COAG
Energy Council

Mr John Pierce
Chair
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

Dear Mr Pierce

I write in relation to stand-alone power systems which have been considered by the COAG Energy Council through the Energy Market Transformation Project Team.

Stand-alone power systems have the potential to benefit consumers. However, with the exception of Queensland, these systems are not captured under the national electricity frameworks and are subject to jurisdictional frameworks that vary in their comprehensiveness.

Accordingly, I am writing to you in my capacity as Chair of the COAG Energy Council, requesting the AEMC to undertake a review of the stand-alone energy systems under the National Electricity Law (NEL) and the National Energy Retail Law (NERL) and associated rules, as per the attached Terms of Reference. I request that the review commence as soon as practicable, with an update to the Senior Committee of Officials by October 2018. Due to importance of the review, I request the final reports are completed in two stages with the first priority report due by 31 May 2019 and the second priority report due by 31 October 2019.

It is the Council's intention that the review broadly covers the regulatory framework, including a detailed analysis of necessary amendments to the NEL and NERL and associated rules. The Council is also requesting advice on the option of providing a national stand-alone power systems framework that jurisdictions can opt into or model.

This review also implements Finkel Recommendation 6.9, which recommended AEMC to undertake a review of the regulatory arrangements to allow for the use of individual power systems and micro grids by mid-2018.

The AEMC's *Review of regulatory arrangements for embedded networks* has a number of synergies with issues for customers of stand-alone power systems. The COAG Energy Council supports AEMC progressing development of these regulatory frameworks, and any other related work, concurrently. However, the timetable for delivery of embedded networks work program should not be impacted.

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If you require further information, please contact the Energy Market Transformation Project Team through the COAG Energy Council Secretariat on 02 6274 1668 or EnergyCouncil@environment.gov.au.

Yours sincerely

The Hon Josh Frydenberg MP
Chair
COAG Energy Council
23 August 18

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TERMS OF REFERENCE

REVIEW OF CHANGES REQUIRED TO THE NATIONAL ELECTRICITY FRAMEWORK FOR STAND-ALONE POWER SYSTEMS

July 2018

COAG
Energy Council

TERMS OF REFERENCE

REVIEW OF CHANGES REQUIRED TO THE NATIONAL ELECTRICITY FRAMEWORK TO ALLOW FOR STAND-ALONE POWER SYSTEMS TO BE USED WHERE IT IS ECONOMICALLY EFFICIENT TO DO SO, WHILE MAINTAINING APPROPRIATE CONSUMER PROTECTIONS AND RELIABLE SUPPLY

1. DIRECTION TO CONDUCT REVIEW

The Energy Council directs the Australian Energy Market Commission (AEMC) to conduct a review of the electricity regulatory framework set out in the National Electricity Law (NEL) and the National Energy Retail Law (NERL) and associated Rules and other subordinate instruments. The purpose of the review is to provide advice on required changes to those frameworks to allow for stand-alone power systems (SAPS), where it would contribute to the achievement of the National Electricity Objective (NEO) and/or National Energy Retail Objective (NERO).

This direction is made pursuant to Section 41 and Section 228 of the NEL and the NERL respectively, which permit the Energy Council (as successor of the Ministerial Council on Energy named in those sections) to direct the AEMC to conduct a review of any matter relating to the national electricity market, any other market for electricity or any matter relating to the sale and supply of energy to energy customers.

This direction implements Recommendation 6.9 of the final Report of the *Independent Review into the Future Security of the National Electricity Market* (June 2017) which found that there were potential benefits from allowing for the use of stand-alone power systems, including micro grids and individual stand-alone power systems. Recommendation 6.9 said:

- *By mid-2018, the COAG Energy Council should direct the AEMC to undertake a review of the regulation of individual power systems and micro grids so that these systems can be used where it is efficient to do so while retaining appropriate consumer protections.*
- *The AEMC should draft a proposed rule change to support this recommendation.*

2. BACKGROUND

The traditional centralised electricity supply model is being challenged by emerging products and services that give customers more choices in how their electricity is generated, delivered and consumed.

The COAG Energy Council's (the Council) Energy Market Transformation work program, managed by the Energy Market Transformation Project Team (EMTPT), is considering the regulatory response to the current market transformation. It aims to ensure that the national energy regulatory frameworks are: fit for purpose, can cope with the effects of emerging technologies, and enable customers to benefit from innovative services while mitigating risks (including with respect to reliable electricity supply and retail electricity prices).

The EMTPT has considered a range of issues related to the uptake of new energy products and services, many of which are not subject to the national electricity regulatory framework and as such are not supported by electricity specific consumer protections

A key work stream has been EMTPT's project to consider the appropriate regulatory

response to the emergence of stand-alone power systems as a viable and in the future potentially prevalent option for providing electricity services to customers.

In general, stand-alone power systems are currently not captured under the national electricity frameworks and are subject to jurisdictional legislative frameworks which vary in their comprehensiveness. The exception to this is Queensland which applies the NERL retail protections to all off-grid electricity supply, and also applies the NERL distributor obligations to the 33 isolated systems run by Ergon Energy.

A key issue for Governments is that interest is growing rapidly in the potential benefits of stand-alone power systems. While stand-alone power systems may provide benefits, there are a range of reasons that justify regulation of these systems, whether it be under national or jurisdictional laws. These risks include:

- Reliable Electricity Supply – energy is an essential service for which there is a need and expectation for a continuity of supply, reliability and universal access.
- Natural monopoly – a stand-alone power system may exhibit natural monopoly characteristics, such that regulation is required to simulate competitive market outcomes.
- Consumer protection – a stand-alone power system presents consumer protection issues and regulation may be required to address inequality in bargaining power and information asymmetry that exists under this service model.
- Impacts on current market participants - negative impacts on the profitability and investment appetite of traditional electricity businesses could impact the security and reliability of the core grid-based supply which many consumers will continue to rely on for some time. This may also drive cost issues for remaining grid-connected customers.
- Securing economic and non-economic benefits– there is a need to consider regulatory barriers that can inhibit new entrant products and services that have potential to benefit consumers and increase energy productivity.

3. WORK UNDERTAKEN TO DATE

- EMTPT stakeholder consultation on the regulatory implications of the emergence of stand-alone power systems.
- *Independent Review into the Future Security of the National Electricity Market* (Finkel Review). Recommendation 6.9 stated that '*By mid-2018, the COAG Energy Council should direct the AEMC to undertake a review of the regulation of individual power systems and micro grids so that these systems can be used where it is efficient to do so while retaining appropriate consumer protections'.*
- AEMC Final Rule Determination for the *Alternative to grid-supplied network services rule change* request from Western Power (the Western Power Rule change). Western Power Rule Change sought changes to the National Electricity Rules (NER) to address a lack of clarity about the ability of Distribution Network Service Providers (DNSPs) to deploy certain types of new technologies to provide their services. A summary list of the AEMC's key conclusions and recommendations is at **Appendix A.**
- Contestability in energy services rule change. The rule change introduces the concept of restricted assets into the electricity network economic framework and will restrict the ability of DNSPs to earn a regulated return on assets behind the meter. The intent is that the DNSP will not be prevented from using new technologies to

improve the quality of the regulated network service, but if they want to use a restricted asset as an input to the regulated service, under the new arrangements, the technology / service will need to be procured by the DNSP from the contestable market as operating expenditure (OPEX). In the event the competitive market is unlikely to provide the services to customers, such as in a remote area, the rule provides for an exemption from the restricted asset requirement which would allow the DNSP to own the asset and provide it on a fully regulated/non-contestable basis.

- Review of regulatory arrangements for embedded networks. The AEMC's final report for the review, published in late 2017, found that the current regulatory framework for embedded networks is no longer fit for purpose, and that the arrangements are resulting in some customers not being able to access competitive prices or important consumer protections including access to adequate monitoring and enforcement to ensure market participants are meeting their obligations as suppliers of an essential service.

In August 2016, a stakeholder consultation paper was released by the EMTPT on the regulatory implications of the emergence of stand-alone power systems. Key outcomes of the consultation are detailed in **Attachment 1.**

Based on the outcomes of stakeholder consultation, at its meeting of 14 July 2017 the **Council agreed that**:

1. EMTPT should further develop a proposal for changes to the national framework to address regulatory gaps for transferring from grid-connected energy services to stand-alone power systems and relevant regulatory arrangements.

2. Consistency is desired in jurisdictional frameworks for the regulation of stand-alone power systems, and that EMTPT should engage with relevant jurisdictional bodies and regulators and the Australian Energy Regulator (AER) to develop a best practice model for jurisdictional regulation of stand-alone power systems.

To begin identifying the detail-level issues requiring consideration and possible regulatory changes to allow for grid-connected end-use customers to transfer to a SAPS, the EMTPT engaged HoustonKemp to facilitate a workshop involving the EMTPT, the AEMC and the AER.

HoustonKemp, in consultation with EMTPT developed a workshop paper, in consultation with the EMTPT, to assist with facilitation of the discussion. The paper was updated to form a report documenting the outcomes of the workshop (**Attachment 2**). It should be noted that the content of the workshop report does not represent an agreed policy position.

In late 2017, the EMTPT engaged with relevant jurisdictional bodies and regulators on developing a best practice model for jurisdictional regulation of stand-alone power systems. Due to the varied comprehensiveness of existing jurisdictional legislative frameworks, competing priorities and resource constraints, the EMTPT agreed to consider providing the alternative option for jurisdictions to opt into a national SAPS framework under the national energy laws. If the jurisdictions choose to maintain their jurisdictional SAPS framework, the national framework will provide a model that jurisdictions voluntarily work towards, particularly in the case of providing minimum levels of protections for consumers supplied by SAPS. .

