are smeared across the customer base. For this reason, we doubt that the competitive market will deliver SAPS where it is cost-effective from a network perspective to customers who are not otherwise interested in leaving the grid.

- c) Does the issue identified by Western Power, and any barriers from (b), indicate that it may be appropriate to allow distributors to provide off-grid supply as a regulated service, in certain circumstances?**

Yes. As we discussed in our submission to the COAG Energy Council's consultation on Stand-Alone Power Systems,<sup>3</sup> DNSPs' mandate to deliver energy supply to energy users as efficiently as possible should encompass delivering energy supply via non-network solutions when it is most efficient. Where this is done, energy users should be entitled to the same consumer protections and service standards as they would if they were physically connected to the network. This is entirely consistent with the National Electricity Objective: to promote efficient investment in, and efficient operation and use of, electricity services for the long-term interests of consumers of electricity.

- d) Other than concerns as to whether off-grid supply would constitute a distribution service, what barriers (such as other regulatory barriers or licence requirements) prevent distributors from seeking customers' agreement to move off-grid where it would be cost effective?**

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<sup>1</sup> See, for example, the Victorian SAPS project: <https://www.energy.vic.gov.au/safety-and-emergencies/powerline-bushfire-safety-program/stand-alone-power-system>

<sup>2</sup> Cited in consultation paper, p.7

<sup>3</sup> <http://www.coagenergycouncil.gov.au/sites/prod.energycouncil/files/publications/documents/Alternative%20Technologies%20Association%20-%20Response%20to%20consultation%20on%20standalone%20systems.pdf>

Taking a customer off-grid removes their access to the competitive retail market. Because the off-grid installation is considered part of the distribution service provided by the DNSP – and thus owned by the DNSP rather than the customer, and delivered as a standard control service – the network tariff charged to the customer will be the same as that charged to similar customers with a physical connection to the network. However new rules will be needed governing the selling of energy to the customer by the DNSP. This could be done through the exemptions framework, or as a direct control service.

## Question 2: Costs and benefits of moving to off-grid supply

- a) **Do you agree with Western Power’s description of the costs and benefits of transitioning from grid supply to off-grid supply? What other costs and benefits should be considered?**

Our experiences assisting members who are weighing up the options of connecting to the distribution network or investing in an off-grid system, and assisting the Victorian government with its Stand-alone Power Systems project, affirms Western Power’s contention that SAPS can be more cost-efficient than maintaining edge-of-grid and remote grid connections, deliver more reliability than edge-of-grid supply, and bring significant safety benefits in bushfire-prone areas. This is often the case even when a SAPS is appropriately over-provisioned to allow for load growth.

- b) **What credible estimates are there of the current costs to procure, install and maintain (i) microgrids and (ii) individual power systems in fringe of grid areas of Australia? How are those costs broken down between electricity generation, network provision and retail costs/billing? How do these costs compare to the costs of providing electricity to such customers through the national grid?**

In ATA’s experience, SAPS and microgrid system design and operation is very site-specific. Costs for procurement, installation and ongoing maintenance/system operation can only be done on a site-by-site basis, responding to the direct requirements, and optimal investment levels, for any given project. At a very high level however, SAPS and micro-grids are typically only cost-effective where a SAPS avoids a considerable cost to bring the network to a site (e.g. >\$30k) or a microgrid can be established as part of a greenfields development site (where substantial grid connection costs will be faced in any event).

- c) **Distributors, please provide information (to the extent you have any) on the number of your customers who are currently grid-connected but who you consider may be more cost-effectively served by (i) microgrids and (ii) individual power systems. Consider current and projected costs of those systems.**

Not applicable

- d) **What are the key factors that make customers candidates for off-grid supply? For example, upcoming line replacements, local reliability or congestion issues, safety standards, line undergrounding requirements, declining costs of off-grid supply, presence of existing distributed generation?**

Customers in remote areas, at the end of long SWER lines, and in bushfire-prone areas that would otherwise require undergrounding of electricity wires for safety are the most likely candidates. If this rule-change is enacted, we would expect a requirement for DNSPs to

demonstrate conclusively which of the network or non-network solutions is the most efficient option.

- e) **Distributors, if you were permitted to supply the customers identified in question (c) through off-grid supply, please provide an estimate of your annual savings (if any). Please state any critical assumptions such as pricing approaches to be applied to off-grid customers.**

Not applicable

- f) **Other than the costs of the off-grid supply itself, what costs and benefits are likely to arise from moving certain customers off-grid, for the customer, the distributor, the customers remaining on the grid, retailers, local generators, or any other parties? How could any costs be mitigated?**

If moving certain customers off-grid is more cost-effective than continuing to supply them via the physical network, the benefit that will flow to all customers of the DNSP is lower DUOS charges due to a lower overall network revenue requirement. However in assessing the cost-effectiveness of an off-grid solution, additional costs would need to be factored in, including:

- Customer service and support;
- Energy retailing;
- Ongoing monitoring, maintenance, and eventual replacement of SAPS components.

We would expect DNSPs to clearly demonstrate that any off-grid conversions represent more efficient expenditure than maintaining a physical collection, including these and other additional costs.

### Question 3: Potential alternatives to the proposed rule

- a) **If a rule change is considered necessary, are there alternatives to the proposed rule which relate to the issues raised in the request and:**
- (a) **are consistent with the Law;**
  - (b) **would allow all customers to benefit from lower costs by enabling electricity to be supplied in the most efficient way in each area; and**
  - (c) **would result in customers who move to off-grid supply receiving electricity supply with appropriate reliability, quality, safety and other relevant consumer protections?**

ATA cannot comment on whether redefining *distribution service* or *distribution system* better meets the objective of this rule change. However, we note that the current definition of *distribution system* already encompasses more than the *network*, so we do not consider the definition of *network* to be particularly problematic in this regard.

- b) **Would the alternatives in (a) be able to be achieved through changes to the Rules alone, or would changes to other instruments, such as the Retail Rules or other laws, regulations or licences (jurisdictional or national) be required or desirable?**

ATA cannot comment on this beyond noting that like the proposed rule, any alternative to it is likely to require complementary changes in other instruments, at least because of the removal of access to retail competition and thus the new role for the DNSP as a supplier of energy to consumers.

## Question 4: Assessment framework

**Do you agree with the approach set out in section 3.3 to assessing whether the rule change request will, or is likely to, contribute to the achievement of the national electricity objective? If not, how should it be assessed?**

ATA agrees with the approach for assessment. We note that, with regard to *risk profile*, the issue of consumer protections for consumers not fully (or at all) covered by the NECF due to the nature of their supply is currently being examined by the COAG Energy Council and, to an extent, in other processes (such as the AEMC's work on embedded networks, the AER's review of access to dispute resolution for exempt customers, and the Victorian Government's review of its General Exemption Order. These should be considered when assessing against this criterion.

## Question 5: Competition issues relating to moving from grid supply to off-grid supply

- a) **To what extent do you consider that distributors' ability to average the costs of grid-connected distribution services across their customer base inhibits the development of competition in off-grid supply as an alternative to grid connection?**

Undoubtedly, distributors' ability to average the costs of grid connected distribution services across their customer base inhibits the development of competition in off-grid supply as an alternative to grid connection. If energy users were required to face the full cost of their energy supply, procuring off-grid systems from third parties would be cost-effective in many remote and low-population-density areas. But this would also make electricity supply cost-prohibitive for many people. The social value of distribution networks is in their ability to smear the costs across their entire customer base in order to deliver affordable supply to all customers.

We note that there is a growing competitive market in off-grid supply, predominately for new connections – where distribution networks charge cost-reflective connection fees. Increasingly, people with sufficient wealth and an interest in energy independence are disconnecting from the grid even where it is not cost-effective. In our view, by limiting this rule change to apply only where customers are already connected to the grid and where the DNSP can show that installing and maintaining an off-grid system as a standard control service can deliver the required quality and reliability of supply and represents efficient expenditure, the impact on competition in the off-grid supply industry is minimised.

- b) **If the proposed rule (or a more preferable rule) is made, and the AER classifies off-grid supply as a standard control service, would distributors' ability to offer below-cost off-grid supply hamper the development of competition in the off-grid supply market, as costs of off-grid supply fall in the future?**

Currently, private procurement of an off-grid supply for customers already connected to the grid is, in most circumstances, not cost-competitive with the cost of staying on grid supply – especially because customers can reduce their on-grid costs considerably by investing in generation and storage, as well as energy efficiency, at far less cost than a fully independent off-grid system. As noted above, some energy users value grid-independence and will procure their own off-grid supply even when it is not cost-effective.

For everybody else: this rule change as proposed will restrict distributor-subsidised off-grid systems to customers for whom the true cost of supply is already higher than the cost of off-grid

systems. The gap between the cost to serve these customers via the grid and the cost they face is considerable.

When these costs start to converge, there is potential for some effect on the grid-supply market. This is likely to be some time away. It may thus be appropriate for DNSPs to demonstrate that there are no market alternatives before installing an off-grid system as provided for by this rule change.

- c) In addition to the issues discussed in chapter 4, what other factors affect competition for providing off-grid supply in place of grid supply?**

No comment

- d) Would the AER's process for classifying distribution services, including considering the potential for the development of competition, provide an adequate way in which to address these competition issues in practice?**

Yes, the AER's classification process should be able to respond to the changing environment for off-grid power systems with regard to the implementation of the proposed rule.

### Question 6: Competition issues arising after moving to off-grid supply

- a) Should a monopoly provider of a service in one area of the supply chain for off-grid services be able to provide an integrated service whereby it provides all the services forming part of off-grid supply, in circumstances where competition is limited?**
- b) If a customer moves to off-grid supply where one entity is the monopoly off-grid retailer, generator and distributor, what disadvantages are they likely to face due to the lack of ability to change retailers?**
- c) Do the extent of any disadvantages under (b) depend on which entity provides the monopoly services (e.g. a licensed, regulated distributor, compared to an entity that is exempt from registration and licensing provisions under the Rules and state laws)?**
- d) How can any disadvantages under (b) be mitigated?**
- e) Is it desirable (in light of the long-term interests of consumers) that customers being moved to off-grid supply would be offered, or would be able to access, competitive offers for each component of off-grid supply (for example, provision of generating plant, maintenance of the plant, billing)? If so, what circumstances or policies would encourage this?**

The ultimate purpose of retail competition in the NEM is to facilitate optimal price and customer service outcomes to consumers. While consumer engagement with the competitive market can definitely produce good price outcomes,<sup>4</sup> there is considerable concern that retail competition has failed to deliver good outcomes overall.<sup>5</sup> As such, the question here should be focused squarely on who to deliver optimal price and service outcomes, rather than how to introduce competition *per se*.

DNSP provision of single-customer SAPS or micro grids under this proposed rule should be subject to the requirements for efficient service provision. This may well involve the DNSP

<sup>4</sup> See, for example, price dispersion as documented in Dufty G & Mauseth M, *The National Energy Market – A hazy retail maze Observations from the Vinnies' Tariff-Tracking Project*, St Vincent de Paul Society & Alvis Consulting, Melbourne, December 2016.

<sup>5</sup> Documented, for example, in most submissions from consumer representative groups to the Victorian Government's independent bi-partisan review of Victoria's electricity and gas markets (<https://www.energy.vic.gov.au/about-energy/policy-and-strategy>)

procuring contestable services in delivering its service, as is done elsewhere in delivering distribution services. However, requiring customers to procure different aspects of their energy supply from the market seems overly complex. A stand-alone power system is a natural monopoly. In our view, a DNSP-owned SAPS or micro grid installed under the terms of this rule should be vertically integrated, with appropriate price controls for supply of energy – under the exemptions framework, or (perhaps ideally) new retail rules designed to complement this proposed rule in order to produce consistent and equitable price outcomes for vertically integrated energy supply in these circumstances.

