
APVI Submission to the AER on the Issues Paper on ‘Regulating innovative energy selling business models under the National Energy Retail Law’, November 2014

Summary of APVI Response

The APVI supports the continued use of retailer exemptions, even when storage is added to distributed generation services.

The APVI supports more robust conditions only once an alternative energy provider supplies services approaching that of a sole-energy provider. Even then, those conditions should not necessarily be as extensive as those required for retail authorisation, recognising that properly informed customers may prefer the less regulated service, accepting the lower level of service or reliability offered.

There is a need to establish clear guidance on the relevant conditions for alternative energy providers taking into account (i) the changes in electricity consumers’ needs when they have greater ability to shift and control their own demand, (ii) the preferred operating regimes set by retailers and networks for alternative generating and storage equipment and (iii) to provide certainty around regulatory costs for alternative energy sellers.

There is a need to assess the shared costs and benefits of energy supply in the presence of distributed generation and storage, whereby the benefits associated with firm supply from onsite generation and batteries, the associated reduction in supply guarantee risks and the income from electricity sales are appropriately valued and shared between the main retailer and the alternative seller. The aim should be to value each service and avoid duplicating costs for consumers.

It is reasonable that a series of trigger points be considered for review and that a new class of retailer, with appropriate ‘conditions of operation’ be contemplated. The trigger points should be based on criteria concerning both the service being provided and the status of the company providing that service.

It should be noted that alternative service provision may increasingly be the main service provider, so that the current retailer licences may soon be inappropriate and require rethinking in any case.

Background

At present, a business is required to obtain a retailer licence if they purchase electricity from the wholesale market, supply it to the customer via the network as an essential service, are the sole provider of this electricity and sell across multiple sites. Alternative sellers are granted an exemption from the need to obtain a full retailer licence if electricity sales are incidental to their main business,

they are selling only supplementary energy, or if energy is part of a bundled service. These exemptions are in line with the aims of facilitating new entrants and competition, whilst ensuring customer protection and that retailer accreditation in itself is not a barrier to entry.

Innovation in how electricity is generated, used and sold is leading to greater choice for customers and an increase in activity in Solar Power Purchase Agreements (SPPAs). This is expected to grow with increasingly competitive pricing in distributed generation and changes in technology including storage, advanced inverter functions, smart meters and mini-grids.

The APVI sees the AER as having taken a proactive and fair approach to the regulation of emerging business models to date. In particular with the basic criteria applied to exemptions to date, the AER has reduced barriers to entry and opened up the market, offering consumers' diversity in their choice of supplier.

The AER is seeking input on two potential options for future regulation of the sale of energy by alternative energy providers, in particular regarding storage and/or other emerging technologies; whether retailer authorisation or exemptions should apply, and if retailer exemptions are allowed, what conditions should be required of the alternative energy provider.

The APVI supports the ongoing use of retailer exemptions to provide choice for electricity consumers, flexibility in the market, to meet changing consumer needs and to accommodate new technologies and business models.

APVI comments on Key Issues

1. What difference, if any, should storage and/or other emerging technologies have on how the AER proposes to regulate SPPA and other alternative energy selling models?

APVI Comments

The APVI does not see a need to adjust the current regulations or processes around exempt retailers to address emergent technologies such as storage, bi-directional inverters or minigrids. It is appropriate that SPPA providers remain exempt retailers, even with storage provided, so long as the SPPA remains a secondary energy seller and the customer is informed of their reliance on the authorised retailer as an essential service provider.

The key issue in regulating sellers of energy under SPPAs is not the technology used, but the access and cost of providing energy as an essential service and the impact on the consumer in the case of service disconnection by the seller.

There is a clear need to identify the retailer who is legally responsible for maintaining the service (during both technical and financial events) and to frame regulations around how these arrangements are managed. SPPA providers are already obliged to inform customers on the nature of the services and the protections provided.

PV (or other distributed generators) can already supply significant portions of a customer's load without storage. Storage will allow more certainty of supply, but does not in itself provide an alternative service in the event of disconnection by the authorised retailer. Storage (with or without onsite generation) combined with bi-directional inverters which are allowed to operate independently of the grid service, can provide service in the event of disconnection. How long this alternative supply can be maintained will depend on the storage capacity, while how effectively it can meet the customer load will depend on the inverter size and capability. In all cases, it is the inverter capability that will determine the potential for independent, onsite service provision, as required for uninterrupted supply.