In an out of session decision in July/August 2018, the Council agreed that, in directing the AEMC to undertake a review to progress consideration of national regulatory changes to allow for SAPS, the terms of reference should include a request for advice on the option of providing a national framework for stand-alone power systems that jurisdictions can opt into,

as a substitute for consideration of a best practice model for jurisdictional regulation of SAPS.

EMTPT work with Industry groups and Energy Consumers Australia

As work on a SAPS framework continues, the EMTPT noted the growing potential in the short term for electricity customers to seek to disconnect from the grid. As a result, the Council requested Energy Networks Australia develop consistent information for consumers about the implications of a decision to disconnect from the grid. A key focus of the information piece is to ensure customers are aware that if they seek to reconnect to the grid at some time in the future, they could be asked for a capital contribution.

In addition, as part of the EMTPT's work to consider consumer protections for new 'behind the meter' (BTM) energy services, the Council has requested key industry bodies work with Energy Consumers Australia (ECA) to develop a voluntary Code of Conduct to apply to providers of BTM services and products. The Code development process is considering whether providers of stand-alone power systems should be captured. A draft code is due mid-2018.

Noting the AEMC's final report for the Embedded Networks Review, Council supports the AEMC's recommendation that the required changes be implemented through an inter-dependent package of law and rule changes, and that AEMC commences in mid-2018 advice for Council on possible changes to the law and rules to implement the AEMC's recommendations in the final report. The AEMC also has noted a number of synergies between the issues for customers of embedded networks and customers of stand-alone power systems and the Council supports AEMC's preference for progressing development of these regulatory frameworks concurrently.

4. SCOPE

The scope for the review is the national electricity regulatory framework set out in the NEL, the NER, the NERL, the National Energy Retail Rules (NERR) and associated regulations and other subordinate instruments, including, guidelines issued by the AER and the Australian Energy Market Operator (AEMO).

The review should be forward looking and as such focus on the regulation of new SAPS. While transitional provisions can be considered, the Council is not focused on capturing legacy off-grid systems which are already operating under jurisdictional frameworks.

For the purposes of the review, a stand-alone power system is a local electricity grid (supplying one or multiple customers/customer sites) with control capability and generation, which means it can operate autonomously, and is not connected to the interconnected national electricity system[1] or a local electricity system[2] as defined under the NEL.

Key items in scope

1. The review must cover the following scenarios:

    a) Existing grid-connected customer or customers becoming supplied by a SAPS:

[1] As part of the next phase of work for the Embedded Networks review, the AEMC may wish to provide advice on the need for future consideration of a regulatory response to an increase in embedded networks such as an embedded micro grid that can operate in islanded mode but still retains a connection to the national grid.
[2] A 'local electricity system' is a defined term in the NEL as applied in the Northern Territory (NT).

i. managed by a DNSP (a DNSP-SAPS) and regulated by a national framework.

ii. managed by a party other than the DNSP (a Community-SAPS) and regulated by a jurisdictional framework

b) A new or transitioned Community-SAPS regulated by the national framework.

2. At a high level, the review should identify and assess key issues and risks, and provide advice on potential solutions, including at a high level the key components of required regulatory changes, to:

   a) allow for grid-connected customers to transition to a SAPS to provide electricity services under the national electricity framework;

   b) allow for grid-connected customers to transition to a SAPS to provide electricity under a jurisdictional electricity framework;

   c) allow for regulated DNSPs to supply existing grid-connected end-use customers through a SAPS, where it is economically efficient to do so and while retaining appropriate consumer protections including reliable supply. This should also include consideration of the role of contestable service provision where the DNSP retains the right to provide the service;

   d) allow jurisdictions to determine:

      i. when (or if) they will opt-in to apply the national framework allowing/facilitating the transition of grid-connected customers to a SAPS.

      ii. if new and/or transitioned SAPS in their jurisdiction will be regulated under a national framework or jurisdictional framework.

   e) ensure existing legacy SAPS are excluded from being captured by any new regulatory framework for SAPS[3].

3. The review should consider consumer protection issues during the transition process and once end-use customers are serviced by a SAPS, and provide advice, including the key components of required regulatory changes, on:

   a) what elements of the national NERL/NERR customer protections framework would be relevant to continue to apply or adapt to customers of a SAPS.

   b) What other elements of the national framework should continue to apply or be adapted for customers in a SAPS, to ensure customers transitioned will continue to receive a reliable, secure and economically efficient electricity service, consistent with the NEO and NERO.

   c) Any need for, and the issues associated with, a 'return to the grid' process for SAPS customers in the event they want to reconnect to the national interconnected grid (or for NT a local electricity system). This should consider the merits or otherwise of applying the current standard arrangements for grid connection, including capital contribution policies.

[3] It is recognized however that jurisdictions opting in to a national framework may desire to also bring legacy SAPS systems under the framework at some stage, and it is assumed this could be affected through transitional provisions in the jurisdictions relevant Application Act.

4. Despite the AEMC's recommendations in the Final Rule Determination for the Western Power Rule change, the Council does not consider it appropriate for the review to extend to detailed consideration and recommendations related to jurisdictional regulatory frameworks. Jurisdictions will review their frameworks when considering whether to opt-in to a national SAPS framework. The Council does however request consideration of:

   a) Risks and benefits of regulation of a SAPS jurisdictionally versus nationally

   b) Risks and benefits associated with different SAPS in the same jurisdiction being subject to different regulatory frameworks (for example a legacy SAPS being regulated by a jurisdictional framework and a new SAPS being regulated by a national framework).

Priorities

The Council requests the AEMC conducts its review and provides advice having regard to the following priority areas for reform identified by the Council.

SCENARIOS *(from key items in scope)*	**Single customer**	**Multiple customer**
Priority 1 **i. DNSP-SAPS: Transition of grid-connected customer(s) to national SAPS framework** **ii. Community SAPS: Transition of grid-connected customer(s) to jurisdictional SAPS framework**	**A**	**B**
Priority 2 – National SAPS framework **i. New or transitioned from grid-connected to Community SAPS**	**C**[4]	**D**

5. APPROACH TO REVIEW

Given the priorities identified above, the Council requests that the AEMC take a staged approach to the review and delivery of advice. That is, advice on priority 1 should be delivered ahead of priority 2.

Further, in identifying potential regulatory changes, the AEMC should consider the need to balance the disruption to national framework from accommodating for SAPS, with the need to ensure the regulatory framework is as technology neutral as possible and provides flexibility and adaptability to address emerging issues, such as other new technologies.

The AEMC should undertake this review in coordination with its reform work for embedded networks and other related work, to ensure strategic overview, efficiency and consistency between the workstreams that will cover similar regulatory themes (for example, price benchmarking and access to competition). This will ensure that the reviews are accessible and efficient for stakeholders. Identifying and highlighting the key themes, in particular those

[4] While it is acknowledged that a single customer can currently transition off the grid, the review should consider issues such as the impacts of multiple single customers transitioning in a common locality.

that relate to consumer protections, will also ensure that the content of the reviews puts the customer at the centre of regulatory reform and allows customers to participate in the reform process in a meaningful way.

In considering consumer protection themes, the AEMC should also have regard to consumers' wider interests, noting that decisions consumers may make could have long term consequences both for themselves and for future occupants of their premises. As such, the need for consumers to understand any unintended consequences in related, but non-energy specific areas, such as potential impacts on property values, should be adequately considered. Similarly, for both SAPS and its related work on embedded network arrangements for residential customers, the Council requests that the Commission give due consideration to any impacts of changes in the energy regulatory framework on the costs of providing housing.

6. OBJECTIVES AND GUIDING PRINCIPLES

Any proposed regulatory changes should seek to support the following objectives.

- DNSP-SAPS arrangements are economically efficient.
- DNSP-SAPS are provided on a contestable basis to the extent possible, with a view to promoting competitive service delivery as a means of driving better price and service outcomes for consumers.
- Decision processes for transitioning grid-connected customers to a SAPS ensure consideration of whole of market benefits and costs including the impacts on customers left behind on the grid and upstream and downstream market participants.
- Transitioned SAPS customer outcomes are equivalent with the standard of service experienced under supply from the national interconnected grid (or for NT local electricity grid), unless those SAPS customers have expressly accepted a lower standard of service.
- Differentiation where special circumstances exist e.g. regional and remote areas.

The review and any proposed regulatory changes should also seek to provide balanced outcomes for end-use customers in the case of a grid-connected customers transitioning to a SAPS i.e. impacts on customers transitioning to a SAPS and on customers remaining on the grid should be considered.

The Council acknowledges the relevance of the guiding principles the AEMC applied in considering the Western Power Rule change request[5]. The review should also have regard to the following additional guiding principles, in addition to the NEO and NERO.

The electricity regulatory frameworks and market designs should:

- respond to customer demand for service and technology innovation, while avoiding undermining investment certainty for investors in traditional grid-based electricity services
- provide opportunities for increased competition and contestability where this leads to better outcomes for consumers
- seek to provide a level playing field for market participants providing essentially the same service

[5] Efficient provision of electricity services; Service reliability; Risk Profile; Impact on Competition; Technology neutrality.

- minimize potential for regulation shopping and market distortions
- provide and facilitate customer engagement and communication and a base level of customer protection or safety net measures
- ensure the effective operation of competitive retail markets, where possible.

7. KEY ISSUES AND OPTIONS TO BE CONSIDERED

7.1 DNSP-SAPS

Analysis to date has found there are potentially significant savings to be made for all electricity customers of a DNSP, from allowing it to deploy a SAPS, as an alternative to replacing or upgrading aging infrastructure, particularly in edge of grid areas where the cost of grid supply is high. It is also considered likely that SAPS have potential to provide improved reliability for remote customers, reduced bushfire risks and reduced local disturbance from line maintenance.