We also note that the ongoing work by the COAG Energy Council on regulatory issues for stand-alone power systems may have some bearing on the approach taken here.

### Question 7: Appropriate regulation of reliability of off-grid supply

**In light of the varying reliability requirements that may apply to off-grid supply under the current arrangements, are specific consumer protections regarding the reliability of off-grid supply required before the Rules should allow distributor-led transition to off-grid supply?**

As the intent of this rule change is to enable efficient expenditure in delivering standard distribution services, it should be regulated as a standard control service and supply should thus be subject to the same reliability requirements as on-grid customers. A DNSP moving a customer to an off-grid supply that resulted in lower reliability would be a perverse outcome.

### Question 8: Impacts on consumers of moving to off-grid supply – general questions

- a) **Chapter 5 discusses various regulatory issues and considers the potential impacts of moving to off-grid supply under the current regulations. If you have further information on, or a different analysis of, any of these issues, please provide details.**
- b) **What are the impacts on off-grid customers of ceasing to be covered by the protections in the Retail Law and Retail Rules, bearing in mind the protections provided by the Australian Consumer Law and by state laws?**

ATA agrees with the Commission that there is a distinct lack of clarity and consistency around issues of customer consent and disconnection, application of retail regulation, access to external dispute resolution, and consumer protection in general. We also note that many of these issues are currently being or have recently been explored both in connection with other processes (such as the COAG Energy Council's *Energy Market Transformation* workstream) and independently (we refer the Commission in particular to the ANZEWON paper on dispute resolution,<sup>6</sup> and the Consumer Action Law Centre's *Power Transformed*<sup>7</sup> and ATA's *Empowering the Future*<sup>8</sup> papers on consumer issues with emerging energy services and changing energy markets).

The lack of energy-specific protection makes Australian Consumer Law an inadequate instrument to deliver appropriate consumer protections for energy consumers. This is discussed in more detail in *Power Transformed* and *Empowering the Future*. Because a DNSP-

<sup>6</sup> Benvenuti J & Whiteman C, *Consumer access to external dispute resolution in a changing energy market*, ANZEWON, 2016 ([link](#))

<sup>7</sup> Consumer Action Law Centre, *Power Transformed: unlocking effective competition and trust in the transforming energy market*, 2016 ([link](#))

<sup>8</sup> ATA, *Empowering the future: appropriate regulation and consumer protections in emerging energy markets*, 2016 ([link](#))

owned off-grid system gives the DNSP the incidental role of energy seller as well as its core role as network service provider, the exemptions framework may be applicable. As discussed in the *Empowering the Future* and elsewhere, this gives a lower level of consumer protection than the NECF or the Victorian Energy Retail Code; nevertheless, it is a satisfactory interim outcome until the inequities of the two-tiered energy market have been addressed.

Ultimately, ATA advocates for a new approach to energy consumer protections that reflects the underlying principle that the need for, and level of, regulatory intervention in the interest of providing consumer protection should be based not on the mode of delivery of energy, but on:

- the extent to which the service or product in question is being relied on by the consumer to deliver the essential service of the continuous supply of energy; and
- the impact on the consumer of experiencing payment difficulties and hardship.

This could be delivered by a more nuanced retail authorisations framework that captures all forms of energy provision and has sufficient flexibility to impose obligations on energy providers that are appropriate with the mode of delivery and scale of business without compromising consumer outcomes and core consumer protection entitlements. Under this approach, there would be an appropriate retail authorisation category for DNSPs delivering energy supply as a vertically integrated monopoly.

**c) To what extent are customers who move to off-grid supply likely to face additional risks relating to electricity supply not faced by grid supplied customers? If additional risks arise, what is the nature of these risks and how material are they?**

Risks faced by off-grid customers not faced by on-grid customers include:

- **Unpredicted load variability:** household energy loads vary seasonally, sometimes considerably. This variability needs to be assessed when planning a SAPS so the system can be built to meet the highest level of need, typically with additional capacity to allow for unexpected additional load. An obligation on DNSPs to deliver reliability and security commensurate with the interconnected network should incentivise appropriate system design, providing monitoring, compliance, and enforcement are sufficient. DNSPs should develop an approach to assessment of need for use in off-grid installations.
- **Load growth:** over time, households' energy needs can change substantially due to changed lifestyle, household composition, health conditions, and so on. DNSPs with off-grid installations will need to ensure that they can ascertain in a timely manner whether system expansion is required. Failure to address will reduce the reliability of energy supply.
- **Unexpected damage to or breakdown of system:** this is not unique to off-grid systems; however, there is a risk that they may be less visible to the DNSP than nodes on the physical network. DNSPs will need monitoring systems in off-grid systems to ensure they can respond promptly to loss of supply or (since off-grid systems typically have backup systems) component breakdown.
- **User operation:** typically, a small amount of user operation is part of SAPS ownership – largely pertaining to the re-fuelling of petrol/diesel back-up generation. On this basis, and taking into account that no matter how large, all SAPS will have absolute system capacity limits, user education is a critical component to owning and operating a SAPS.

This includes education around the high-level management of longer term electrical loads, to ensure optimal system performance and lifespan.

## Conclusion

Thank you for the opportunity to respond to the consultation paper on rule change ERC0215 *Alternatives to grid-supplied network services*. If you wish to discuss anything raised in this submission further, please contact Dean Lombard, Senior Energy Analyst, at [dean@ata.org.au](mailto:dean@ata.org.au) or on (03) 9631 5418.

Yours sincerely



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# Empowering the future

Appropriate regulation and consumer protections in emerging energy markets



## Document Information

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## Contents

<b>1.0</b>	<b>Executive summary</b> .....	<b>4</b>
<b>2.0</b>	<b>The evolving energy market</b> .....	<b>5</b>
<b>3.0</b>	<b>Consumer protection fundamentals</b> .....	<b>8</b>
<b>4.0</b>	<b>Applying consumer protections: balancing appropriateness with consistency</b> .....	<b>9</b>
4.1	General provisions .....	9
4.2	Specific provisions.....	11
<b>5.0</b>	<b>Critical issues</b> .....	<b>14</b>
5.1	Vulnerable consumers .....	14
5.2	Asymmetric information and explicit informed consent.....	16
5.3	Dispute resolution.....	17
5.4	Transaction costs .....	17
<b>6.0</b>	<b>Conclusion</b> .....	<b>18</b>
<b>7.0</b>	<b>Acknowledgements</b> .....	<b>18</b>

## 1.0 Executive summary

*The energy market is becoming more complex for consumers. New products and services are emerging in response to changing technologies and growing concerns about the environmental impact of traditional centralised energy generation. When the National Energy Market (NEM) was designed battery storage, smart metering, and other emerging products and innovative business models were not contemplated. Now they are becoming commonplace, but energy market rules have not yet caught up.*

The regulatory framework that governs the NEM was predicated on an outdated centralised model, where the end-user was seen only as a consumer of retail energy services. But households and small businesses are increasingly using new services, such as energy storage management or leasing a solar energy system, for some (or most) of their energy needs. However, such ‘behind the meter’ products and services are not regulated beyond the generic provisions of Australian Consumer Law (ACL), and these customers are not benefiting from the many ‘energy-specific’ customer protections that have developed over time – special rules such as supply guarantees and hardship provisions – that reflect the vital importance of an energy supply.

The approach of allowing emerging energy services and products to sit outside of existing regulatory frameworks has been appropriate until recently. This is because these novel energy services have been expensive niche products used by engaged ‘prosumers’ making informed choices and with the means to wear some financial risk. But as more of these products and services reach the mass market and appeal to consumers without sufficient energy-literacy or financial resilience, the lack of energy-specific protections risks leaving them vulnerable to poor market outcomes.

This paper is intended as a basis for advocacy by groups that represent consumer interests in the policy development process. In the ATA’s view, the National Energy Consumer Framework (and the Victorian customer framework) should be expanded to cover the provision of all current and future energy-related services for households – not only where there is an explicit sale of energy. As such, this paper proposes a re-visioning of the scope and application of energy market regulation to better suit the evolving market and ensure that consumers can participate in it with confidence, thanks to appropriate consumer protections. Significantly, it proposes that consumer protections should apply based on the impact of market failures on the consumer and their essential supply of energy, rather than on the particular business model used to deliver the energy product or service.

These proposals have been developed over 2015 and 2016 thanks to a grant from Energy Consumers Australia that resourced the ATA’s participation in a number of developmental and consultative processes on the implications for both industry and consumers of emerging technologies and business models in the energy market.<sup>1</sup> We have also benefited from collaborating with the Consumer Action Law Centre’s *Power Transformed* project,<sup>2</sup> and the contributions of people from a number of consumer advocacy, community services, and other organisations who were involved in elements of that project or other work in this area.<sup>3</sup>

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<sup>1</sup> This paper was written by ATA Energy Advocate Dean Lombard but also incorporates material written by former ATA Energy Advocate Craig Memery.

<sup>2</sup> See <http://energy.consumeraction.org.au/powertransformed/>

<sup>3</sup> Brotherhood of St. Laurence, Public Interest Advocacy Centre, Energy and Water Ombudsman Victoria, Energy and Water Ombudsman NSW, Energy Tailors, Consumer Utilities Advocacy Centre.

## 2.0 The evolving energy market

The energy market is changing and becoming more complex for consumers. New products and services are emerging as a result of smart metering, energy storage, smart appliances, and other technological advancements. These new products, services and innovative business models – such as solar power purchase agreements, solar leases, home energy storage systems, remote control of smart appliances, co-operative power sharing, and so on – were not contemplated at the time when the National Energy Market (NEM) was developed and implemented.

The rules governing the NEM only provide the Australian Energy Regulator (AER) with jurisdiction to regulate for the sale of energy: that is, where there is a financial transaction relating to the volume of energy consumed (usually, but not always, metered). Thus, the retail authorisations<sup>4</sup>, exempt selling arrangements (for small-scale retailing such as ‘embedded networks’ in caravan parks, retirement communities, and apartment blocks), and network authorisations that impose energy market regulation on energy businesses apply only to businesses that are involved in the sale of units of energy to customers using NEM-connected infrastructure – the conventional energy grid and the generators that feed into it.

Providers of many new and emerging energy products and services – any business model that sells *access to* rather than *units of* energy (such as solar leases), any service that changes customers’ energy purchase needs by managing their usage (such as direct appliance control or battery management), and any direct or indirect sale of energy that is not connected to the physical grid (such as off-grid power systems or microgrids) – fall outside this regulatory framework because they are not selling units of energy through the conventional grid. So, while the end product for the consumer is similar – they pay money to access the energy they need in their household or business – they are not backed up by the special consumer protections that, as a society, we have deemed necessary to limit the impact of market failures on such an essential service. These market relationships are still regulated by the generic provisions under Australian Consumer Law (ACL); but as we discuss in this paper, ACL does not cover some of the specific issues that arise when the product or service delivers a significant portion of the customer’s essential energy supply.

The status-quo approach has been appropriate for energy-literate ‘prosumers’ who until recently have been the main group engaged with novel energy services and niche products, and have generally made informed choices. But as more of these energy products and services reach the mass market and appeal to typical consumers who are not highly energy literate, the lack of energy specific consumer protections risks leaving them vulnerable to poor market outcomes.

Figure 1 illustrates 20 possible future relationships arising from potential new services in the energy market, more than a half of which involve consumers directly. All of the new services and relationships currently sit outside of current National Energy Consumer Framework<sup>5</sup> (NECF) – and the equivalent Victorian Framework, primarily delivered by the Energy Retail Code – and therefore outside energy-specific consumer protections.