Under current tariff structures, where exported PV is paid little or nothing, regardless of time of day, it is likely that storage will be used to manage short term intermittency, prevent PV export and contribute to meeting customer load at other times, such as during times of peak tariffs for TOU customers; during times of high demand for customers on demand-based tariffs; strategically to maximize battery performance, for customers on flat tariffs. Storage capacity under these scenarios is likely to be limited, although potentially available to supply at least some load during grid service drop-outs of maybe one or two hours. Thus, including storage does not in itself mean that the distributed energy system will meet a significant proportion of total demand.

Although not directly relevant to retailers, if appropriately managed, distributed storage can benefit both network service providers and customers by managing peak load and enhancing grid stability. The SPPA provider can be seen as providing a benefit to the main retailer by allowing more predictable demand and by ensuring high levels of service availability are provided, in accordance with the main retailer obligations, but at lower cost and risk, because an alternative supply, albeit limited, would be available. Eventually, such properly engineered storage systems will help reduce network investments to alleviate network limitations. It would be beneficial therefore if the AER encouraged distributors and retailers to provide clear and consistent guidelines as to how storage systems could be configured in a manner consistent with broader network and retail obligations. At present, storage in some service areas is being discouraged. This is counterproductive as it fails to recognise that battery discharge under low network voltage conditions helps the network, and hence also retailer supply reliability, regardless of whether the system exports or not.

Rather than placing barriers to the development of the storage market, a better outcome would be improved integration of the distributed energy technologies into the existing system and recognition of the shared costs and benefits of energy supply in the presence of distributed generation and storage, whereby the risks associated with supply guarantees and the benefits associated with electricity sales are shared between the main retailer and the alternative seller. The aim should be to value each service and avoid duplicating costs for consumers.

Given the fledgling nature of on-site electricity service technology and markets, it is important that any regulations are technology neutral, supportive of change and in the best interests of customers. These aims will result in increasing choice for electricity consumers in the nature of their electricity supply. Incumbent businesses may be impacted as alternatives become increasingly competitive, while an appropriate level of responsibility is also placed on new businesses. The latter is currently implicit in the Australian Standards applying to power supply via inverters.

2. What are stakeholders' views on the AER's proposed options? Are there other options to which the AER should have regard?

Option 1: SPPA with storage should be required to apply for retailer authorisation

Option 2: Individual exemptions with robust conditions.

APVI Comments

The APVI supports the continued use of retailer exemptions and is opposed to a move to require retailer authorisation for SPPA with storage. The APVI sees the requirement for extensive conditions as limiting innovation, increasing cost and restricting choice for consumers and proposes that a class of exemption be created with more robust conditions for circumstances when an SPPA provides services approaching that of a sole-energy provider.

As raised earlier, the key issue is not whether storage is used, but the impact that service disconnection by the seller would have on the customer and clarity on which business is the 'provider of an essential service'.

Under current alternative seller arrangements, where storage is not included, if the alternative seller disconnects their service, the customer faces no supply problem; but if the main retailer disconnects then no service is available (since grid-connected inverters must disconnect if the grid fails) and the customer is impacted. Hence, a retailer exemption for the alternative seller, as a secondary electricity provider is appropriate.

With the introduction of affordable storage, and so long as export tariffs offer little or no reward, the APVI expects that people will be encouraged to put in larger PV systems, since the battery will catch the export and they will be able to use it to offset demand, especially if they are on a TOU tariff or have a demand charge. As above, recognition of the shared costs and benefits would provide the best outcomes when exemptions are granted, recognising that the risks associated with supply guarantees and the benefits associated with electricity sales are shared between the main retailer and the alternative seller. Further recognition needs to be given to the size of each business, since large organisations with thousands of customers and the benefits of incumbency can absorb much higher administration and other costs than can small, new entrants. This relative size, sunk costs and market presence provides incumbent retailers with significant advantages compared to new entrants. Imposing the full compliance costs of retailer authorisation on small businesses would result in significant cost increases to customers associated with duplicated services, with both their service providers having to cover the costs associated with meeting retailer licence and/or exemption conditions.