The AEMC's Western Power Rule Determination considered that the current definition of a *distribution service*, and restrictions on disconnection/de-energisation of customers under the national framework, would be a barrier to transfer of grid-connected customers to a SAPS.

Another barrier identified is that grid-connected customers may not have sufficient incentives to consent to transferring to a SAPS. This is because pricing under the national framework does not reflect the real cost of supply and retail prices in some jurisdictions are also subject to uniform tariff policies.

In addition the current electricity network economic framework, does not easily lend itself to large number of customers exiting the national interconnected grid. This is because:

- the network assets used to supply existing grid-connected customers are a 'sunk investment' the value of which is incorporated into the regulated DNSPs regulated asset base (RAB) and recovered from all customers over the long-term, through postage stamp pricing which smears the total cost across all customers and ensures that all customer pay the same amount regardless of their location.
- the regulatory framework provides limited ability to remove assets from the RAB, including stranded assets, as a means of providing long-term certainty for investors in electricity infrastructure.

Issues and Options

Subject to the outcomes of the review including stakeholder consultation, the AEMC should have regard to the following issues identified by the EMTPT based on the outcomes of consultation and analysis to date by the EMTPT and the AEMC.

In the Western Power Rule Determination, the AEMC asserted that regulated DNSPs should be allowed to use SAPS to provide their services to certain existing grid-connected end-use customers, where it is established a SAP system is a more economically efficient option than replacing or maintaining grid-connected poles and wires, subject to the following provisos.

To minimise the impact on development of a competitive market for SAPS, any regulatory arrangements should facilitate the provision of SAPS by a DNSP on as contestable a basis as possible. Due consideration should be given to arrangements

similar to the approach in Contestability in energy services rule change, where in general the DNSP would be encouraged to procure all or part of the SAPS service from the contestable market using opex, unless the competitive market is unlikely to efficiently and effectively deliver a SAPS (See HoustonKemp report at Attachment 2).

Notwithstanding the AEMC's finding that the current regulatory arrangements would require a process to obtain affected customers consent to transfer to a SAP system, including a requirement for consent (either unanimous or a majority) will potentially have the effect of giving a small group of customers a right of veto over a solution which, in the context of a DNSP-SAPS, could deliver significant benefits to all customers of the DNSP. Therefore the AEMC's review should examine the merits or otherwise of a consent requirement, versus other alternatives that could deliver equivalent outcomes such as regulating for the minimum customer outcomes to be provided by a SAPS.

In terms of broader consumer protections, existing grid-connected end-use customers transferred to a DNSP-SAPS, should be no worse off with respect to service quality and reliability and the level of consumer protections they receive.

The Council notes the AEMC's position that a DNSP should not be able to provide SAPS services to new customers, as part of its regulated service. This would be consistent with promotion of competition in new energy products and services. The Council notes, however, that there may be circumstances where the competitive market may be less likely to efficiently deliver a SAPS, such as in remote communities. Therefore, the Council requests that the review include an assessment of the merits and downsides of excluding DNSPs from providing new customers SAPS services.

The review is to include, but is not limited to, the consideration of the following issues in relation to allowing for existing grid-connected customers to move to a DNSP-SAPS.

Planning and Economic Regulation

1. A suitable process / decision making mechanism under the network planning and economic regulatory framework to allow grid-connected customers to be transitioned to a DNSP-SAPS. This should include consideration of:
    a. The need for the regulator under the national framework to have an oversight and/or approval role at key points in the process and what this role might entail.
    b. The need for a fit-for-purpose economic test to establish a SAPS solution is the most economically efficient option; and the need to ensure such a test adequately considers the impacts on the market as a whole, including customers that will remain on the national interconnected grid (or for NT a local electricity system) and upstream and downstream market participants. Options considered should include:
        i. applying the existing Regulatory Investment Test (RIT) under the NER, amended as appropriate, including how generation will be treated for the SAPS;
        ii. providing the ability to apply a more 'light-handed' and proportionate economic test e.g. this could be in the case of a transition involving only a small number of customers (where anticipated costs are significantly below the RIT threshold).
    c. The need for a process to obtain customer consent, versus the option of an

approach that focuses on guaranteeing minimum customer outcomes (see more detail further below). This should include consideration of:

i. The need for the DNSP to be able to offer incentives to secure the consent of affected customers. This should consider how benefits of a SAPS could be shared.

ii. The implications of retail/end user pricing arrangements associated with a SAPS.

d. Stranded assets. This should include;

i. an assessment of the regulatory risk associated with different options for the treatment of existing network assets.

2. The appropriate treatment of assets that comprise the SAPS (e.g. regulated vs unregulated, opex vs capex), including any changes required to ensure the DNSP is required to test the competitive market for the provision of a SAPS (like for demand response and other non-network solutions), so as not to conflict with their role as a regulated monopoly provider.
3. How Incentive schemes under the economic framework may need to change to accommodate SAPS (opex vs capex incentives, reliability, customer service, and quality of supply incentives)
4. Arrangements required to address/manage any potential bias for capex over opex
5. Required changes to other DNSP obligations to ensure they are fit-for-purpose in the context of providing services within a SAPS (for example the right to a connection, may need to be a right to a supply).
6. Arrangements for the role of generation and how it is treated in SAPS.
7. The role of the DNSP within a SAPS, including whether there is a need to evolve the role of the DNSP in the context of these systems. This should include:
    a. Consideration of whether the national framework should allow for/support the use of a vertically integrated service model within SAPS (i.e. where one entity performs the roles that would normally be undertaken by a DNSP, generator and retailer).
8. The merits and downsides of excluding DNSPs from providing SAPS to new customers.

<u>Consumer Protections</u>

Access to competition and the retailer role

9. The practicality, desirability and costs and benefits of retaining or seeking to provide access to retail competition (a choice of retailer) for SAPS customers, against potential alternatives. This should include consideration of:
    a. Alternative ways of protecting consumers from an inequality of bargaining power or monopoly pricing, such as the use of long-term contracts with minimum contract terms, agreed or regulated retail price-setting methodologies, retail price controls or price monitoring and use of standing offers
    b. The practicality and costs and benefits of consistency with the outcomes of the AEMC's Embedded Networks review (where retail competition is the preferred consumer protection);

c. The fact some grid-connected end-use customers currently have no access to retail competition (e.g. small customers in regional Queensland and Tasmania where the majority access regulated retail pricing).

10. The merits or otherwise of retaining a separate retailer function within a SAPS including:

- Consideration of the incentives for retailers to provide services in a SAPS.

11. Options for simulating competitive market outcomes for SAPS customers, including:

- The merits and downsides of including arrangements that simulate the outcomes of the wholesale electricity market exchange (particularly in respect of incorporating customer or third party embedded generation),
- Other options such as requiring DNSP tenders for SAPS providers.

Other general issues

12. Arrangements to ensure end-use customers transferred to a DNSP-SAPS, are no worse off with respect to service quality and reliability and the level of consumer protections they receive. This should include:

    a. Consideration of what aspects of the energy specific consumer protection framework set out in the NERL and NERR would be relevant to apply or adapt to customers transferred to DNSP-SAPS

    b. Consideration of what aspects of the NEL and NER framework would be relevant to apply or adapt to customers transferred to a DNSP-SAPS.

Consent vs Customer outcomes

13. Consideration of the best approach to ensuring SAPS decisions meet the long-term interests of affected end-use customers. The review should focus on two options:

    - requiring customer consent to transition to a SAPS; or
    - prescribing minimum customer outcomes (i.e. no consent)

    In considering the options, consideration should be given to:

    a) Any unique customer protection issues for customers in SAPS.

    b) Whether the long term interests of all customers is best approached by putting the power in the hands of affected customers (gaining their consent), or putting in place protections against potential adverse impacts on the affected customers.

    c) Whether customers are likely to be equipped to make informed decisions, particularly with respect to understanding what they are agreeing to in terms of reliability and security outcomes.

    d) Relevant precedents and legal and human rights issues.

    e) Whether a requirement for consent should be unanimous or majority consent and the rights of dissenting customers if a majority consent model were used.

    f) Any need to consider the fact the affected customers' decision will bind future occupants of the premises.

Reliability, security and service quality

14. The AEMC is requested to provide advice on the regulatory framework that should apply to a DNSP-SAPS with respect to:
    - reliability, security and service quality
    - system operation and/or system balancing in a SAPS (to the extent it is deemed this is required) and who should perform this role.

Other matters

15. The relevance of and any need for changes to or adaptation of other elements of the national electricity framework to accommodate for or capture SAPS, including for example:
    a. The Network Connections framework in Chapters 5 and 5A of the NER - Is it relevant to SAPS; is an adapted model required?
    b. Market Registration and Participation – the NEL and NER generally require registration of energy service providers and impose certain obligations on them. Given SAPS won't be connected to the national interconnected grid (or for NT a local electricity system), are these types of requirements relevant?

7.2 TRANSITION OF GRID-CONNECTED CUSTOMERS TO JURISDICTIONAL SAPS FRAMEWORK

A community may approach a DNSP and/or regulators requesting to move to a SAPS. Alternatively, a proposed DNSP-SAPS transition could in principle lead to the affected community or other third party seeking to operate or manage the SAPS solution (rather than the DNSP). In effect, this would be a situation in which the transition, whilst initiated by a DNSP, ultimately becomes led and managed by a third party.

The AEMC's Final Rule Determination for the Western Power Rule change found that, for a customer, the risk profile of off-grid supply is quite different from that of grid-based supply. The reason given is that there are currently substantial differences between the energy-specific consumer protections available to grid-connected end-use customers under the national electricity framework, and those available to off-grid customers[6] through jurisdictional regulatory frameworks.