<sup>4</sup> Where term ‘retail authorisations’ is used in this paper it also includes Victorian retail licenses.

<sup>5</sup> s39 National Energy Retail Law

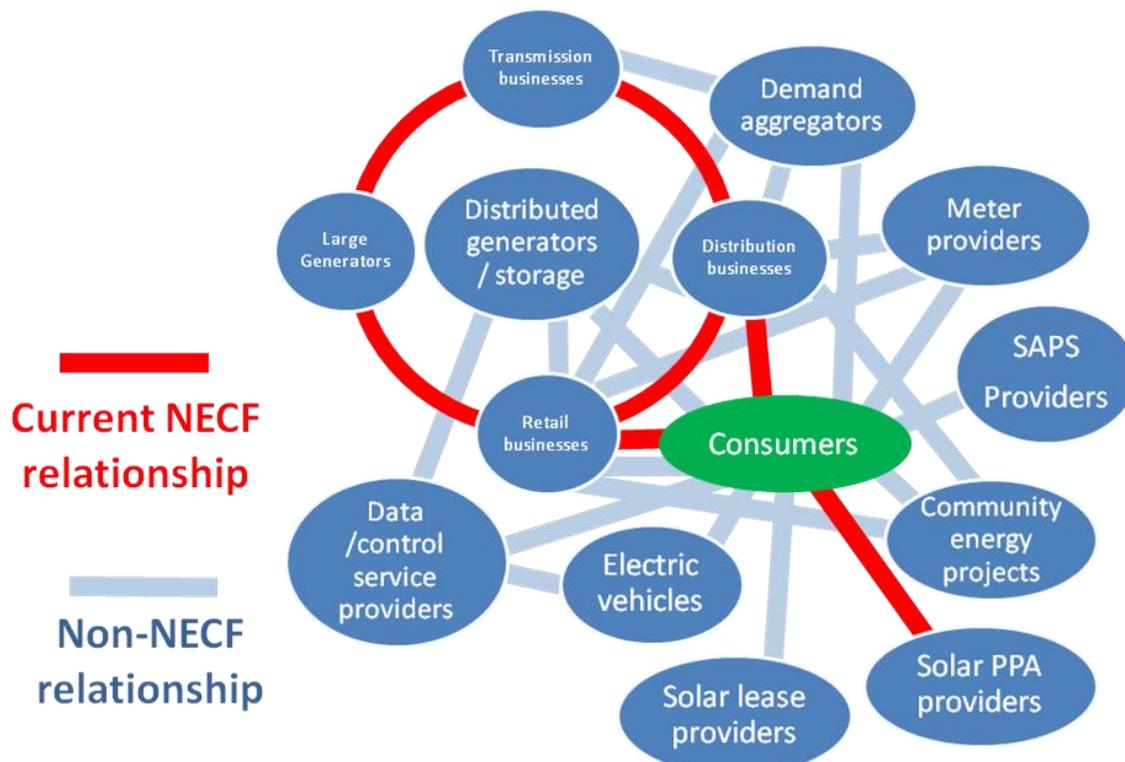


Figure 1. The connecting bars represent current and potential future energy relationships. Those in red are covered by National Energy Consumer Framework (NECF) today; those in blue are not.

To drive good consumer outcomes in the changing energy market, appropriate energy specific consumer protections should not be limited to situations where volumes of energy are purchased and delivered through the conventional grid. Rather they should be applied based on:

- the extent to which the service or product in question is being relied on by the consumer to deliver the essential service of a continuous supply of electricity; and
- the impact on the consumer of experiencing payment difficulties and hardship.

The absence of basic protections for products and services that aren't currently under NECF will lead to a perverse outcome where, for example, a consumer with a product or service provided by a retailer or network business has a higher standard of customer protection than one with the same product obtained from another provider.

Further, the current approach of limiting the reach of regulation to where energy is metered and traded runs the risk of creating loopholes. For example, the provider of a product or service could avoid complying with some consumer protections and other requirements simply by not selling energy on a per-unit basis – thus avoiding the need for an exemption.

These are not merely a theoretical risk: it is happening today. Solar lease providers are not subject to energy regulation, yet solar power purchase agreement (SPPA) providers are (see Figure 1). As a result, two different providers of identical products and similar services have different consumer protection obligations.<sup>6</sup>

To remedy these anomalies, the NECF (and the Victorian customer framework) should be expanded to cover the provision of all current and future energy-related services for households – not only where there is an explicit sale of energy.

<sup>6</sup> It should be noted that at present, SPPA providers have minimal obligations under their exemption category. Nevertheless they are still subject to meeting certain conditions; and if (as is likely) additional obligations are deemed necessary, the framework exists to impose them.

This is not to suggest that all energy services providers should be required to carry full retail authorisations or licences – this would be excessive, inefficient, and create a compliance burden that would both increase barriers to entry for innovative services, and restrict offerings to consumers. Rather, a smart and flexible authorisations and exemptions framework should be established that demands different levels of accountability and obligations to customers as appropriate to the type of product or service provided, and the scale of the business. The existing exemptions framework is probably the most appropriate vehicle to begin with. Specific categories could be added for the more prominent new energy products and services (such as has already been done for SPPAs – though the lack of conditions applying to SPPA exemptions needs to be remedied) with a ‘catch-all’ general registrable category for others. By requiring registration, the regulator will be able to recognise when growth in particular types of product or service warrants a dedicated category. Ultimately – as the energy market continues to diversify – a small-scale authorisations regime will become necessary to cover the most significant (in terms of both scale of market presence and potential impact on customers of problems) behind-the-meter and off-grid products or services.

By extending appropriate regulation to all energy products and services, the evolving energy market will better embrace the growing diversity and pace of innovation, while promoting:

- horizontal equity with regard to consumer access to a sufficient supply of energy;
- innovation and competition in provision of energy services; and
- consumer confidence in the energy market.

### Examples of emerging energy services that should be encompassed by the energy customer framework

The services below may be provided by any of the entities noted in Figure 1, and may involve the operation, leasing and/or outright sale of household-scale energy generation, consumption, and management. These services don't all require *the same* consumer protections; but they all require *some* consumer protections, depending on the severity of impact on the consumer of market failure or financial hardship:

- residential demand response
- energy generation systems
- energy storage systems
- electric vehicles
- operation of smart appliances
- direct load control
- optimisation services across multiple loads and energy sources
- load shedding
- community owned de-centralised renewable energy
- energy sold between consumers on the same distribution network (wheeling arrangements, or micro grids)
- solar energy sold in land sharing community arrangements between strata owners, strata corporations and tenants
- energy sold through urban-regional council partnerships
- energy sold via smart meters (which will offer possibilities for third parties to be involved in providing a range of smart meter services)
- off-grid energy sales
- groups of investors who generate renewable energy to sell for their own use
- small off-grid networks.

### 3.0 Consumer protection fundamentals

***Effective competition requires confident consumers; and consumers require good consumer protections to confidently participate in markets.***

Consumer protections in the energy market are premised on the understanding that energy is an essential service that is necessary for basic wellbeing. Energy is needed for lighting, space and water heating, cooking, refrigeration, health care, personal hygiene, communication and entertainment. This is why residential consumers in the traditional energy market have protections enshrined in industry regulation to ensure, as much as possible, that they have a safe and reliable supply of energy to meet their needs, even if they live remotely or are in financial hardship. These protections have been retained as the energy market has transitioned from a government owned and operated monopoly to a fully privatised, disaggregated, and contestable marketplace.

Currently, new energy technologies and services – some provided by the same industry bodies that trade in the traditional market, others by third parties that do not – are being used by greater numbers of households, to the extent that they will probably be considered mainstream in the near future. When that happens, the choice between having household energy supplied by an energy retailer that routes it from a generator via a network, or by an energy services company that leases the household a solar panel array and domestic wind turbine with a backup generator, may be as everyday as choosing between a supermarket or a local shopping strip for household groceries. In both cases, there are pros and cons, different risks and opportunities for each choice; but an equal need for consistent basic consumer protections.

For the most part, customers of traditional energy retail businesses enjoy the same types of consumer protections wherever they are. Among other things, customers can be confident that:

- they will be able to connect to an energy supply;
- their energy supply will meet minimum reliability, quality, and safety standards, and they will be compensated if it doesn't;
- sufficient notice will be given for any planned interruptions to supply, and special consideration given to people reliant on life-support systems;
- they will be given clear information about the service they are purchasing, a cooling-off period for any contract they sign, and in some circumstances (for more novel supply arrangements) a limited right to exit a contract and revert to their previous contract;
- the basis of all energy supply charges is clear and subject to regulatory oversight;
- they have access to historical billing data;
- they have access to discounts on their energy costs if they are eligible for concessions;
- if they come into payment difficulties, they will be given support and flexibility and only disconnected as a last resort and according to a regulated process;
- they have access to an external dispute resolution service if they are unable to resolve a dispute with their energy supplier;
- during billing disputes they can stay on supply and not have to pay the disputed amount; and
- if their supplier ceases trading, their supply is uninterrupted.

Application of consumer protections to various energy products and services should vary according to the type of product or service involved, and should include consideration of the ownership model and the role of the product or service with regard to the consumer's energy supply and exposure to financial risk.

Below are some examples for where and how consumer protections could be applied to services which currently fall outside of existing frameworks.

1. Solar PV installations where the customer has an ongoing financial relationship with a provider that retains ownership of the system (leading to uncertainty if the customer were to fall into financial hardship), require more comprehensive energy-specific regulation than systems purchased upfront by the customer.
2. Batteries with management systems controlled by a third party to buy and sell on the energy market according to dynamic price movements (potentially exposing the customer to significant financial losses if managed poorly), require more comprehensive energy-specific regulation than batteries controlled by the consumer to store unused solar generation.
3. Solar PV with battery systems provided as complete energy supply systems for off-grid customers require more comprehensive energy-specific regulation than systems installed to supplement a grid connection.

## 4.0 Applying consumer protections: balancing appropriateness with consistency

Consistent protections are necessary when the market comprises a range of quite different products that can provide for customer needs in different combinations. But consumer protections also need to be appropriate – in scale and reach – for different types of products. Some customer protections should apply across the board; others will only be applicable to certain types of products or service, and certain situations.

To implement these, appropriate accreditation, licensing obligations or exemption conditions must apply to all providers of energy products and services. This can be introduced with minimal disruption to current regulatory arrangements (and with minimal overhead to businesses) by extending the AER's retail exemption framework (and reflecting it in the Victorian exemptions framework). This approach can encompass all energy service providers, with new classes for emerging products and services added when required, and exemption conditions applying as appropriate for the specific services and situations. Over time it will probably be more efficient to adopt a more nuanced approach, with a flexible small-scale authorisations framework to cover the more significant energy products and services and the exemptions framework for smaller entities and niche products. An accreditation scheme covering certain services (such as advice services) and product suppliers may also be appropriate.

### 4.1 General provisions

We propose the following areas as generic provisions across all energy products and services for residential and small business consumers. Some of these are discussed in more detail in the *Specific provisions* section of this paper.

#### 4.1.1 Explicit informed consent

Explicit informed consent ensures that customers are given sufficient information whenever they enter into an agreement with the energy business to understand their rights, obligations and the terms of their energy or energy management services contract. Before they sign up to the product or service customers should be provided with accurate, standardised, suitably detailed and easy to understand information about the product or service that is on offer – and the anticipated risks and benefits that may arise.