If the SPPA becomes the sole source of electricity and the customer no longer relies on an authorised retailer, or if the incumbent retailer (perhaps in conjunction with the distributor) decide that a stand-alone service is the best option for a customer, then there will be a need for more robust conditions approaching those of authorised retailers. Provided that the electricity consumer is fully informed, full retailer authorisation equivalent to that currently required for grid customers may not be required, and may be counterproductive. In this case, a new class of retailer should be established. Provided the consumer is properly informed of their conditions of supply, they should be free to accept lower levels of supply reliability for a lower cost, and on the proviso that they are able to cancel such arrangements and change retailer with due notice. It should be noted that, once grid lines are disconnected, the grid option may no longer be available.

3. In relation to Option 2 (exemption, rather than authorisation), what, if any, conditions should be placed on an individual exemption for an alternative energy seller?

APVI Comments

Conditions for exemption need to be appropriate for the energy services offered. An increase in the number and complexity of conditions for exemption will result in an escalation in the cost of compliance. New models will face barriers to entry as they do not benefit from the economies of scale nor the backing of established business and investments. If required conditions become excessive it will drive up the cost of compliance, limit innovation and force new entrants to compete in the retail space, limiting consumer choice.

The APVI does not support an increase in conditions for SPPA providers where the electricity consumer continues to rely on an authorized retailer for essential services. If the SPPA provider offers services such that it becomes the sole source of electricity and the customer no longer relies on an authorised retailer, then there will be a need for more robust conditions approaching those of authorised retailers. Provided that the electricity consumer is fully informed, full retailer authorisation may not be required, and may be counterproductive. In this case, a new class of retailer should be established. Provided the consumer is properly informed of their rights and there is some capacity for early termination and choice of options, the consumer should be free to elect to accept lower levels of supply reliability, or other conditions.

When deciding on appropriate exemption conditions, it should be noted that some conditions may not be relevant for the type of alternative energy service being offered, for instance, pricing arrangements and service availability different from those imposed on current retailers may be appropriate, while conditions associated with choice of retailer may need to reflect the need for generating and storage equipment to be removed from site when changes are made. Notably, customers may prefer new arrangements, not those imposed on current retailers. These different arrangements may be the reason for them choosing a different supply option in the first place. Included in these choices should be the option of customers being able to sell their excess onsite generation to a third party – that is, neither their primary retailer nor the provider of their alternative supply. While it is likely that most PPAs will cover all generation, rather than just onsite use, there may be situations where supply is in excess of use, or in excess of the contracted amount.

Before any new regulatory conditions are imposed, it would be useful to conduct an independent assessment of the costs of complying with the full retail licence compared with the cost of meeting the exemption conditions (ie. a few different scenarios may be useful, as more Conditions need to be met). Included in this assessment should be a list of costs and benefits of onsite generation and storage, so that both retailers and alternative sellers can negotiate which party should cover costs and how the benefits should be allocated.

The APVI proposes that the 19 core exemptions listed be recommended practice (rather than requirements) under a new class of exempt seller, where that SPPA provider is offering energy services approaching those of a sole-service provider. It is difficult to judge the cost impacts on small companies of complying with the extended exemption conditions. Some may be incorporated in the normal operation of an energy business, such as customer contracts, metering and record keeping. Others may require a significant investment which could not be easily recovered from a small customer base. As previously mentioned, some high cost conditions may not be considered necessary by some customers, who may wish to pay a lower cost for a lower level of service.

4. Should the AER include a ‘trigger point’ for review of individual cases if it proceeds with Option 2 (exemption rather than authorization)?

APVI Comments

If Option 2 is maintained, it is reasonable that a series of trigger points be established, based on measures of scale, such as customer numbers or annual kWh sales, and on service provision, such as the ability to provide a service independent of the grid, number of hours of independent service etc.

Given the likelihood that customers will gradually increase their use of alternative service providers as technology and costs improve, there should be a series of graduated trigger points, not just one. A critical issue will be to determine the level of these trigger points, since they could result in significant cost increases (see Q3 above regarding the need to estimate the cost impacts before making decisions regarding the trigger points). Trigger points will need to be clearly set, not individually assessed, since business models will be developed based on these settings.