The AEMC concluded transfer of grid-connected customers to off-grid systems should not be allowed for, without first addressing a lack of customer protections and potential negative impacts on consumers through gaps in the regulation of service reliability and access to retail competition in some situations.

Another key issue for SAPS is that there are potentially going to be drivers other than economic efficiency. For instance, a community might decide to move to a SAPS for environmental reasons or an individual may decide to install a SAPS as a means of personal empowerment and a desire to enhance the certainty of electricity costs.

This means there is a potential tension between the enabling of customer choice to leave the national interconnected grid (or for NT a local electricity system), and the resulting efficiency impact on the broader electricity market from the exercise of that choice. A Community SAPS has potential to be inefficient in terms of the impacts for

[6] The exception to this is Queensland which applies the national NERL to all customers regardless of a connection to the national interconnected grid.

customers remaining on the national interconnected grid or local electricity system.

For example, customers with a low cost to serve, who are currently cross-subsidising customers with a high cost to serve under uniform network tariff policies, may be targeted by contestable SAPS providers who may be able to offer those customers a more attractive price. As those customers leave the national interconnected grid (or local electricity system), the extent of cross-subsidy between the remaining customers would increase, further exacerbating the risk of more customers transitioning to a Community SAPS.

Conversely, customers with a high cost to serve who choose to leave may result in a net benefit to the remaining grid customers.

Issues and Options

Noting community and other third party interest in SAPS, the AEMC should consider a framework for the transfer of grid-connected end-use customers to a Community-SAPS, where a regulatory framework exists and ensuring adequate protections for the customers transferring.

It is not the Council's intention to change the arrangements and rights of individual customers to disconnect from the national grid.

Council considers many of the issues associated with allowing grid-connected end-use customers to transfer to a Community-SAPS are the same as for a DNSP-SAPS. In particular, issues also applicable to this scenario are:

- A suitable process / decision making mechanism to facilitate the transition
- Stranded assets

However, in terms of issues that are specific to transitioning customers to a Community-SAPS, the review should include, but is not limited to, consideration of the following issues.

1. The need for a mechanism to require the SAPS proponent to gauge indicative customer support (to the extent consent is required), in order to ensure that negotiations between the SAPS proponent and the DNSP on the transfer of assets reflect a real prospect that the customer transition may occur.
2. Consideration of any mechanisms necessary to protect remaining grid-connected end-use customers in relation to the impacts of the transfer of customers to a Community-led SAP system.
3. Whether there is a need to ensure the SAPS proponent has a prospect of obtaining / is seeking the required licenses/authorisations from the relevant jurisdiction.
4. Consideration of issues associated with the sale of regulated network assets to a third party, i.e. RAB treatment.
5. The need to ensure the transfer of existing grid-connected customers to a Community SAPS regulated under a jurisdictional framework can only occur once the relevant jurisdictional government is satisfied its state-based framework provides adequate consumer protections for SAPS customers (i.e. opt-in mechanism).
6. Whether arrangements are needed to manage/mitigate against the impacts on customers in the event a SAPS provider becomes insolvent.

7.3 NATIONAL SAPS FRAMEWORK

As highlighted, in July 2017 the Council agreed to EMTPT working with jurisdictional bodies and regulators to identify opportunities to drive best practice in jurisdictional regulation of SAPS – this essentially involved seeking greater alignment of jurisdictional SAPS frameworks with a view to embedding a base level of consumer protections.

However, jurisdictions participating in this EMTPT process noted that a similar outcome is likely to be achieved by providing for a national SAPS framework that jurisdictions can opt-in to apply in their state or can use to model their own regulation of SAPS. Under such an arrangement, it is proposed jurisdictions would have the option to [continue to] apply their jurisdictional SAPS framework to new SAPS and Community SAPS, or to adopt the National SAPS Framework for regulation of these systems.

It is recognized that the national energy frameworks were not drafted to contemplate SAPS. As such, the AEMC is requested to provide advice on the most appropriate future regulatory framework for SAPS.

Issues and Options

Many of the issues that need to be considered in developing a National SAPS Framework are the same as those listed for a framework for DNSP-SAPS, however in developing a national SAPS Framework it is important that it:

- Is fit-for-purpose and is flexible enough to cater for, or adapt to a range of potential business models for SAPS provision.
- Provides a level playing field for market participants providing essentially that same service and which minimizes potential for regulation shopping and market distortions.
- Identifies the roles and responsibilities of the entities that will be managing the various SAPS arrangements proposed in the scenarios identified in scope of the review.

Specific key issues that will need to be considered by the AEMC are:

- Consumer protections
- Service Standards
- Competition and market power
- Role of the regulator, including consideration of monitoring and reporting on performance.

7.4 RIGHTS TO RE-CONNECT

The Council acknowledges that individual customers can currently decide to disconnect from the national interconnected grid (or for NT a local electricity system), in favour of a SAPS. The discussion above also highlights that customers may of their own choice decide to exit the grid having agreed to be supplied by a Community-SAPS, such as a micro-grid owned by a developer or provided by a local council.

Subject to advice on the merits or otherwise of a consent requirement versus other alternatives, there is potential that existing customers could be transferred to a DNSP-SAPS without actually being required to consent to the transfer. If the customer then would like the standard network grid connection to be reinstated, it would be a different scenario to the current reconnection framework. In addition, a customer may have consented and then changed their mind or the property has a new owner and they would

like to have a standard network grid connection.

Issues and Options

Options on reconnection rights for customers that exit the grid by their own choice (i.e. not transferred by a DNSP) which should be considered include:

- For a customer(s) that chooses to disconnect from the grid in favour of a Community-SAPS system (including an individual SAP system), there will be no special rights to reconnect / revert.
- Existing rights to connect to the grid as per the NERL/NER and as supported by regulated network businesses connection policies approved as part of AER revenue determinations will apply unchanged to these end-use customers that want to seek reconnection to the grid (i.e. no special arrangements proposed for those who may want to 'revert').

The review is to include, but is not limited to, the consideration of the following issues in relation to the potential for SAPS customers to seek reconnection to the national interconnected grid or for NT a local electricity system.

1. Any need for and the issues associated with a 'return to the grid' process for SAPS customers in the event they want to reconnect to the grid.
2. The pros and cons of applying the current standard arrangements for network connection, including current arrangements that allow the DNSP to require a capital contribution from the customer.

7.5 OPT-IN ARRANGMENTS

The potential for and development of SAPS in jurisdictions is unlikely to be consistent across the NEM. For example, differences exist including in relation to bushfire risk and remote communities / customers will influence the speed at which SAPS emerge in a jurisdiction. There are also significant variances in the completeness of jurisdictional SAPS frameworks.

The AEMC should therefore report on an appropriate framework to provide for jurisdictions to opt-in to how SAPS will be regulated in their jurisdiction, including to allow for the following situations:

1) A jurisdiction allows connected parts of the distribution network to transition to a Community-SAPS regulated under its jurisdictional framework.

2) A jurisdiction allows the DNSP to transition connected parts of the distribution network to a SAPS under the economic regulation model of the national framework.

3) A jurisdiction allows some or all SAPS to be regulated under a national framework.

8. CONSEQUENTIAL AND RELATED REGULATORY CHANGES

AEMC should also consider and provide advice required on any consequential changes required as a result of the proposed reforms.

9. KEY DELIVERABLES

At a minimum the AEMC must publish:

1. a Draft Report at an appropriate interval ahead of developing a Final Report, and consult widely on the Draft Report.
2. a Final report on the outcomes of the Review.

10. PROCESS, CONSULTATION AND TIMING

The AEMC should consult closely with the members of the Council's EMTPT in progressing the review and forming its advice.

The AEMC should also consult with the AER, the Economic Regulation Authority Western Australia, the ECA and the Australian Energy Market Operator as part of developing and finalising its advice to Council.

The AEMC is requested to consult widely with a range of stakeholders, including by releasing papers for stakeholder input at key stages of the review.

The AEMC must publish its reports on the outcomes of its review as follows:

- For Priority 1:
    i. an issues paper by 11 September 2018
    ii. a draft report by 18 December 2018
    iii. a final report by 31 May 2019
- For Priority 2:
    i. a draft report by 30 June 2019
    ii. a final report by 31 October 2019

Embargoed copies of the above reports must be provided to the Council at least ten days before publication (for each stage of the review).

Alternative to grid-supplied network services Rule change request

SUMMARY OF CONCLUSIONS IN FINAL RULE DETERMINATION

Key conclusions and recommendations of the AEMC in its Final Rule Determination include:

1. Moving certain remote grid-connected customers to off-grid supply could offer significant benefits.
2. Customers should not be expected to move to off-grid supply unless it is offered to them at a price, and with protections, similar to those for electricity supplied via the national interconnected grid.
3. Distributors should be allowed to provide off-grid services to certain customers as regulated 'distribution services' with appropriate consumer protections.
4. Distributors should only be able to provide off-grid services as regulated distribution services to customers who currently have a connection to the national interconnected grid – not new developments.
5. If the NEL and NER are amended such that *distribution services* include off-grid services, the existing requirements to establish economic efficiency and other incentives would apply in relation to off-grid supply.
6. Distributors should be restricted from owning individual power systems (the rule change process focused on transfer of a single customer off the grid). AER could grant exemptions from this restriction in certain circumstances
7. The exact application of the contestability rule in the context of off-grid supply will require detailed consideration.
8. Customers who move to off-grid supply to reduce distribution costs should continue to receive appropriate energy-specific consumer protections aligned with those of standard supply customers.
9. Some form of customer information and consent provisions should apply to distributor-led transition to off-grid supply. The required consent percentage could be set with reference to the degree of similarity between the off-grid consumer protections and consumer experience and those for grid customers.
10. Implementing new information and consent provisions would require amendments to the NER and NERR, and potentially a change to (or clarification of) the definition of "de-energisation" in the NERL
11. Where off-grid supply is provided as a regulated distributor-led service at the same price as paid by grid-connected customers, protections such as reliability standards should be no less stringent than those the relevant customers currently receive for their existing grid connection.
12. The potential for retail competition should be a factor when determining the appropriate models of off-grid supply. Price regulation will be necessary if off-grid customers do not have access to retail competition.
13. For DNSP led transitions, off-grid reliability standards should be equivalent to grid-connected customers.
14. Off-grid customer relationships and billing would be managed by an authorised retailer (or equivalent under jurisdictional legislation).