Some innovative products and services inherently require a longer term contractual commitment, as significant up-front investment is made in providing and installing equipment. In these cases, a service provider must be able to demonstrate explicit informed consent such that the consumer is made aware wherever they may be:

- foregoing access to competition for some or all of their energy needs for some period of time; and
- subject to some sort of additional charge to recoup some of a provider's cost outlay if their circumstances change – for example, if they move house and equipment has to be removed or relocated.

#### 4.1.2 Concessions and the hardship framework

Hardship frameworks and concessions programs are premised on the principle that low income households should be assisted with meeting the cost of their energy supply and given support and flexibility if they encounter payment difficulties, with disconnection of supply for non-payment a last resort. Access to concessions for customers of new energy products and services should be given by the states and territories, with obligations on relevant energy service providers to facilitate that access.

- The requirement that providers deliver elements of the hardship framework to customers should be contingent on the existence of recurrent charges (whether fixed or variable) and be reflective of the impact non-payment could have on a customer's wellbeing, financial situation and energy supply. Protections against – and remediation for – wrongful disconnections should be included.
- All eligible consumers should have access to state concessions for their energy costs, and hardship grants schemes for reducing accumulated debt. These should be available for eligible customers for all costs that are, in effect, a payment for energy supply.

Naturally, the extension of concessions to residential customers of new energy products and services is a matter for jurisdictions – nevertheless, it is consistent with the recognised national policy priority of addressing hardship issues in the evolving energy market. Significantly, some jurisdictions already give energy concessions to customers of some forms of non-metered energy – for example, Victoria's *Non-Mains Energy Concession* for concession cardholders who rely on LPG or firewood for heating, cooking or hot water, or who depend on electricity from an embedded network or generator. The AER *Retail Exempt Selling Guideline* requires that providers do not hinder customers applying for a concession or rebate to which they are eligible, and apply on the customers' behalf if this is necessary: so if concession eligibility is extended to customers of new products and services by the states, this same requirement should be placed on providers.

#### 4.1.3 Marketing rules and restrictions

Common, accurate and consistent language, presented in simple English, must be used in the marketing of novel services. Even when referring to technical concepts or functions that have specific industry terms, simple and consistent language should be used where necessary – when the concepts or functions are integral to customers' interactions with or outcomes from using a product. For example, to describe the basic functions of direct load control products, information such as the nature, timing and frequency of control needs to be clearly communicated to consumers. Without common definitions on the technical aspects of such a product, consumers are unlikely to be able to provide informed consent.

Marketing activities and materials should also be required to contain clear and comprehensible information about pricing. This entails not only expressing prices and costs in ways that enable consumers to compare them with other providers; but also, where applicable, to understand prices and costs over time. Many energy products and services comprise a large up-front cost that offsets future costs. Marketing that is based on cost savings over considerable time must be clear about estimated payback periods and based on defensible estimates of future energy prices.

Strong measures must be in place to ensure that certain consumers are not offered products and services that would potentially cause or exacerbate any detriment to their health, wellbeing, or safety. For example, those who are on life support, or have medical cooling and heating needs,

should not be offered load control services that may restrict supply of energy for appliances required to sustain life and health.

#### 4.1.4 Dispute resolution

Businesses providing energy products and services must have internal dispute resolution processes that meet a minimum standard. This can be scaled by business size, such that businesses with relatively low customer numbers meet a basic minimum standard, while larger ones have more comprehensive requirements for dispute resolution procedures and documenting (and reporting) of complaints and systemic issues.

Access to free, independent and an impartial external dispute resolution is a hallmark of the conventional energy market and is clearly much more effective than reliance on state-based consumer regulators.<sup>7</sup> Extending coverage of energy ombudsman schemes to cover providers of other energy products and services requires a number of changes including developing new membership categories and fee structures within ombudsmen. But this is already being explored in a number of states and by a number of ombudsmen, so is a solvable problem.

#### 4.1.5 Harmful products

Restrictions should be placed on products and services that are punitive and involuntary in nature: for example, the forced use of Supply Capacity Control as a credit management tool. In Victoria, energy retailers are prohibited from offering a Supply Capacity Control product (which turns off supply when a customer reaches a certain limit) to customers for any credit management purposes.

## 4.2 Specific provisions

Some provisions need only apply to specific types of product or service. For example, any product or service that uses its own meter should be required to comply with minimum standards pertaining to:

- accuracy;
- frequency of readings;
- rules for use of estimated or substituted data; and
- consumer access to meter data.

Some types of energy services are defined more by the customer's use-case than the product hardware. These need protections that are appropriate for the extent to which they are relied on by the customer for the essential service or energy supply.

### 4.2.1 Solar Power Purchase Agreements

A Solar Power Purchase Agreement (SPPA) is a financing arrangement to provide solar energy to a home or business at no (or minimal) upfront cost. The provider installs and maintains a solar generation system on the roof of the property, and the customer purchases the electricity generated by the system at a significantly lower per-kWh price than typical retail tariffs. The contract may last anything between five or 20 years, and the per-kWh price may be fixed or it may periodically increase by a predetermined amount. The solar system remains the property of the provider for the length of the contract, after which (depending on the contract) ownership may pass over to the customer or it may remain with the provider – who may sell it to the customer or remove it.

Sale of energy via SPPAs is a growing industry that, in particular, is opening up the benefits of home generation to lower income households. In fact, some energy retailers are offering SPPAs to customers experiencing ongoing hardship in order to reduce their energy bills. Some market analysts

<sup>7</sup> Jo Benvenuti & Caitlin Whiteman (2016) *Consumer access to external dispute resolution in a changing energy market*, EWOV/EWON/EWOSA.

expect that in the near future a growing number of households will source the majority of their essential energy supply via an SPPA.<sup>8</sup>

These two factors – the growing use of SPPAs by vulnerable households, and the potential for SPPAs to provide a household's primary source of energy – represent a strong rationale for appropriate and effective consumer protections. Because an ongoing financial relationship is involved, this should include some hardship provisions and access to concessions, where available.

There is another much more specific issue with SPPAs that needs to be addressed with appropriate regulation. If a solar PV system generates more energy than the household uses, the excess energy is sold into the grid for a feed-in tariff. However, SPPA customers may still be charged the agreed price for generated energy, even if they don't use it themselves. A household could find itself significantly out of pocket if it has to regularly pay more for excess generation at, say, 15¢ per kWh and sells it for a FiT of just 5¢ or 6¢ per kWh. Ideally, an SPPA provider would discount the cost of excess generation to the level of the FiT<sup>9</sup>; however, this is not required. When SPPAs are being used as a tool to help households in hardship, this is a particularly perverse outcome.

This issue is best addressed by requiring that SPPA providers:

1. assess household energy needs and usage patterns prior to installation in order to appropriately scale the system;
2. give detailed information to new customers explaining how household energy use varies over the day and evening, and that generation not used immediately is sold to the grid at the FiT rate; and
3. discount the cost of unused kWh to the level of the FiT so that, in effect, the provider (as the owner of the system) earns the FiT, and the household (as the purchaser of energy generated by the provider's system) pays for their usage.

#### 4.2.2 Emergency backup

Where emergency backup is required for customers with life support systems that require an ongoing energy supply or with health conditions that require heavy usage of heating or air-conditioning to maintain room temperature within a narrow range, an assurance that the backup system will perform as required is critical. Systems installed as emergency backup for these customers should include clear specifications for performance and maintenance requirements, and a performance guarantee, to enable consumers to make informed choices. Providers of energy products and services that include emergency backup for these types of critical consumer needs should be required to ascertain the specifics of the customer's backup energy need and provide appropriate advice to the customer or – if they are providing the backup supply as part of their service – ensure that it is fit-for-purpose.

#### 4.2.3 Off-grid systems

Appropriate consumer protections should be in place for consumers who go 'off-grid'. Today, consumers are free to replace their mains grid energy supply with a Stand Alone Power Supply (SAPS), and the protections for consumers replacing a mains grid connection and retail contract should reflect the greater risks that are particular to their situation. In some respects, protections for consumers seeking to disconnect from the grid should be similar to those that exist today under retail and distribution frameworks.

Strong protections are required:

- wherever the provider of the product or service has the ability to entirely restrict a consumer's access to continuous energy supply for non-payment; or

<sup>8</sup> DELWP (2016) *General Exemption Order: draft position paper*, Department of Environment, Land, Water and Planning, Victoria.

<sup>9</sup> Some SPPA providers already do this – for example, Express Power (see <http://www.expressolar.com.au/power-purchase-agreement>).

- when the consequence of failure of the business, product, or service compromises a consumer's access to the essential service of the continuous supply of energy, such that a consumer is unable to access energy from another cost effective and immediately available source.

Protections are equally important when a consumer is purchasing an off-grid system outright with no intention of a continuing relationship with the provider. Providers of systems and services to take consumers permanently (or long-term) off-grid need to be subject to stronger regulation than they are today. Specific protections that might apply include:

- providing a performance guarantee with respect to frequency and duration of system outages;
- educating customers about the difference between a grid connection and living with an off-grid system;
- clearly demonstrating that they have the explicit informed consent of the consumer, with particular emphasis on the customer understanding the above matters;
- contract terms that are clear and fair;
- a cooling off period;
- full disclosure of detailed product information to allow for straightforward repairs and identification of correct replacement parts;
- recording and reporting disputes to the AER; and
- a prudential fund or insurance against failure of the system and insolvency of the provider.

Currently, there is no requirement in the ACL, NECF, or the Clean Energy Council's voluntary SAPS installer accreditation for the any of above conditions to apply when a consumer goes off-grid. Due to the nature of electricity being an essential service, and the fact that these customers are foregoing a highly regulated grid supply, it is appropriate for more robust regulation of off-grid system providers in the interest of consumer protection.

#### **4.2.4 Other products and services with specific needs**

Many other products and services expose users to specific risks. These can be addressed by specific customer protections.

##### **4.2.4.1 Residential demand response**

Contracts for these services should clearly specify any penalties applied if customers do not provide a demand response that they have undertaken to provide. Such penalties should be fair and reasonable.

##### **4.2.4.2 Energy storage systems**

In order for customers to be able to make an informed choice, vendors should provide:

- clear and accurate information with regard to usable capacity and lifespan of storage systems, including changes of capacity over the life of the system;
- access to information and modelling tools to enable customers to determine the effective cost per kWh over the expected lifespan of the system and indicative bill reductions associated with the storage system specifically; and
- clear labelling on the system showing product identification (for example, model number), capacity, date of installation and battery chemistry, to facilitate safe operation, maintenance and repair.

#### 4.2.4.3 Energy storage management systems

Energy storage management systems, that strategically charge and discharge batteries to take advantage of time-variant pricing, are expected to be an emerging market. These services could manage electric vehicle batteries as well as batteries installed as part of a home energy generation system. Relying as they do on dynamic tariffs offered by other market participants, there is a risk of significant financial impact on customers if there is an error with regard to how the management system responds to time-variant or demand-based pricing – for example, time periods for time-of-use or flexible tariffs, or demand measurement periods for demand tariffs – which causes the battery to charge (or not discharge as expected) during a peak period. These errors could arise from incorrect alignment with or changes to the tariffs in question, or timing errors due to inadvertent clock resets or lack of adjustment to daylight savings time changes. Providers of these services should be required to take liability for these errors.

#### 4.2.4.4 Direct load control

Direct load control services – which cycle or delay operation of high-usage appliances to minimise use during peak price periods and take advantage of low off-peak rates – might rely on smart appliances, but could also be used with ‘dumb’ appliances via a smart connector. In addition to the clock error issue shared with energy storage management systems, there is also a risk to health and safety if used with life support equipment (unlikely but not impossible) or heating and cooling appliances of customers with chronic illnesses that affect their body’s thermo-regulatory function (necessitating maintenance of room temperature within a narrow range). In addition to the liability issues for clock errors (discussed above), direct load control providers should be:

- required to determine whether customers or their co-habitants require life support systems or have a thermo-regulatory conditions;
- prohibited from connecting direct load control equipment to life support equipment; and
- prohibited from providing direct load control to heaters and coolers in dwellings with residents with thermo-regulatory conditions unless maintenance of required temperature can be guaranteed.