It should be noted that there is a possibility of a large number of different alternative business models being established over time, which individually may not hit the trigger points, but which will collectively take a significant proportion of the main retailers' income. If a collaborative model for cost and benefit sharing is established, this should not pose a problem although, at some stage, the role of the main retailer will come into question and a new regulatory structure will be needed. Note, however, that there is nothing stopping the main retailers from entering the SPPA market already and seeking to maintain market share via this alternative business model. See <http://reneweconomy.com.au/2015/australian-energy-retailers-look-to-muscle-into-solar-market-24308> where AGL and Origin are already establishing such businesses. This is appropriate behaviour in

a competitive market, although it will impact the trigger point settings above, as large retailers will have more capacity to cover retailer licence costs. In order to maintain a competitive market for customers, it will be necessary to monitor the market share captured by incumbent large retailers, compared to independent new entrants.

Attachment A: Background on the APVI

The APVI is an independent Institute comprising companies, government agencies, individuals, universities and research institutions with an interest in solar photovoltaic electricity. In addition to Australian activities, we provide the structure through which Australia participates in the International Energy Agency (IEA) PVPS (Photovoltaic Power Systems) and SHC (Solar Heating and Cooling) programmes, which in turn are made up of a number of activities concerning PV and solar system performance and implementation. Further information is available from www.apvi.org.au.

APVI Objective

The objective of the APVI is to support the increased development and use of PV via research, analysis and information.

APVI subscription provides:

Information

- Australian PV data and information
- Standards impacting on PV applications
- Up to date information on new PV developments around the world (research, product development, policy, marketing strategies) as well as issues arising
- Access to PV sites and PV data from around the world
- International experiences with strategies, standards, technologies and policies

Networking

- Opportunity to participate in Australian and international projects, with associated shared knowledge and understanding
- Access to Australian and international PV networks (PV industry, government, researchers) which can be invaluable in business, research or policy development or information exchange generally
- Opportunity to meet regularly and discuss specific issues which are of local, as well as international interest. This provides opportunities for joint work, reduces duplication of effort and keeps everyone up to date on current issues.

Marketing Australian Products and Expertise

- Opportunities for Australian input (and hence influence on) PV guidelines and standards development. This ensures both that Australian products are not excluded from international markets and that Australian product developers are aware of likely international guidelines.

- Using the information and networks detailed above to promote Australian products and expertise.
- Working with international network partners to further develop products and services.
- Using the network to enter into new markets and open new business opportunities in Australia.

The International Energy Agency Programmes

PV Power Systems (IEA PVPS)

- **Mission:** To enhance the international collaborative efforts which facilitate the role of photovoltaic solar energy as a cornerstone in the transition to sustainable energy systems
 - **Focus** (26 countries, 5 associates)
 - PV technology development
 - Competitive PV markets
 - Environmentally & economically sustainable PV industry
 - Policy recommendations and strategies
 - Neutral and unbiased information

Australia currently participates in:

PVPS Task 1: Information Dissemination

PVPS Task 13: PV System Performance

PVPS Task 14: High Penetration PV in Electricity Grids.

Solar Heating & Cooling (IEA SHC)

- **Mission:** International collaboration to fulfil the vision of solar thermal energy meeting 50% of low temperature heating and cooling demand by 2050
 - **Focus** (21 countries, 2 associates)
 - Components
 - Systems
 - Integration into energy system
 - Design and planning tools
 - Training and capacity building

Current Australian participation:

- SHC Task 51 – PV in Urban Environments
- SHC Task 48 – Quality Assurance Support Measures for Solar Cooling Systems
- SHC Task 47 – Solar renovation of non-residential buildings
- SHC Task 46 - Solar Resource Assessment and Forecasting
- SHC Task 43 - Solar Rating & Certification Procedures
- SHC Task 42 - Compact Thermal Energy Storage
- SHC Task 40 - Net Zero Energy Solar Buildings

For further information on the Australian PV Association visit: www.apvi.org.au

For further information on the IEA PVPS Programmes visit www.iea-pvps.org and www.iea-shc.org