Stand-alone energy systems *Summary of stakeholder feedback*

This paper summarises key issues that stakeholders considered critical in responding to the Stand-alone energy systems in the electricity market consultation questions. The aim of the paper is to facilitate Energy Market Transformation Project Team's (EMTPT) discussion in preparing a recommendation to the Senior Committee of Officials (SCO) and the COAG Energy Council Ministers.

This paper is prepared based on feedback expressed in the Melbourne public forum, and written submissions. Written submissions were received from a range of stakeholders including Distribution Network Service Providers (DNSPs), retailers, consumer groups, market operators, technology companies, regulators, unions and developers.

In general the submissions acknowledge the regulatory challenges posed by stand-alone energy systems, particularly given the diverse manner in which these systems may be delivered to consumers.

1 Introduction

1.1 Scope

In the Consultation Paper (released August 2016), the EMTPT specified that individual customer-owned stand-alone systems that are taken up by premises voluntarily would not be considered in scope. Western Power noted that individual customer systems should be included in the scope as are highly likely to be the dominant model for existing fringe of grid customers in the short term.

It is noted that there may be some ambiguity around the scope detailed in the consultation paper. To clarify, the working group intends for circumstances where an individual customer is moved to a stand-alone energy system by a DNSP to be in scope.

1.2 Objectives

The Consultation Paper noted that National Electricity Objective (NEO) would guide its regulatory approach to stand-alone energy systems. Stakeholders noted that the NEO is an important consideration, but had differing views on whether the NEO should be extended to off-grid SAPS customers. The ENA thought that the NEO should be taken into account for all customers while Origin thought that it is only relevant for on-grid customers regulated within the NEL.

In addition to the NEO, the AER suggested that the objective of any regulatory regime should be:

- minimise the scope for local monopolies to form and exploit customers.
- support the principle of open access for customers and energy suppliers wherever practicable.
- be fit-for-purpose and maintain consumer protections regardless of whether they are grid connected or on a SAPS.

Other stakeholders (Origin Energy, ETU) also noted that flexibility and facilitating consumer choice should important considerations.

1.3 Definitions

There was general agreement among stakeholders that clear definitions are important to establishing a regulatory approach. Stakeholders noted the two definitions put forward in the consultation paper addressed on-grid and off-grid scenarios. Some stakeholders (Western Power, Ausgrid, Brookfield) thought that working from multiple definitions would account for these differing configurations.

ECA suggested the following typological approach to forming the regulatory definitions:

Grid Connection	YES	YES	NO
Distributed Energy Resources	NO	YES	YES
Single Premises	Traditional installation	'Behind the meter'	Stand-alone power system
Community	Embedded network	Micro-grid	Islanded micro-grid

Ausgrid likewise provided a detailed breakdown of the different potential SAPS scenarios (see **Attachment 1**)

1.1 Regulatory issues – on-grid vs off grid systems

ECA proposed that any micro-grid has to be able to fulfill the expectations of the consumers who are connected to it in regard to price, quality, reliability, safety and security of supply. In regard to the different regulatory issues that arise in on-grid versus off-grid configurations, other stakeholders noted the following:

On-grid

- Grid-connected systems may need specific regulations concerning their connection and interaction with the wider grid (ATA).
- On-grid SAPS systems impact the network in terms of power security and safety (ETU, ENA). Such systems would need connection agreements to address these needs.
- The embedded network framework may be applicable to on-grid systems and therefore a new exemptions regime may need to be considered (Brookfield, ENA).

Off-grid

- Not catered for within the national regulatory framework
- Inability for customers to access retail competition therefore there may be greater need for consumer protection regulation (AER, CEC, ENA)
- Independent systems may need more stringent regulations concerning quality and reliability (Western Power, ATA)

1.4 Ownership models

The consultation paper presented the following ownership models:

- **Landlord model** -a landlord installing a micro-grid on site and providing power to tenants under a lease agreement.
- **Co-op model** -multiple individuals or companies cooperatively owning and managing a micro-grid to meet their power needs, with other individuals or companies opting in on a voluntary basis and being served under contract.
- **District model** -an independent firm owning and managing a micro-grid and selling power to multiple customers in the area under contractual arrangements.[3]
- **Municipal model** – a municipal body, such as a council, engages a stand-alone energy systems provider to provide energy services.
- **Distribution Network Service Provider model (DNSP) model** – a DNSP provides a stand-alone energy system after determining it is the most efficient option to supply a remote or edge of grid area.

Stakeholders commented that the ownership models proposed in the consultation paper could take on different forms as the definitions of the models could overlap. For example, the ATA noted that "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". Ausgrid provided a breakdown of potential SAPS scenarios (similar to the ECA typology) and linked these to possible ownership models (see **Attachment 1**).

In regard to the regulatory challenges presented by each model, the ENA noted the landlord model, co-op model, district model and municipal model will not provide the consumer protections available under NECF if the current NEL definition of stand-alone energy system is used.

The AEMC and other stakeholders saw achieving a nationally consistent regime as a particular challenge, given the different existing jurisdictional approaches to the regulation of SAPS. Further, the AEMC observed that states do not have regulatory measures in place to address transitions from NEM to microgrids. In particular it noted that there are gaps in legislation in all states relating to asset ownership and the rights of generators and distributors if their assets are islanded as part of a microgrid, consumer protections, as well as consumer rights in relation to reconnection into the NEM.

In respect of each model, stakeholders noted the following:

DNSP model

- NER does not contemplate the implementation of a stand-alone solution. It requires an amendment to the NER to facilitate the use of non-connected SAPS (Ausnet, Western Power). This model raises the question whether SAPS should be included in a network businesses regulated asset base (CEC).

- 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 (ATA).

Landlord model

- Could require a greater degree of consumer protection because of the greater power the landlord has over tenants. Price regulation could be difficult as energy costs could be included in rental agreement (CEC).
- This appears to resemble an embedded network and should be regulated under the exemptions framework (ATA)
- The existence of split incentives between the tenant and landlord.

Co-op model

- Would operate within jurisdictional co-op regulation. A nationally consistent approach could be difficult to achieve. Individuals could be limited in their ability to opt-out of arrangement (CEC).
- 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 (ATA).

Municipal model

- Consistency could be difficult as governed by municipal acts and regulations. Risk of conflicts of interest if elected officials have a financial interest in new developments seeking municipal support/investment for SAPS.
- 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 challenge (ATA)

In respect to which models are more closely aligned to the NEO, ECA thought that the basic question in terms of consumer protections is what is the negotiating power of the individual consumers in relation to the network owner. In a similar vein, the AER thought a key question is how to ensure that customers are not locked into costly, long-term monopoly supply arrangements. It proposed that the NEO would be best served by empowering consumers to choose at a community level an approach that best matches local requirements.

Some stakeholders believed that the DNSP model was more closely aligned to the NEO as the SAPS would remain a regulated service with no change to the network businesses' contract with the customer (ENA). The AER pointed out that while DNSPs have natural advantages in providing SAPS, these advantages will not necessarily translate into the lowest cost, reliable energy supply for consumers. Other stakeholders expressed the view that each model of ownership may be designed to promote the NEO and that there are currently examples of various models in operation that align with this objective (ECA, CEC).

2 Consumer protections

The Consultation Paper identified consumer protections as a key challenge associated with stand-alone energy systems. The particular challenges noted were:

- standalone power systems may remove the choice of retailer, essentially locking customers within a microgrid to a single, vertically integrated energy service provider.
- the customer is not the individual premises but the entity procuring the stand-alone systems on the individuals' behalf and ensuring the choices made by that entity are in the long term interests of end consumers who may not be directly involved in these decisions.
- The split incentive situation and ensuring that there are incentives for the procurer of stand-alone energy systems to share the economic benefits with end use customers

2.1 Price and service competition

Several stakeholders were of the view that if customers are unable to access the contestable retail market, price and service outcomes will need to be regulated in the form of price caps and licensing (ATA, CALC/CUAC, CEC). The ATA noted that price caps are used in the national and Victorian exemptions frameworks and this could be extended to stand-alone energy systems.

Other stakeholders thought that applying price regulation to non-DNSP owned stand-alone energy systems was unnecessary (ENA, Origin, Brookfield) as there would be a competitive market in the provision of stand-alone energy systems. Consumers can assess these providers and then choose what they are willing to pay for them. Brookfield in particular expressed the concern that direct price regulation could be overly restrictive and make stand-alone energy systems economically unviable. In the case of the DNSP model, stakeholders noted that the existing service standards would apply.

The majority of stakeholders concurred that the provision of clear, up-front information to prospective end users of stand-alone energy systems is vital. In regard to pricing, CALC/CUAC proposed that this information should include a comparison of how the proposed rates compare to those for equivalent grid-connected customers. The ENA also suggested this option as a means of aligning the incentives of systems procurers and customers. Further, several stakeholders suggested that a compliance regime to ensure stand-alone energy system operators are meeting agreed service standards (Flow Systems, CEC).