## 5.0 Critical issues

Some of the issues canvassed above warrant further discussion. These are all fundamental to any consideration of industry regulation designed to meet the needs of consumers and both support them in fully engaging with the market, and protect them from harmful impacts of market failures or loss (or lack) of financial security.

### 5.1 Vulnerable consumers

There are two types of vulnerable customers: customers who are vulnerable now, and customers who become vulnerable in the future. Because anyone can become vulnerable at any point in their life, protections for vulnerable customers cannot be carved off and applied to some products and services and not others. The belief that hardship protections are not required in the emerging new energy market because ‘vulnerable consumers’ can’t afford to buy, say, solar panels or off-grid systems is misguided: people who *can* afford to participate in these markets *now* may fall into financial hardship in the future due to accident, ill-health, relationship breakdown, job loss, and so on.

At the same time, there are some classes of consumer who can be identified as ‘vulnerable’ now and can be expected to remain vulnerable into the foreseeable future. Classes include people:

- reliant on life support systems that require a continuous supply of energy

- with chronic health conditions that preclude regular employment, or lead to very high energy usage (such as conditions causing thermoregulatory dysfunction, requiring constant use of heating or air-conditioning to maintain room temperature within a narrow range)
- caring full time for someone with chronic health problems or a disability
- on very low incomes with few prospects of improvement – in particular, people with low levels of education and employment skills

Some new energy products and services could be beneficial to consumers in ongoing financial hardship. For example, solar PV systems – whether owned outright or via SPPAs – can reduce household energy costs enough to make unaffordable consumption affordable for many households. Direct load control or other energy management services used in conjunction with time-variant or demand tariffs could similarly reduce a vulnerable household's energy costs significantly. But there are also some risks. A household experiencing difficulties meeting repayments on a loan used to purchase an energy system could risk other assets, such as their home. A low-income household using an SPPA to lower their energy costs (and we note that some energy retailers are giving SPPAs to customers in ongoing hardship) could end up paying more rather than less if their system generates much more than they can use and they end up reselling a significant portion of their generation at a feed-in-tariff (FiT) rate that is much lower than their purchase rate.

As there are efforts in some jurisdictions to facilitate access to emerging energy products and services for vulnerable consumers, it is imperative that energy-specific hardship protections are delivered based on the principles we have already espoused in relation to all consumer protections:

- the extent to which the service or product in question is being relied on by the consumer to deliver the essential service of the continuous supply of electricity; and
- the impact on the consumer of experiencing payment difficulties and hardship.

**As a general guide for protecting the interests of vulnerable consumers there are six main considerations.**

1. Products or services that require ongoing payment should have some requirement for giving some flexibility and support to customers with payment difficulties. This should be more extensive for products or services that provide the bulk of a customer's essential supply, especially where there are no readily available alternatives (for example, where a customer is off-grid).
2. Products that are purchased via finance facilitated by the vendor should have a requirement that the type of finance used is subject to the National Credit Code (which contains hardship provisions).
3. Providers of energy products and services that entail ongoing payments should not hinder customers applying for a concession or rebate to which they are eligible, and apply on the customers' behalf if this is necessary. (This will be necessary in any jurisdictions that extend eligibility for energy concessions to customers of new energy products or services.)
4. For any energy products or services that provide the bulk of a customer's essential supply, especially where there are no readily available alternatives (for example, where a customer is off-grid), should be required to ascertain whether customers require life support systems or energy-intensive temperature control and:
  - a. Ensure these customers are fully cognisant of their energy needs and the risk they may face if supply is not available
  - b. Provide information to assist these customers to secure an appropriate backup supply
  - c. Where and ongoing service relationship will exist, maintain a record of these customers to ensure prompt response to supply problems.
5. Where a power purchase agreement is in place (such as an SPPA), it should be established and structured in such a way as to minimise the financial risk of excessive unused generation to vulnerable customers – for example, scaling system size to match household energy needs, and discounting the cost of unused generation to the FiT rate for concession-eligible customers.
6. There must be restrictions on products and services that are punitive and involuntary in nature; for example, the forced use of Supply Capacity Control as a credit management tool. In Victoria, energy retailers are prohibited from offering a Supply Capacity Control product to customers for any credit management purposes.

## 5.2 Asymmetric information and explicit informed consent<sup>10</sup>

Around Australia, consumers lack confidence that they have sufficient information to make good decisions when engaging with the conventional energy market, and have low levels of trust in the information they do find.<sup>11</sup> That there is an undesirable level of information asymmetry in the conventional market suggests that it is likely to be even more of an issue for consumers making choices for novel energy products and services in the emerging market.

Consumer information is not a silver bullet for good market outcomes. As the Consumer Action Law Centre's *Power Transformed* report notes:

*As the number of choices or the amount of information increases, decision-making deteriorates. That is, people's decisions become less likely to be in their own interests. Heavy reliance on disclosure alone to underpin informed decision-making in a rapidly changing and diversifying market is therefore unlikely to support effective choice and effective competition.<sup>12</sup>*

Nevertheless, consumers cannot reliably make good decisions without understanding what the product does and how it will meet their needs. Transparent product and service disclosure presented in a comprehensible way is a necessary element of this.

The NECF (and the Victorian Energy Retail Code) require explicit informed consent for a number of customer decisions. Extending the requirement for explicit informed consent to contracts for other energy products and services would help ensure that customers are given sufficient information and understand their rights, obligations and the terms of their energy or energy management services contract, whenever they enter into an agreement with the energy business.

Customers should be provided with detailed, accurate, standardised and easy to understand information about the product or service that is on offer, and the anticipated risks and benefits that may arise from their use, before they sign up to the product/service. The NECF however does not address the need to disclose information in plain English and to ensure that consent is provided by someone who is competent to do so. This is a concern in view of the poor practices that are often employed in marketing to vulnerable consumers from non-English speaking backgrounds and those with poor literacy.

In a recent judgement against retailer Energy Australia, Justice Gordon said explicit informed consent:

*... goes to the very core of the stability and transparency of the energy markets, when considered from the perspective of consumer confidence. All participants in the industry must not only understand the central importance of the need to obtain the explicit informed consent of consumers but ensure that they have procedures in place which ensure that this is achieved."<sup>13</sup>*

This applies equally to emerging energy services.

It is not necessarily in a business' interest for consumers to fully understand exactly what products or services deliver or how they are priced, because businesses can benefit from the 'confusopoly' that leads to consumers making sub-optimal choices. Some of the new products and services have the potential to be more confusing than existing retail and energy service products due to added complexity.

It is therefore incumbent on government and regulators to ensure that, in addition to robust consumer protections, consumers have basic information tools to help them fully understand the new product and service. All contract terms and conditions and product information sheets must be easy to understand and accurate. In addition, full disclosure of information about product or service attributes and use is important.

<sup>10</sup> This section includes material written by Deanna Foong, former Policy Advocate at the Consumer Utilities Advocacy Centre.

<sup>11</sup> ECA, *Energy Consumer Sentiment Survey Findings: July 2016*, Energy Consumers Australia, 2016.

<sup>12</sup> Consumer Action Law Centre (2016) *Power transformed: Unlocking effective competition and trust in the transforming energy market*, Consumer Action Law Centre: p. 25.

<sup>13</sup> Federal Court of Australia, *Australian Competition and Consumer Commission v EnergyAustralia Pty Ltd* [2015] FCA 274

### 5.3 Dispute resolution

Businesses providing energy products and services should have internal dispute resolution processes that meet a minimum standard. This can be scaled by business size, such that businesses with relatively low customer numbers meet a basic minimum standard, while larger ones have more comprehensive requirements for dispute resolution procedures and documenting (and reporting) of complaints and systemic issues.

Access to free, independent and an impartial external dispute resolution is a hallmark of the conventional energy market and is demonstrably much more effective than reliance (under Australian Consumer Law) on state-based consumer regulators, which have limited (and varied) capacity to actually resolve disputes (focusing more on information provision and advice) and complaint processes that can be complex and, if complaints need to be taken to tribunals, costly.<sup>14</sup> Apart from in NSW, the jurisdiction of state-based energy ombudsmen doesn't extend even to embedded networks, let alone to other energy products and services outside the conventional retail market. The Victorian government is currently exploring the practicalities of extending the reach of the Energy and Water Ombudsman Victoria to exempt retailers and network operators in embedded networks;<sup>15</sup> and the Energy and Water Ombudsmen in Victoria, NSW and South Australia are currently exploring the feasibility of extending their membership to alternative energy providers.<sup>16</sup> Implementing this change would require, among other things, developing new fee structures and membership categories for ombudsmen that are appropriate for smaller-scale businesses without needing unjustifiable cross-subsidies from other ombudsman members. This is not simple, but it's a solvable problem; and it's already been done in other sectors (such as telecommunications). Once it's figured out, then extending membership and jurisdiction of ombudsman schemes to providers of non-conventional energy products and services will be rudimentary.

It is important to recognise that external dispute resolution does more than actively resolve disputes. The existence of accessible ombudsman schemes and the financial cost to members of having ombudsman cases encourages them to seek to resolve disputes internally. Ombudsman resolutions also serve as soft precedents, indicating to other members how their obligations to customers should be delivered. In this way, the ombudsman is effectively part of the compliance framework.

### 5.4 Transaction costs

The availability of government-backed independent energy price comparators has improved the ability of consumers to make informed decisions when choosing an energy retailer. This has been necessary for two reasons:

- the complexity of energy tariffs (with the interplay between the fixed and variable components making cost calculations difficult); and
- the failure of commercial price comparators to actually compare all available products, and to actually show the user the best available price.

The costs (to government and to industry) of implementing an independent price comparator make it an 'if necessary' rather than 'by default' option. If price structures of specific products and services are complex and vendors do not present prices in such a way as to make them calculable and comparable, then some form of price comparator is necessary. If independent comparators for such products do not arise in the market, then one will be necessary. This could be provided by government funding to a suitable body (perhaps a not-for-profit) for an independent comparator, or direct provision of a regulated service.

<sup>14</sup> Benvenuti & Whiteman (2016) *op. cit.*

<sup>15</sup> Department of Environment, Land, Water and Planning, *General Exemption Order: Draft Position Paper*, DELWP, 2016

<sup>16</sup> Benvenuti & Whiteman (2016) *op. cit.*

If all energy products and services are subjected to an appropriate level of energy-specific regulation (as ATA is suggesting), requirements can be included to standardise information about prices, to enable customers to more readily make comparisons. An example of this kind of approach, albeit for conventional energy retail products, is the *Tariff Information Label*<sup>17</sup> used in the UK, which shows key information about tariff rates, other fees, and key contract conditions in a standardised format. It also uses a standardised *Tariff Comparison Rate*<sup>18</sup> to enable comparison of price outcomes across different offers. A similar approach tailored for specific types of energy products and services that become relatively common in the marketplace would help minimise customer transaction costs and facilitate informed choice without requiring regulated comparison services.

Nevertheless, as already noted, if specific product types become established in the emerging energy market but pricing information continues to be obfuscated or overly complex, some form of regulated comparator may become necessary. Ongoing monitoring of the market will be required, and an appropriate regulatory framework necessary to enable action when necessary.

## 6.0 Conclusion

This paper has outlined a rationale for extending energy-specific regulation and customer protections to all residential energy products and services and how that could be implemented. It has also explored some broader underlying issues. We hope it stimulates further discussion and policy development and advocacy.