2.2 Contractual relationships

Stakeholders noted that the nature of the contractual relationships between the parties involved in the supply of services of stand-alone systems is dependent on the business model. In the case of the DNSP led model, the contractual arrangements for the customer, both with the DNSP and the appointed retailer, would be catered for within the contractual regime applicable (including regulatory oversight) for customers within the network area (Western Power). In similar terms, Flow Systems proposed that a stand-alone licence category be created by the AER so that retail and network contracts are regulated under the National Electricity Law.

ECA observed that the contractual relationship between end users will vary depending on whether it is an existing network becoming a micro-grid or a new network. In the latter case the decision to purchase within the micro-grid area needs to be informed by the terms and conditions of electricity

supply. In the former the consumers should lose none of the protections afforded them before the area converted to a micro-grid.

Once again stakeholders generally agreed that a key imperative is the provision of all necessary information to prospective participants so that they can make a properly informed decision (ENA, CEC).

2.3 Aligning incentives

The CEC and Origin saw contracts and service agreements as a way of overcoming the split incentives that may occur between end users and system procurers. A requirement for procurers to enter into long-term service agreements would be a way of ensuring better alignment with the needs of end-customers (CEC, Origin). The ATA saw price capping so that customers would be protected from unreasonable rates as the means of addressing this issue.

The ENA observed that the regulatory framework should signal where and when stand-alone energy systems are efficient. This will align the benefits to customers with those of the stand-alone energy service provider. In way of suggested reforms to the current regulatory framework, the ENA proposed more dynamic pricing that would provide a locational and time based signal.

Flow Systems saw the option of a new licensing category as a means of addressing split incentives between operators and end customers. Further, Flow and the ENA saw community ownership, such as through the co-op model, as a means of sharing the financial benefits and thus avoiding the split incentive issue.

2.4 Level of consumer protections

Some stakeholders agreed that key energy specific consumer protections such as disconnection, dispute resolution, quality and reliability of supply are necessary for customers of stand-alone energy systems. However, there were some diverging views. Origin and the Australian Energy Council argued that for the time being Australian Consumer Law would provide sufficient protection against unreasonable rates, bad service, and negligence that results in safety or human health risks. Origin proposed that in addition to the ACL, it may be appropriate to extend information provisions so that customers are aware of the services they are voluntarily contracting out.

In contrast CALC/CUAC and the ATA argued that the consumer protections available to grid connected customers should extend to customers of stand-alone systems. EWON regarded the National Electricity Law and the NECF as too prescriptive for some products and services, but noted the importance of protections for life support customers, communication standards relating to both planned and unplanned outages, standards about reliability of supply and obligations to supply.

2.5 Protection in the event of system operator insolvency

In the event of a stand-alone system operator becoming insolvent, ECA and the ETU suggest that market body such as AEMO or the AER could take control of the assets and appoint a temporary service provider until such time as the receiver or administrator has made alternative arrangements. The ENA suggested that if stand-alone systems are operating under a jurisdictional licensing regime then it would be the responsibility of the jurisdictional government to seek an alternative operator to take over.

EWON thought it important that regulation ensures that such costs are not placed on customers who do not have responsibility for the failure a choice about their supply system. EWON advised that it is currently participating in a consultation process to develop Operator of Last Resort provisions in the regulations associated with the Water Industries Competition Act which raises similar issues.

Many stakeholders agreed that an insurance scheme of some sort would be appropriate to offset the costs of insolvency (ATA, Endeavour Energy, ETU, CEC). The ATA further pointed out the an Operator of Last Resort scheme would require a register of accredited network operators with pre-determined responsibility for specific sites.

2.6 Dispute resolution

In terms of access to dispute resolution arrangements, stakeholders generally agreed that consideration should be given to placing stand-alone energy systems under the supervision of state-based energy ombudsmen (CEC, CALC/CUAC, ATA). The ENA argued, however, that ombudsman services for stand-alone energy systems should not be cross-subsidised by ombudsman fees from licensed retailers and distributors (ENA).

As a counter point, EWON noted that energy ombudsman schemes structure the way their members pay for Ombudsman services on a user pays basis. These funding models are flexible and can be structured to enable new entrants operating under different models to become members.

The ATA also put forward the idea that 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.

2.7 Hardship and financial support provisions

Stakeholders noted that the nature of the hardship and financial support provisions are likely vary between ownership models (CEC, Origin Energy) and the CEC suggested that an examination of case studies could help answer this question.

CALC/CUAC believe that disconnection protections should be similar to those for grid-connected customers, including the requirement to offer flexible payment arrangements before disconnection and restrictions on disconnecting while there is an ongoing dispute. The ATA and ENA both supported minimum standards in these areas, with the ATA pointing to the AER Retail Exempt Selling Guideline as a guide to what standards may apply.

3 Reliability and service standards

One of the advantages of stand-alone energy service models is the potential for customers to determine their own levels of reliability traded off against a price. The Consultation Paper requested stakeholder feedback how decisions should be made around the appropriate levels of reliability.

The CEC suggested that customers of a stand-alone system should have some influence in determining the trade-off between cost and reliability that they are willing to accept. This suggests a licensing approach to regulation.

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 (ATA)

Origin does not believe that reliability standards ought to be set for ordinary, non-life support customers that choose to access stand-alone energy systems. This position was supported by Brookfield which contended that natural market forces will determine the relationship between service level and price. However, Origin does believe that life-support customers are in a different category and proper regulations ought to surround their supply of energy where they exit the grid.

3.1 Informed decision making

The ATA pointed out that 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. CALC/CUAC suggested that an approach to this problem could be the development of development of an Australian Standard 'reliability rating' for supply arrangements other than through the interconnected grid, to allow consumers to make a meaningful comparison between supply models.

CUAC/CALC also advocated an enhanced requirement on exempt sellers to obtain the explicit informed consent of consumers before they enter into an arrangement for supply through a stand-alone system. CALC/CUAC also suggested that the Energy Council assign the AER responsibility for consulting with stakeholders regarding an appropriate consumer education and information model for the energy sector.

3.2 Governance framework

In the case of market led deployment of stand-alone systems, the AER stated that it prefers a light-handed regulatory approach to avoid communities being laden with excessive costs, arguing that if it is found later that higher standards are preferred then this can be corrected in a cost effective manner. It also suggested that the Energy Council commission the development of a suite of reliability setting approaches which factor in the major parameters including cost, connection requirements, outage duration, outage frequency, restoration time and service guarantees. The options should address trade-offs and allow solutions to be selected that match local circumstances.

In the case of the DNSP led model, CALC/CUAC pointed out that the lack of customer choice is the key concern. Customers in these circumstances should not be placed in a worse position because of the network business's decision to remove them from the network. The ENA, Western Power and Ausnet Services noted that if DNSP stand-alone assets were regulated assets, customers would remain regulated network customers. Therefore, these customers would continue to benefit from the current regulatory framework mechanisms for the protection of grid connected customers.

Regarding the question about how and by whom standards should be enforced, stakeholders generally agreed a licensing regime would be the most appropriate method. The AER and ENA thought that the authority to generate and implement reliability options would be based in State and Territory legislation. The AER expressed a preference for nationally consistent approach but based in jurisdictional legislation.

In relation to the question as to whether an obligation to supply should exist in areas serviced by a stand-alone system, the AER suggested that the basic principle of non-discriminatory open access

should apply for both customers and energy suppliers. The CEC and Origin Energy thought it would be uneconomic and unreasonable to place an obligation on a DNSP to supply from the interconnected network where a stand-alone energy system exists. There was general consensus that there should be an obligation to supply and that this obligation should be placed on the company providing the stand-alone energy system.

4 Regulatory challenges – Networks

The Consultation Paper noted the challenges that stand-alone energy systems presented to the current economic framework given that it is based around the presumption of a network infrastructure conveying a centralised supply of generation. In particular, the paper asked stakeholders what they thought the regulatory barriers were to the efficient provision of stand-alone energy systems by third parties and DNSPs.

4.1 Regulatory barriers

Western Power notes that the current national regulatory framework functionally prevents the use of non-interconnected stand-alone energy systems in delivering regulated network services. This fundamental regulatory barrier arises because of the definition of distribution service in the NER.

The CEC noted the cross subsidies that are inherent in the current regulatory regime. In particular it pointed out that 'postage stamp' pricing and Community Service Obligation payments make supply from the grid seem cheaper to the customer. If these were removed it would allow for SAPS to compete on a level playing field.

Origin Energy thought that the principal regulatory constraint to support a market for emerging storage technologies is an appropriate classification framework. It argued that the classification framework should provide that a DNSP cannot directly participate in the installation of storage assets beyond the customer's meter as this presents a high risk of distorting market outcomes.

Brookfield noted that for grid-connected stand-alone energy systems the current AER regulatory exemption framework is prohibitive and unable to deal with large-scale private networks as the AER considers such embedded networks outside the scope of the current standard exemption classes.

Flow Systems pointed to the requirement to be an Authorised Distributor as presenting a regulatory hurdle. Further, it noted that State and Territory legislative amendments are required to ensure stand-alone distributors have property access rights and powers in relation to installation, operation and maintenance of electrical infrastructure equivalent to licensed distributors.

4.2 Potential reform options

A significant number of stakeholders suggested that that NER should be amended to allow DNSP owned stand-alone energy systems to be included in the regulated asset base and the distribution service should be regulated as a standard control service. Any ambiguities or definitional issues within the Rules should be addressed to ensure that DNSPs are not restricted from deploying stand-alone systems where this represents the most efficient means of providing a network service (ENA, Endeavour Energy, Ausnet Services, ATA, Western Power).

Western Power noted that this issue is the subject of its Rule change proposal to the AEMC which seeks to expand the definition of distribution service in the NER, to facilitate the selection of non-interconnected technology options, such as microgrids and stand-alone energy systems, in order to efficiently meet existing supply obligations.