For more information, please contact Dean Lombard: [dean@ata.org.au](mailto:dean@ata.org.au).

## 7.0 Acknowledgements

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Early work on the project was undertaken by former ATA Senior Energy Advocate **Craig Memery** and this paper draws from his work. It also draws from research and policy development undertaken by **Deanna Foong**, former Research and Policy Advocate at the Consumer Utilities Advocacy Centre.

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Finally, valuable contributions were made by members of the ATA's policy and research team – **Andrew Reddaway**, **Nick Carrazzo**, **Keiran Price**, and **Damien Moyse** – and editorial assistance by **Kulja Coulston**.

<sup>17</sup> See [https://www.ukpower.co.uk/home\\_energy/tariff-information-labels](https://www.ukpower.co.uk/home_energy/tariff-information-labels)

<sup>18</sup> See [https://www.ukpower.co.uk/home\\_energy/tariff-comparison-rate](https://www.ukpower.co.uk/home_energy/tariff-comparison-rate)

# Submission to COAG Energy Council Stand-Alone Energy Systems consultation paper

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*October 2016*

The Alternative Technology Association (ATA) welcomes the opportunity to respond to the COAG Energy Council's consultation paper on stand-alone energy systems in the electricity market.

Founded 36 years ago, the ATA is a national, not-for-profit organisation whose 6,000 members are (mostly residential) energy consumers. About 2,500 of our members are Victorian.

Our extensive experience in energy policy and markets informs our advocacy and research which, amplified by our close collaboration with fellow members of the National Consumer Roundtable on Energy, makes the ATA an important voice for energy consumers Australia-wide.

ATA has a uniquely twofold perspective as a consumer advocate. With the continuing support of the Energy Consumers Australia (and formerly the Consumer Advocacy Panel) we represent all small energy consumers in advocacy that seeks to improve energy affordability and the structure and operation of the National Energy Market (NEM). Additionally, we speak with authority on behalf of the growing portion of the consumer base that has an interest in demand-side participation.

We thank the Energy Market Transformation Project Team for preparing a comprehensive and thoughtful consultation paper, and for your excellent participatory workshop that helped inform stakeholder submissions.

## Overview

Microgrids becoming a more prominent feature of the energy supply system could lead to growing numbers of people outside the energy regulatory framework unless the framework encompasses microgrids and other small networks that may be separate in one way or another from the conventional regulated network. In the ATA's view, appropriate regulation of microgrids – whether with or without a grid connection – is necessary to ensure good customer outcomes; and to ensure consistency and predictability, the national framework is the most appropriate one.

The form of regulation may vary according to the ownership and governance models, as well as the rationale. Where established as the most efficient way to deliver network services, microgrids should be considered part of network infrastructure and regulated under the existing regulatory framework for networks. Where established by other parties, for other reasons, an appropriately tailored exemptions framework seems the most suitable approach in the near term, with a flexible small-scale authorisations framework becoming necessary over

time as there is growth in both the number and size of microgrid and embedded network management businesses.

Special consideration should be given to consumer-driven microgrids, part of the growing movement of community energy projects (CEPs). Regulation of CEPs can be lighter and more flexible to allow for the types of trade-offs consumers may consciously make to pursue their objectives, while still providing for basic consumer protections.

In this submission we comment on the differences between energy systems established by networks as part of their regulated services, those established by commercial entities, and those established by communities, with respect to a number of issues including pricing, reliability, hardship provisions, dispute resolution, customer information, contracting, and so on.

Developing appropriate regulatory responses to emerging energy products and services is essential to ensure that the transforming energy market continues to put the interests of consumers front and centre.

## Defining stand-alone systems

We recognise that this paper is concerned with small stand-alone networks rather than individual customer-owned systems. Nevertheless there are a number of customer protection issues with individual customer-owned stand-alone systems that also need to be addressed. We comment on these in our submission to the consultation paper on consumer protections for behind the meter electricity supply.

### Terminology

There are many different types of stand-alone power supply systems, and using the term 'stand-alone systems' has the potential to cause confusion, especially when the alternative energy industry has largely settled on more specific terminology:

#### *Individual systems*

**Stand Alone Power System (SAPS):** this is a well-recognised term in both the solar industry and among DNSPs, referring to an individual system (typically solar with battery storage and a backup generator) serving one customer load (typically a single house) and completely disconnected from the grid.

**Hybrid system:** an individual generation and storage system installed at a single connection point. It is connected to the mains grid but can operate independently of it during power outages or peak demand events. Hybrid systems can be designed or optimised to minimise reliance on grid supply (potentially to less than 10 per cent of annual load).

#### *Group systems*

**Embedded network:** a network "embedded" in the main electricity grid. The embedded network is connected to the mains grid through one grid connection point, where a revenue-grade meter exists and retail billing and contractual arrangements occur. All sites within the embedded network are sub-metered.

**Microgrid:** a small network with its own generation and storage that can operate independently as a whole system. A microgrid may be connected to the mains grid – and thus be

an embedded network – but it must be capable of disconnecting from it and operating in island mode.

Fully independent microgrids and household SAPS are rare and are likely to remain so in the foreseeable future, as they are not cost-effective in most situations (with some remote locations being the exception). However the economic case for embedded microgrids and household-scale hybrid systems is improving and these will be the systems that are likely to proliferate.

In this submission we will use the term *microgrids* to refer to small networks that are either fully separate from the grid, or with a grid connection but that can operate independently of the grid.

### What is an appropriate definition for our purposes?

A suitable definition should encompass both fully independent microgrids that are not connected to the grid), and microgrids that can connect and disconnect as required. Since it is feasible that network businesses may in rare cases install individual stand-alone power systems (SAPS) for individual edge-of-grid customers as part of their regulated provision of network services in the interests of more efficient expenditure, the definition in this consultation process should also encompass utility-owned systems that supply even just one customer.

### What different regulatory issues arise from grid-connected versus grid-independent systems?

The most fundamental difference is that a grid-connected system has the grid to back it up if it cannot meet demand, has quality or reliability problems, and so on; while a fully independent system must supply 100 per cent of the need 100 per cent of the time. On the other hand, a grid-connected system will interact with the grid when it is connected, drawing power at some times and injecting at other times. These qualities suggest that grid-connected systems may need specific regulations concerning their connection and interaction with the wider grid; while fully independent systems may need more stringent regulations concerning quality and reliability.

### Ownership models

In exploring the regulatory implications of different types of microgrids, it is useful to consider governance and purpose in addition to ownership. Different governance structures and purposes lead to different priorities and different customer and regulatory issues. For example:

- A co-operative whose purpose is to minimise reliance on the grid and provide a sustainable, emissions-free local energy supply will have a very different regard for price than one established to provide lowest-cost power using a combination of local generation and strategic use of the grid.
- A grid operated by a third party contracted by an owners' association that has a complete hands-off approach will respond differently to regulatory incentives than one where the owners' association works collaboratively with the third party.
- A DNSP establishing a micro-grid (either stand-alone or grid connected) or a series of SAPS or hybrid systems as a regulated service because it is the most efficient way to serve that community faces different regulatory pressures than if it establishes these as a contestable service in response to customer demand.

## Other possible business models

The business models identified in the consultation paper may take very different forms – to the extent that the definitions of the models could overlap considerably. Co-operative models may be self owned and/or managed, or contracted from third party providers – which could be not-for-profits, social enterprises, or more conventional for-profit businesses. Municipal systems may be governed by municipalities or via a community representative body more akin to a community co-operative model. Landlord, district, or DNSP models may look very different but all be contracted to third party operators and be run very similarly.

## Unique regulatory challenges of different ownership models

**DNSP model:** microgrids established as the most cost-effective way to deliver regulated network services would still be covered under the existing national framework. However some aspects of this (such as reliability and service standards) might need to be further specified with regard to how they apply in a microgrid environment. This model remains closely aligned to the National Electricity Objective (NEO).

**Landlord model:** as outlined in the consultation paper, this seems most like an embedded network, and should be regulated under the exemptions frameworks as other embedded networks are – if not also a small-scale authorisations framework. Split incentives between the microgrid operator and the end-users are a regulatory challenge. Because the end-user customers are not driving the decision to leave the conventional grid, the regulatory framework that encompasses this model's should align it with the NEO.

**District model:** as a commercial proposition, this has similar requirements and issues to those applying to the landlord model.

**Co-op model:** as a community benefit endeavour, a lighter or more flexible form of regulation is suggested. However there are still a number of fundamental consumer protection issues. Balancing these end-users' goals (which may include trading off price or reliability for other objectives) with those fundamental consumer protections is a regulatory challenge. This is discussed later in our submission. Additionally, most of these types of microgrids are likely to contract management of the system out to a specialist energy services company, so many of the regulatory issues with other models that relate to split incentives between operators and end-users may still apply. Because the end-user customers are explicitly choosing an alternative from of energy supply, some diversion from the NEO is implied. However it must also be considered that in a diversifying energy market, the NEO needs to be reinterpreted and perhaps reframed to better meet customers' long-term interests with regard to responding to the threat of climate change, and being more engaged with energy supply and use.

**Municipal model:** depending on its rationale and how it is structured and governed, these may be more like either the district model or the co-op model with regard to regulatory needs and challenges.

## Issues

### Consumer protection

The types of microgrids within the scope of this review are utility-owned or utility-like systems that in essence are more akin to various types of embedded networks or other exempt selling arrangements rather than customer product choices. Thus it is appropriate that consumer protections reflect what is experienced in the energy market more broadly. This suggests a combination of regular consumer protections as determined by the national and state energy consumer frameworks, and the more limited protections found in the national and state exemptions frameworks. The nature of microgrids may determine some differences from mainstream protections; as may the particular implications of different ownership structures.

In particular, if network businesses establish microgrids for edge-of-grid communities because it represents more efficient expenditure – and these systems are part of their regulated services and regulated asset base – customers should be protected on the same basis as grid-connected customers of that network business. The implications of this for retail services are unclear. Networks might serve as regulated retailers, or procure retail services from authorised retailers or third parties. The absence of competition suggests some form of price and service regulation will be necessary.

This approach reflects the underlying principle that the need for, and level of, regulatory intervention in the interest of providing consumer protection should be based not on the mode of delivery of energy, but on:

- the extent to which the service or product in question is being relied on by the consumer to deliver the essential service of the continuous supply of energy; and
- the impact on the consumer of experiencing payment difficulties and hardship.

Overall, the rising significance of microgrids as a part of the energy market, along with growing numbers of other off-market and behind-the-meter services and products, raises the question as to whether a model of regulation based on the elements of the old monolithic system – retail rules, distribution rules, embedded network rules, and so on – is still appropriate. A principles-based customer-centric model framed around consumer outcomes and entitlements would be applicable to all energy supply scenarios, with some variation in methodology where necessary according to limitations, scope, or peculiarities of specific scenarios. (For example: achieving the consumer outcome of efficient price will require rules to facilitate effective competition where contestable retailing exists, and good price regulation where it doesn't.)

### Types of consumer protections

Energy consumer protections vary from state to state; but for the most part, customers of traditional energy retail businesses enjoy the same types of consumer protections wherever they are. Among other things, they can be confident that:

- They will be able to connect to an energy supply
- Their energy supply will meet minimum reliability, quality, and safety standards, and they will be compensated if it doesn't

- Sufficient notice will be given for any planned interruptions to supply, and special consideration given to people reliant on life-support systems
- They will be given clear information about the service they are purchasing, a cooling-off period for any contract they sign, and in some circumstances (for more novel supply arrangements) a limited right to exit a contract and revert to their previous contract
- The basis of all charges is clear and subject to regulatory oversight
- They have access to historical billing data
- They have access to government-funded discounts on their energy costs if they are eligible for concessions
- If they come into payment difficulties, they will be given support and flexibility and only disconnected as a last resort and according to a regulated process
- They have access to an external dispute resolution service if they are unable to resolve a dispute with their energy supplier
- During billing disputes they can stay on supply and not have to pay the disputed amount
- If their supplier ceases trading, their supply is uninterrupted

These are all energy-specific protections that reflect electricity's unique status as an essential service with no practical substitutes – and that Australian Consumer Law cannot deliver.<sup>1</sup> And while it could be argued that a household making an informed choice to procure a portion of their energy supply from a third party may trade off some consumer protections for other price or service outcomes, the same cannot be said with respect to microgrids that will provide the entirety of energy supply. This is especially significant where the establishment of an off-grid system has been a decision by a network business, municipal body, landlord or developer, rather than the end-customers themselves.

### Price and service outcomes

If customers are unable to access the contestable retail market, price and service outcomes will need to be regulated. Contestability is not, after all, an end in itself, but the means by which efficient customer outcomes are achieved. The rationale for removing price and service regulation from jurisdictional energy markets in the first place was to have these outcomes more efficiently delivered by retail competition.

Regulation of retail service provision still exists to a large extent in the NEM and jurisdictional markets, especially with regard to default or standing offers. These could be extended to microgrids as appropriate.

Price regulation (in the form of a price cap) is used in the national and Victorian exemptions frameworks to prevent price-gouging by exempt sellers. This could also be extended to microgrids – however if the intent is to ensure customers in these systems face similar prices to what they would if they were in the contestable market, a weighted average of market offers should be used as a benchmark, rather than the relevant standing offer. This is because in contestable markets, standing offers have become the 'price to beat' from which market offers

<sup>1</sup> e.g. Consumer Action Law Centre, *Consumer Protections In The National Energy Market – The Need For Comprehensive Energy-Specific Consumer Protections*, Consumer Action Law Centre, 2006; <https://scer.govspace.gov.au/files/2015/03/5.-Department-of-Industry-and-Science-NECF.pdf>, 2016

are discounted; so the prices delivered by market competition – i.e. those faced by typical consumers on market offers – are considerable lower than published standing offer prices.<sup>2</sup>

Variations in both price and service standards may be appropriate for some types of microgrids – where establishment of or participation in the system is clearly an informed customer choice, and where the rationale for participation is to achieve specific non-price or service outcomes. For example, in a microgrid established by a co-operative to achieve preferred environmental or reliability outcomes, a higher price or a lower level of customer service may be acceptable to end-users.

### Safety outcomes

Health and safety protections in the mainstream energy market are underpinned by strong regulation. These same regulations should be extended to microgrids, whether they are owned by regulated networks, their ring-fenced or structurally separated subsidiaries, developers, third party energy services companies, municipal bodies or community-owned co-operatives. (In many cases they will already apply to varying degrees: asset management standards for network-owned equipment, electrical safety regulations, design and installation standards for equipment typically used in microgrids or SAPS, and so on. Any gaps should be addressed.) The adverse impacts of health and safety failures are so severe – on both people within the microgrid and those outside it – that this is non-negotiable.

### Regulation of contractual relationships

In the traditional energy market, contracts between end-use customers and retailers (and those between customers and distributors) are required to be compliant with the relevant regulation. In embedded networks, contracts between customers and the embedded network managers or onsellors must comply with the regulatory conditions delivered via the exemptions framework.

Using this as a template, customers in microgrids should have contracts with the system operator, and these contracts should be required to comply with the regulations governing that relationship, as delivered by whatever regulatory mechanism applies to these types for systems. (In our view, the conceptual similarity of microgrids to embedded networks suggests that at the very least, a regulatory framework similar to that which applies to embedded networks should apply.)

### Dealing with split incentives

The risk that split incentives may lead to end-use customers facing unreasonable costs would be largely addressed by a pricing rule capping prices at typical on-market rates (as discussed above). The risk of poor service outcomes can be addressed by service-oriented customer protections.

### Protecting customers from service provider insolvency

Because energy is an essential service, some form of protection against microgrid operator insolvency is necessary. The two main contingencies required are another operator available to step in, and funds to adequately compensate that operator for its preparedness to step in if necessary, and the costs incurred in doing so. A system operator of last resort scheme would

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<sup>2</sup> This is well documented in the St. Vincent de Paul Society's regular *Energy Prices* reports for each NEM state ([https://www.vinnies.org.au/page/Our\\_Impact/Incomes\\_Support\\_Cost\\_of\\_Living/Energy/](https://www.vinnies.org.au/page/Our_Impact/Incomes_Support_Cost_of_Living/Energy/)). This issue of the increasing divergence of standing prices from typical prices has led the Victorian Government to consider basing the pricing rule for exempt sellers on commercial market data rather than standing prices.

thus require some form of insurance to offset those costs, and a register of accredited network operators with pre-determined responsibility for specific sites. At this point in time, DNSPs and some dedicated embedded network operators may be the appropriate accredited entities.

The requirements for such contingencies would differ between grid-connected and grid-independent systems, because grid-connected systems can more readily be operated as embedded networks or in some circumstances be subsumed into the grid. (Where a grid-connected system may feasibly be subsumed into the grid and customers served by the retail market, this is probably the simplest solution.)

### Dispute resolution

Access to a dispute resolution framework is a fundamental consumer protection. Microgrid operators should be required to have internal dispute resolution processes commensurate with their scale – with defined minimum criteria for the smaller operators and more comprehensive requirements (including reporting) for those operating across multiple sites.

External dispute resolution is a more complex problem. While Australian Consumer Law allows for consumer disputes to be taken to state-based consumer regulators, these bodies have limited (and varied) capacity to actually resolve disputes (focusing more on information provision and advice) and their complaint processes can be complex and, if complaints need to be taken to tribunals, costly.<sup>3</sup> State-based Energy Ombudsmen handle disputes in the mainstream market but their jurisdiction doesn't extend even to embedded networks (apart from in NSW). The Victorian Government is currently exploring the practicalities of extending the reach of the Energy and Water Ombudsman to exempt retailers and network operators in embedded networks;<sup>4</sup> and the Victorian, NSW, and South Australian Energy and Water Ombudsmen are currently exploring the feasibility of extending their membership to alternative energy providers.<sup>5</sup> Implementing this change would require, among other things, developing new fee structures and membership categories for Ombudsmen that are appropriate for smaller-scale businesses without needing unjustifiable cross-subsidies from other Ombudsman members. This is not simple, but it's a solvable problem: and if it is done (as looks likely), then extending membership and jurisdiction of Ombudsman schemes to operators of microgrids will be rudimentary. If customer protection in microgrids is to be delivered similarly to the way it is in embedded networks (as we are suggesting), then including external dispute resolution in this way will be obvious.

### Hardship provisions

In any situation where the essential continuous energy supply is delivered in such a way as to require periodic payment by the customer to a provider with whom they have an ongoing relationship, payment difficulties threaten their ongoing supply. This is why conventional retail energy customers are entitled to payment flexibility and a degree of support from their retailer if they fall into payment difficulties – and why the retail exemptions framework also contains hardship provisions for customers in embedded networks.

End-users in microgrids should be given the same considerations and support with regard to payment difficulties, de-energisation and re-energisation, and concessions and rebates as

<sup>3</sup> Jo Benvenuti & Caitlin Whiteman, Consumer access to external dispute resolution in a changing energy market, EWOV/EWON/EWOSA, 2016.

<sup>4</sup> Department of Environment, Land, Water and Planning, *General Exemption Order: Draft Position Paper*, DELWP, 2016

<sup>5</sup> Jo Benvenuti & Caitlin Whiteman *op. cit.*

provided for in the AER Retail Exempt Selling Guideline (conditions 9 through 12, with some applying only to residential customers as specified in the Guideline). In summary, this provides for:

- The customer being advised of available energy efficiency advice, and of concessions they may be eligible for, when they disclose payment difficulty
- The provider not hindering the customer applying for a concession or rebate, and applying on the customer's behalf if this is necessary
- The customer not being liable for a late payment fee if they have advised payment difficulty
- A customer who fails to pay by the due date being given a reminder notice with an extended pay-by date, and (if a residential customer) offered flexible payment terms
- A customer who fails to pay by the reminder notice due-date being given a disconnection notice with a new pay-by date
- The provider attempting to contact a customer who has not contacted them after the disconnection notice is issued, before disconnection
- Disconnection not proceeding if the customer
  - requires life support equipment
  - is in the process of applying for a concession or rebate
  - has made a complaint to the provider or a relevant external dispute resolution body relating to the reason for disconnection
- Disconnection not occurring on or at certain specified days or times

Where jurisdictions have specific hardship provisions that apply over and above the AER's, the jurisdictional provisions should prevail as applicable.

### *Opting out of hardship provisions*

Fulfilling hardship obligations does impose some costs on energy retailers and embedded network operators, and would do the same for microgrid operators. It has been argued that end-users establishing a microgrid for their own reasons (such as a small community, via a co-op, to achieve energy independence or emissions reductions) should have the option of 'opting out' of needing to have hardship provisions. However, as much as people may honestly believe that they will never need hardship provisions, households can fall into financial difficulties for many reasons or due to a range of one-off events or other circumstances, often unpredictably. It is our strong view that all microgrids should have to meet a minimum standard with regard to dealings with customers in payment difficulties; and the hardship provisions in the AER's Retail Exempt Selling Guideline constitute a tried and tested minimum standard.

### **Reliability and service standards**

Reliability and service standards in microgrids may vary depending on the type of system, its ownership or governance structure, and its rationale. For example, an edge-of-grid system established by a DNSP as part of its regulated service provision would be expected to have similar reliability and service standards to the rest of its network. However if the served community previously experienced very poor reliability – and improving reliability is part of the rationale for setting it up as a microgrid – it might be reasonable to deliver a reliability standard that significantly improves on the previous standard while still not aligning with the network as

a whole. Systems set up by co-operatives for environmental or price outcomes may choose to trade off reliability levels.

Determining the level of reliability required by a specific group of customers (or customers in general) is difficult, as noted by the Australian Energy Market Operator (AEMO) in its determination of the customer value of reliability.<sup>6</sup> It is also clear that reliability requirements for residential customers are very different than those for industry, and that with the right equipment and knowledge, residential customers can adapt to lower levels of reliability by some measures and in some circumstances – especially if manifested as reduced capacity on a discrete number of occasions rather than total cessation of supply.<sup>7</sup> Nevertheless, the prevailing reliability and service standards should be seen as the default, with any variation from the standard acceptable only when unavoidable, or explicitly agreed to by informed end-users.

### Facilitating informed customer decisions about reliability and service quality

As AEMO has noted, it is difficult to engage customers around the issue of reliability, and difficult for engaged customers to make decisions about the level of reliability they require and how much it is worth to them.<sup>8</sup> The value of reliability is a hypothetical concept, and in fact “most residential customers ... are unwilling to pay more to avoid outages ... [because] their electricity bills are already high and ... existing reliability levels are acceptable.”<sup>9</sup> This makes it difficult to facilitate informed customer decisions about reliability and cost trade-offs. In the context of transitioning a household or small community from a grid connection to a stand-alone network, this may be simpler if more accurate cost differentials and more concrete reliability outcomes can be given. For example, if a stand-alone network is being established because of existing reliability issues, a specific reliability improvement (say, reduced average number and duration of outages per year) may be reasonable foreseen, and a specific cost increase (in terms of average or even specific annual bills) given. Customers with tangible experience of poor reliability can thus better envisage the improved outcomes, and more readily decide if the cost is worth it. These decisions are probably better facilitated in participatory workshops than via simple surveys – this will be feasible when it relates to a geographically defined microgrid with a discrete number of affected households.