It was noted that the current Rule change request before the AEMC to expand the RIT-D to replacement expenditure would likely facilitate stand-alone energy systems as they often become the lowest cost supply model when network assets in fringe of grid areas are due for replacement. Ausgrid proposed that regulatory options that incentivise DNSPs towards shorter life investments or opex over longer term assets should also be considered.

Origin Energy suggested that with the emergence of stand-alone energy systems and the introduction of more prescriptive ring-fencing obligations, the regulatory investment tests need to be reviewed to see if they remain fit for purpose. One potential reform option Origin suggested was that the investment test threshold be lowered to provide a transparent demonstration of how a DNSP has considered non-network alternatives in its investment program and how it intends to source such services. It considers that the current threshold of $5 million acts as a constraint in this regard and this threshold could be removed completely. Western Power made a similar point noting that for individual replacement activities, the RIT-D may not capture the opportunity unless multiple sites are aggregated across a program of work.

4.3 Appropriateness of the national framework

In the AER's opinion, the NER economic framework should not apply to stand-alone energy systems. It believes a light-handed regulatory approach is more appropriate and is more likely to foster innovation is this area. In relation to grid-connected systems and whether they should be treated as embedded networks, the AER believes that while the design of a new regulatory framework may draw upon aspects of the embedded networks model, the framework itself is not appropriate. Namely, this is because the embedded networks framework is based on a number of compromises which mean that it does not properly recognise downstream network costs such as will arise in stand-alone networks.

The CEC notes that the National Energy Customer Framework (NECF) provides a retailer exemption scheme for providers of solar PPAs and this has proven to be an effective, light-handed approach to regulating this business model. It suggests that consideration could be given to extending this approach to include managers of stand-alone energy systems.

The ENA pointed to the following aspects of the national framework that could be used as a reference point for a regulatory approach to stand-alone systems:

- principles and guidelines covering network connection;
- the process that needs to be followed in entering into an agreement for a service;
- reasonable expectations around the level and standard of the service;
- an appropriate negotiation framework;
- notification requirements for outages for planned work and

- aspects of the NERL which apply to vulnerable and life support customers

4.4 Connection frameworks

The Climateworks' submission extensively addressed the issue of connection frameworks. It argued that the Energy Council consider the customer's end to end experience, not just under the NER connection processes, but also in meeting the requirements that may be placed on the customer by the network to which the customer is seeking to connect. In summary, Climateworks highlighted the barrier presented by the transaction costs imposed on third party connections by the widely different standards for distributed (or embedded) generation connections to distribution networks, and for the protection equipment required to ensure the safe performance of the installed equipment connected to those networks.

Several stakeholders commented that the existing connections framework was designed for the scale of DNSPs and may not be appropriate to the reduced scale of stand-alone energy systems (AER, ENA, CEC). The CEC and Flow Systems suggested that a new connection framework could be applied as part of a jurisdictional licensing regime.

5 Regulatory challenges – retailing

The Consultation Paper noted the implications of stand-alone energy services on the potential for retail competition and therefore efficient pricing for customers. It raised the question of how to ensure that the economic benefits of these systems are passed on to end-users and how to ensure that the decisions made around the implementation of such systems are in the long term interests of consumers.

5.1 Economic regulation

In response to questions as to how and under what circumstances should economic regulation be applied to stand-alone energy systems, the AER suggested that as a general principle regulation should be as light-handed as possible so as to encourage innovation. Likewise, the AEMC suggests a principle-based approach that provides the regulator the flexibility to determine both the type of economic regulation (if any) and the regulations that apply, with reference to standing principles.

The AEMC did, however, suggest that in circumstances where customers have not made the choice to be supplied by a stand-alone energy system (particularly where this is an individual system) then economic regulation may be appropriate.

Flow Systems suggested that stand-alone energy systems should not be part of a DNSPs regulated asset base and instead proportionately regulated. By this Flow means these new grids should be assessed based on their ability to deliver competitive pricing at parity with the wider NEM. This pricing should reflect all the benefits delivered by the local grid in the long term that may be valuable to residents. This may include greater electricity resilience in areas that may be subject to greater climate related crisis weather events. The RAB should be used as a reference point calculate the long-term infrastructure investment off-sets that would be delivered by stand-alone systems. This reference can then be used to calculate payments to these networks as non-network solutions to investment decisions.

Origin suggested that regulation may be appropriate where a DNSP is leading the development of an off-grid system for customers in remote areas. It pointed to the regime that operates in South Australia where the regulation of these remote, off-grid communities through a licensing arrangement. Certain regulatory standards are imposed by the Essential Services Commission of South Australia through license conditions that are tailored to meet the particular circumstances of the community.

The ATA suggested that for a DNSP to convert a fringe of grid community to a stand-alone energy system as it represents the most efficient cost in delivering supply, it should be required to:

- 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.

5.2 Price regulation

The CEC believes that some degree of pricing oversight and regulation might be required to prevent gouging by unscrupulous managers of stand-alone energy systems and that this could be implemented through a licensing system.

CUAC/CALC noted that the potential variety of products and services offered through stand-alone systems mean that this area is not well suited to formal price controls. It suggested that providers could be required to clearly communicate how price variations will apply over the life of the supply arrangement, including triggers for price reviews. Price variation disputes should be heard by the energy ombudsman.

The ENA did not support the extension of price regulation to customers of non-DNSP owned stand-alone energy systems. It argued that the price paid for the electricity must be based on a commercial arrangement between the provider of the system and the consumer.

In contrast the ATA suggested that by default price regulation should apply 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.

5.3 Applying the embedded networks framework

The AER stated that it did not believe that networks which maintain a grid connection should be treated as embedded networks. It thought that while the embedded network framework could be adapted, this is not its preferred approach. It believes that the embedded networks 'shadow pricing' approach to network costs is inappropriate for stand-alone energy systems. If stand-alone assets are removed from RAB, the 'shadow pricing' approach would not appropriately attribute network costs. It notes that other problems with applying embedded networks framework such as distribution losses, metering arrangements and access to retail competition.

As a counterpoint Brookfield suggested that the AER create a new exemption class that would allow for private ownership of large grid-connected SAPS. The regulation should be similar to an exempt embedded network by allowing "shadow-price" methodology and placing conditions on the SAPS owner to ensure safety and reliability.

6 Consistency versus tailoring

The Consultation Paper asked stakeholders for guidance on principles it should take into account when deciding the need for and nature of any new regulatory arrangements.

In addition to paying heed to the NEO, the AER suggested three basic principles which were echoed by many stakeholders namely:

Regulation should be fit for purpose. The level of regulation should be proportionate to the level of protection energy customers need and the specific circumstances of the energy sale.

Regulation should be sufficiently flexible. While protection consumers' long term interests, regulation should not hinder innovation. It needs to be appropriate for the type of energy selling undertaken.

Existing legislation should not be duplicated. Customers have access to broad protections under the Consumer and Competition Act 2015, Australian Consumer Law and state and territory fair trading legislation. Consideration should be given to whether current frameworks are adequate and whether consumer needs can be addressed through other means.

From a consumer protection standpoint CALC/CUAC suggested that these principles be at the forefront:

- Consumer protections should be comparable to those for grid customers, including access to free external dispute resolution services.
- Access to retail competition should be retained where possible, and pricing controls should be in place where competition cannot reasonably occur.
- Effective information provision and explicit informed consent are fundamental requirements for any alternative supply arrangements that lock in customers long-term via the physical setup of the system or contractual terms.
- Competition in the provision of stand-alone system services should be encouraged where possible.

6.1 Balance between strong compliance and flexibility

Once again many stakeholders pointed to the embedded networks framework as a potential model upon which a regulatory regime that balances flexibility with compliance could be based. EWON's view that the AER exemption framework provides a model of matching regulatory protections to the nature of, and the impact that, a new product or service will have on consumers. Such a model, when applied to "stand-alone energy systems", will ensure that each proposal would be judged and an appropriate level of consumer protection applied.

Acronyms

ACL	Australian Consumer Law
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
ATA	Alternative Technology Association
CALC/CUAC	Consumer Action Law Centre & Consumer Utilities Advocacy Centre
CEC	Clean Energy Council
COAG	Council of Australian Governments
DNSP	Distribution Network Service Provider
ECA	Energy Consumers Australia
EMTPT	Energy Market Transformation Project Team, reporting to SCO
ENA	Energy Networks Association
ETU	Electrical Trades Union of Australia
EWON	Energy and Water Ombudsman, New South Wales
NECF	National Energy Customer Framework (implemented by the NERL)
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
NER	National Electricity Rules, made under the NEL
NERL	National Energy Retail Law
SAPS	Stand-alone Power System
SCO	Senior Committee of Officials, reporting to the COAG Energy Council
RAB	Regulatory Asset Base
RIT-D	Regulatory Investment Test - Distribution

ATTACHMENT 1 – Further Scenarios for Consideration

Described below are potential scenarios for stand-alone energy systems with their associated characteristics. The text highlighted in blue are suggested names or titles to describe each scenario or circumstance, and could be utilised for determining appropriate levels of regulation.