This process is more difficult in a greenfield development, where cost and reliability trade-offs could be made by the developer with no input from future residents. This is why we recommend above that applying the existing standards be the default, with lower standards being allowable only where necessary due to circumstances (such as remoteness) or where explicitly agreed to by informed end-users. Importantly, where a DNSP seeks to take an edge-of-grid community off-grid because it results in more efficient expenditure, the existing reliability standard of that node should at least be maintained.

All of this must also be understood in the context that, for the foreseeable future, fully grid-independent microgrids are likely to remain very rare, and grid-connected microgrids much more likely. Grid-connected microgrids will have the reliability of the larger network as a backup

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<sup>6</sup> AEMO, Value Of Customer Reliability Review: Final Report, Australian Energy Market Operator, 2014

<sup>7</sup> For more discussion of this, please refer to the ATA’s submission to the AEMC Draft Report - National Workstream: Review of Distribution Reliability Outcomes and Standards ([aemc.gov.au/getattachment/e338a045-6c0b-4936-bd17-848ac6088977/Alternative-Technology-Association-received-31-Jan.aspx](http://aemc.gov.au/getattachment/e338a045-6c0b-4936-bd17-848ac6088977/Alternative-Technology-Association-received-31-Jan.aspx))

<sup>8</sup> AEMO 2014, *op. cit.*

<sup>9</sup> *Ibid.* p. 35

### *Changes in demand affecting reliability*

In a grid-independent microgrid, significant changes in one or a few customers' demand or consumption could exceed the capacity of the system to provide the agreed reliability standard. This is a risk in any grid-independent system, irrespective of the ownership or governance structure. Customer engagement in the ongoing operation of the network may help moderate this risk, but it is difficult to envisage a generic solution, especially in systems that are established for reasons not related to specific end-user preferences (such as DNSPs seeking the most efficient expenditure for an edge-of-grid node, or developers of greenfield sites). This risk should be thoroughly canvassed during any customer consultation on the desired level of reliability.

However in our understanding, it is almost impossible to predict future changes in an individual connection point's demand or consumption with anything close to absolute certainty – and the smaller a microgrid, the less likely that changes in demand and consumption by end-users will average out to a predictable range. This is one of the reasons that fully independent microgrids are expected to remain rare for some time.

### **Obligation to supply**

As noted in the consultation paper, microgrids will ultimately be small monopolies comprising a single, vertically integrated energy service provider. End-use customers will have no choice of retailer. An obligation to supply must be imposed on system operators.

### **Network regulation**

Independently of considerations of ownership and governance, we envisage three different approaches establishing microgrids:

- an existing network provider establishing it as an alternative to servicing the area via their network (to reduce costs or to increase reliability)
- a developer, landowner, or local authority establishing a new development or existing area as a microgrid for their own reasons
- a community electing to retrofit as a microgrid for their own reasons.

For a DNSP-led system, where establishment of the system is to achieve lowest efficient cost of service at the required standard and is allowable under the Regulatory Investment Test for Distribution (RIT-D) (keeping in mind that the current rule change may make this more likely) it is appropriate that the system is both included in the Regulatory Asset Base (RAB) and subject to the same regulation as the remainder of the network (noting though that where access to retail competition cannot be given, regulation of price and customer protections via the appropriate instrument is required, as discussed above).

Where not allowable in this way, or where microgrids are established by developers, end-users, local authorities, or other bodies, provision of such systems should be contestable and if DNSPs wish to be involved it should be through appropriately ring-fenced or structurally separated entities.

### **Retail regulation**

Microgrids by their nature are vertically integrated and not in constant connection with the wholesale or retail markets. Even where a microgrid has a grid connection, its ability to be

islanded means any retail or wholesale relationships cannot be presumed to be ongoing. These systems will probably operate more like an embedded network, where the network as a whole is the retail customer when on-grid. It is conceivable that end-use customers within such a system could purchase energy from retailers when grid-connected, and revert to the system's own generation when islanded; but this seems overly complex from a metering and contractual point of view – as well as in terms of customer billing and, ultimately, customer engagement with their energy supply.

Separation from the mainstream market and grid is a key feature of microgrids, whether by design or by necessity – so their vertical integration underpins their rationale for existing in most circumstances. This suggests that, like other systems separated in one way or another from the mainstream market (such as embedded networks) that comprise small end-user customers, some form of regulation to substitute for the efficiency incentives inherent in an effective contestable energy market is required.

The most satisfactory approach with regard to price regulation seems to be:

- by default (primarily in systems established by DNSPs or developers for commercial reasons), price regulation in the form of a pricing rule enforcing a cap on the retail price so it is no more than the typical price paid by equivalent customers in the mainstream market (as discussed above)
- where a system is established for non-price outcomes (such as environmental goals or end-users' desire for grid-independence), pricing should be determined on the basis of the costs of the system in a transparent manner with the active involvement of end-users. This would be part of the development process for co-operatives and local authorities retrofitting existing communities into microgrids, and part of the disclosure requirements for developers of greenfield sites. The requirements to undertake this participatory consultation and for the relevant disclosure should be a part of the regulatory framework that covers these types of systems.

Again, consideration of the nature of microgrids suggests a regulatory approach akin to that taken with more traditional embedded networks and other exempt selling arrangements.

### Regulating the decision to establish microgrids

Where a DNSP converts an edge-of-grid node to a microgrid because it represents the most efficient cost in delivering network services at the required standard, it should:

- demonstrate that the proposed system can deliver network services at the required standard (including an allowance for potential changes in future demand)
- consult with affected customers and educate them about the change, what it will mean for them, and how their new service will compare to their existing service.

If these requirements – for demonstrating capacity to meet service standards, and transparency and customer consultation with regard to network planning in general and large augmentation and repair projects specifically – are not sufficiently provided for in the current regulatory system, this should be remedied.

In other situations where a community may be retrofitted to a microgrid, requirements for the explicit informed consent of end-users should be enforced. As customers in a microgrid are

giving up key benefits of the mainstream energy market (such as retailer choice, and – where there is no grid connection – the security of the grid as a backup or to accommodate growth in consumption or demand), this consent must be predicated on a comprehensive information and consultation program spelling out the risks and benefits in detail. This requirement needs to be incorporated into the regulations governing microgrids.

Anything less than the explicit informed consent of *all* end-users raises the risk of some households leaving the retail market or the conventional network against their will. On the other hand, requiring unanimous consent raises the risk of a single customer with an effective veto over a project that meets the wider community's needs – which seems a perverse outcome in large communities. We note that similar issues are already evident with regard to retrofitting embedded networks into apartment complexes and shopping centres, and that in those situations, an individual rather than class exemption must be applied for when consent is not unanimous. This may suggest a way forward for dealing with such a situation with regard to retrofitted microgrids.

## Consistency versus tailoring

### The form of regulation

As discussed in the consultation paper, “the NER and NERL currently recognise a tripartite arrangement comprising retailers, distributors, and customers.”<sup>10</sup> With a grid-connected microgrid, the system operator is the customer. This is little different from a more traditional embedded network, for which the regulatory system contains a framework<sup>11</sup> to extend customer protection provisions to end-users within the system. There seems to be no rationale to not extend these same provisions to grid-connected microgrids.

When the grid-connected microgrid disconnects from the grid, those other parties are no longer involved. But the same contracts between end-users and the system operator – with conditions that comply with the relevant regulation – will still exist. There is no clear rationale for why the end-users should periodically and temporarily lose their regulated customer protections. Yet if the answer to this conundrum is to excise grid-connected microgrids from the embedded network framework entirely, it increases the horizontal inequity (with respect to customer protections) across the end-use customer base (which already exists between on-market customers and those in embedded networks). In our view, this makes a clear case for extending the same framework that covers embedded networks to grid-connected microgrids. And – because there is also no clear rationale for horizontal inequity between grid-connected and grid-independent microgrids – it should also be extended to the latter. Significantly, the framework that applies to embedded networks is flexible enough to allow some variation of specific customer protections and other requirements where required.

We also note that in the current reviews of the exemptions framework and licensing system in Victoria, the issue of the disconnect between exempt entities and the businesses that operate embedded networks has been raised. The exemptions framework is premised on the idea that embedded networks are operated by entities that should not be required to hold a license or authorisation because energy selling is not their primary business. However in many situations

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<sup>10</sup> Page 9

<sup>11</sup> Currently an exemptions framework that allows entities to manage networks and sell energy without an authorisation or licence – though Victoria is considering introducing a small-scale licence for some embedded network operators.

– especially apartment complexes, shopping centres, and residential parks – the exempt entities are merely the titular operators of the embedded networks, contracting their actual operation to companies whose core business is in fact selling energy in embedded networks. These businesses operate numerous networks across multiple sites, and at least some have more customers than some of the smallest authorised energy retailers.<sup>12</sup> Fundamentally, this constitutes provision of a public utility service (albeit on a smaller scale); it is difficult to argue that this does not warrant appropriately scaled authorisations framework. The approach Victoria seems to be taking is to develop a small-scale licensing framework that will include licensing requirements for these types of businesses.

It is likely that most microgrids – especially those established by developers, and quite possibly DNSP-owned systems also – will be operated by similar types of entities: companies whose primary business is managing microgrids or embedded networks, and who do so to hundreds or thousands of customers across numerous sites. Again, this constitutes provision of a public utility service. A small-scale authorisations framework thus seems the most appropriate way to regulate.

It could be argued that requiring microgrid management businesses to be authorised, but not embedded network management businesses, represents a horizontal inequity. On one level, this is true – and we contend that embedded network management businesses should also be appropriately authorised, especially considering the similarity in scale between the larger embedded network businesses and the smaller energy retailers. On another level: because microgrids can be taken off grid (or be permanently off-grid), the system operator has a more profound responsibility for safe and sufficient service provision to end-users than more conventional embedded network operators do. This makes a stronger case for an authorisations framework for commercial microgrid operators.

For systems owned and operated by co-operatives or site-specific entities, coverage under the existing exemptions framework is probably most appropriate (though again, it is likely that many of these will be contracted out to microgrid management companies to operate, in which case the above still applies). Specific classes would need to be established to account for the additional requirements, as discussed above (for example, contingencies against insolvency, reliability and system security, and so on). A significant advantage of leveraging from the existing exemptions framework is that consumer protections and other key conditions are already stipulated.

Victoria's General Exemptions Order review is exploring having a specific exemption category for 'community energy projects' (CEPs) – energy provision for community benefit under community governance. This approach may well be appropriate for microgrids established by community co-ops or, in some cases, municipal bodies; and may be the most transparent way to provide for different approaches to reliability, service standards, price, and hardship provisions for co-op-led and other community-benefit driven microgrids. These could apply even if microgrid operation is contracted out to microgrid management companies (who may be subject to their own regulation, perhaps through a small-scale authorisations framework as discussed above) so long as the requisite conditions for treatment as a CEP (such as active community governance) are met.

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<sup>12</sup> For example, according to Benvenuti & Whiteman 2016 (*op. cit.*) both WINenergy and Network Energy Services have more than 15,000 customers each.

## Conclusion

Thank you for the opportunity to respond to the consultation paper on stand-alone energy systems. We also thank the Energy Market Transformation Project Team for the excellent participatory workshop that helped inform stakeholder submissions, and for allowing us to lodge a late submission.

If you wish to discuss anything raised in this submission further, please contact Dean Lombard, Senior Energy Analyst, at [dean@ata.org.au](mailto:dean@ata.org.au) or on (03) 9631 5418.

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