Customers Involved	Land Title	Configuration	Interconnection	Suggested Title	Ownership Model
Single Customer	Torrens or Community Title	Stand Alone	Off-grid	Off-grid Installation	Private
Multiple Customers	Torrens Title	Stand Alone	Off-grid	Distribution Network - Stand-alone Microgrid	Landlord Model
					Co-op Model
					District Model
					Municipal Model
					DNSP Model
			Grid-connectable	Distribution Network - Connected Microgrid	Landlord Model
					Co-op Model
					District Model
					Municipal Model
					DNSP Model
		Main System Dependent	Grid Connected	Private Distribution Network	Landlord Model
					Co-op Model
				Distribution Network	District Model
					Municipal Model
					DNSP Model
	Community Title	Stand Alone	Off-grid	Embedded Network - Stand-alone Microgrid	Landlord Model
					Co-op Model
					District Model
					Municipal Model
					DNSP Model
			Grid-connectable	Embedded Network - Connected Microgrid	Landlord Model
					Co-op Model
					District Model
					Municipal Model
					DNSP Model
		Main System Dependent	Grid Connected	Embedded Network	Landlord Model
					Co-op Model
					District Model
					Municipal Model
					DNSP Model

Each stand-alone energy system described above (except the first arrangement) includes scenarios in which a customer may voluntarily and involuntarily receive a stand-alone energy service. This supports the need for customer protections with regulation to manage the virtual monopoly powers that each stand-alone energy supply manager may exert over customers under a scenario that will be encountered either immediately or over time as the customers impact change (ie. join or depart).

HOUSTONKEMP
Economists

Decision-making mechanisms for transition to Stand-alone Power Systems

A post-workshop report for the Energy Market Transformation Project Team

Final 3 January 2018

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1. Introduction

This paper summarises the outcomes of the workshop held on 29 November 2017 on the decision-making mechanisms for customers transitioning from being supplied from the interconnected grid to being supplied via a stand-alone power systems (SAPS). The workshop was attended by representatives from the Energy Market Transformation Project Team (EMTPT), as well as the Australian Energy Market Commission (AEMC) and the Australian Energy Regulator (AER).

In particular, this paper sets out the key elements of two decision-making mechanisms:

- the first applying where the transition to a SAPS is led by a Distribution Network Service Provider (DNSP)[1], and is used to provide regulated standard control services (at a lower cost than traditional network solutions); and
- a second decision-making framework, that would apply where the transition to a SAPS is customer-led as a contestable service.
    - This mechanism could apply, for example, in instances where the transition to a SAPS was led by a council, a community group, a developer (in the case of a brown-fields development involving premises that are currently grid-connected), or by a DNSP-affiliated company as a ring-fenced, contestable service.

The workshop agreed that these mechanisms should be developed as **two separate workstreams**, albeit that commonalities between the two in terms of the issues addressed should be taken into account.

In particular, as discussed below, the decision-making mechanism for a DNSP-led transition may be developed ahead of the customer-led mechanism, given the need to have a mechanism in place to avoid regulated expenditure on more costly alternatives (particularly ahead of the next Victorian DNSP regulatory review in 2019[2]). The issues raised in the DNSP-led mechanism also appear more tractable.

The paper identifies key issues that would need to be addressed in fleshing out and implementing both of these mechanisms, and therefore also serves as a forward work program.

1.1 Focus of the decision-making mechanisms

The focus of this EMTPT workstream is the appropriate transition process and providing certainty as to the regulatory arrangements that will apply (eg, customer protections), for customers that are currently supplied electricity via the interconnected National Energy Market (NEM) network to transition to a non-connected SAPS.

Separate EMTPT workstreams are considering:

- the development of a consistent, best-practice approach to the jurisdictional regulation of SAPS through a jurisdictional Regulators Working Group; and
- ensuring the regulatory arrangements for thinly connected microgrids and SAPS do not result in outcomes contrary to consumer interests and the National Electricity Objective (NEO). The EMTPT will consider the outcomes of the AEMC's embedded networks review,[3] in this regard.

Whilst the development of an appropriate decision-making mechanism will need to remain cognisant of developments in these other workstreams, they are separate to the current exercise.

[1] Or a Transmission Network Service Provider (TNSP). In some circumstances a TNSP may also identify an 'edge of grid' community that may be more efficiently served using a SAPS. However, the majority of cases are likely to involve a DNSP.

[2] A key driver for DNSP-led SAPS in Victoria is where they represent a lower cost solution in terms of lowering bushfire risk.

[3] AEMC, *Review of regulatory arrangements for embedded networks*, Final Report, 28 November 2017.

The focus of the mechanism is on groups of customers transitioning to a SAPS. However, in the case of DNSP-led transition, arrangements for the transition of single customers should also be covered by the mechanism (which may be simplified in this case, as discussed in section 3.2).

The arrangements for individual customers who choose to exit from the grid (unrelated to any DNSP-led transition) are separate to this exercise. Similarly, the arrangements for customers who are already in a SAPS, or for greenfield developments of SAPS, are outside of the scope of this exercise.

The decision-making mechanisms presented in this paper build on the analysis and consultation that has already been undertaken by the EMTPT,[4] as well as that undertaken by the AEMC in the context of its December 2017 Rule change determination on *alternatives to grid-supplied network services*.

[4] This includes the August 2016 Consultation Paper on Stand-alone Systems in the Electricity Market, as well as the July 2017 Policy Paper on Stand-alone Power Systems.

2. Context

2.1 What is meant by a 'decision-making mechanism'?

The decision-making mechanism should cover:

- the steps through which a group of customers[5] would transition to a SAPS. This includes identifying:
  - the decisions that need to be made,
  - the party making those decision,
  - the criteria/assessment framework that is applied in making the decision; and
  - any rights of appeal/dispute resolution.
- the consequential changes following a decision to transition to a SAPS, in terms of (for example):
  - the entity who is providing the SAPS (either in whole, or in part);
  - any arrangements for transferring assets from the DNSP to the SAPS (where required);
  - the prices charged and the reliability standards and customer protections applying to customers within the SAPS; and
  - the consequent impacts on the prices charged by the DNSP to those customers that remain connected to the grid.

2.2 Policy positions to date

The policy positions relevant to developing the transition mechanisms are:

- the decision-making mechanism should facilitate the transition to SAPS where it represents an efficient outcome and/or when it reflects customer choice:
  - for DNSP-led SAPS, the extent to which transitioning customers are required to agree to the transition is an issue that remains open, although as a general principle it is considered that consent by a certain proportion of transitioning customers should be required;
  - for customer-led SAPS, it is recognised that there is a potential tension between the enabling of customer choice to leave the grid, and the resulting efficiency impact (including the impact on other customers) from the exercise of that choice. The development of the decision-making mechanism therefore needs to be cognisant of the extent to which appropriate signals can be provided such that customer-led decisions to adopt SAPS also further efficiency.
- SAPS should be provided on a contestable basis where possible:
  - this includes DNSP-led transitions, where the DNSP should as a default position seek to procure SAPS solutions on a contestable basis (as it would with other non-network solutions), with the costs associated with the SAPS then being included as part of the DNSP's regulated opex;
  - however, it is recognised that for DNSP-led transitions there are circumstances in which regulated SAPS solutions that directly involve the DNSP providing some or all elements of the SAPS may be necessary. However, even in these circumstances, there may be scope for the contestable procurement of individual elements of the SAPS solution;
  - this policy position potentially goes further than the AEMC's position in the *contestability of energy services rule change*,[6] in that it implies that in-front of the meter assets which form part of the SAPS

[5] Or an individual customer, in the case of a DNSP-led transition.

[6] AEMC, National Electricity Amendment (Contestability of energy services) Rule 2017, Rule Determination, 12 December 2017.

solution should as a default be procured on a contestable basis, rather than being owned by the regulated DNSP.

- a near-term driver for DNSP-led SAPS is the avoidance of the costs and risks associated with bushfire mitigation measures, which is particularly relevant for the 2019 Victorian DNSPs regulatory review:
  - there is therefore a benefit in progressing the DNSP-led mechanism as a separate workstream, ahead of the customer-led mechanism, where this appears practical; and
- the general presumption for customer-led SAPS is that jurisdictional regulation (of price, reliability, service quality, customer protection) would apply to SAPS rather than the National Electricity Rules (NER) or National Energy Retail Rules (NERR):
  - in the case of a DNSP-led transition, the workshop concluded that there are good reasons for consumer protections in a DNSP-led transition to mirror those in the National Energy Retail Law (NERL)/NERR as far as possible (see section 3.1).

The decision-making framework also needs to be cognisant of other policy and regulatory developments. These include:

- the AER's ring-fencing guidelines, which limit a DNSP's ability to provide services which are not distribution services, unless via a separate, ring-fenced entity or unless a waiver has been granted by the AER; and
- the AEMC's final decision on the COAG Energy Council's 'contestability' rule change.[7] The AEMC has drawn a distinction between:
  - 'behind the meter' assets, which it considers should be subject to contestable provision and (subject to certain limited exceptions) should not be eligible to be included in a DNSP's Regulated Asset Base (RAB) as part of providing a 'standard control service'; and
  - 'in front of the meter assets', which could be used to provide standard control services, and would then be included in the DNSP's RAB.

2.3 Issues to be addressed in transition depends on the driver

Figure 2-1 below highlights the different drivers for a transition to a SAPS, and whether they are expected to lead to a contestable or regulated solution.

In short, there are two main alternative drivers:

- A DNSP, where it identified that a SAPS is a lower cost way to provide regulated standard control services (**DNSP-led transition**); and
- A decision by a group of consumers, or a representative body (such as a council, developer or community group) to meet their electricity needs via a SAPS, rather than the NEM-connected grid (**customer-led transition**).

It is possible that a jurisdictional government may decide that customers should be transitioned to a SAPS in some circumstances (for example, where there are substantial bushfire risks from grid-connected supply). Such a policy would be given effect through a jurisdictional requirement, which would then need to be taken into account by the DNSP in proposing its efficient capex and opex proposals to the AER to meet those requirements.[8] As a consequence, a government policy driver would in practice be reflected in a consequent DNSP-led transition.

For completeness, the figure shows that a DNSP-led SAPS transition could in principle lead to the affected community deciding to move to a contestable SAPS solution (rather than one provided by the DNSP). In effect, this would be a situation in which the transition, whilst initiated by a DNSP, ultimately becomes customer-driven. In this event, the decision-making mechanism for the transition should then be the same as

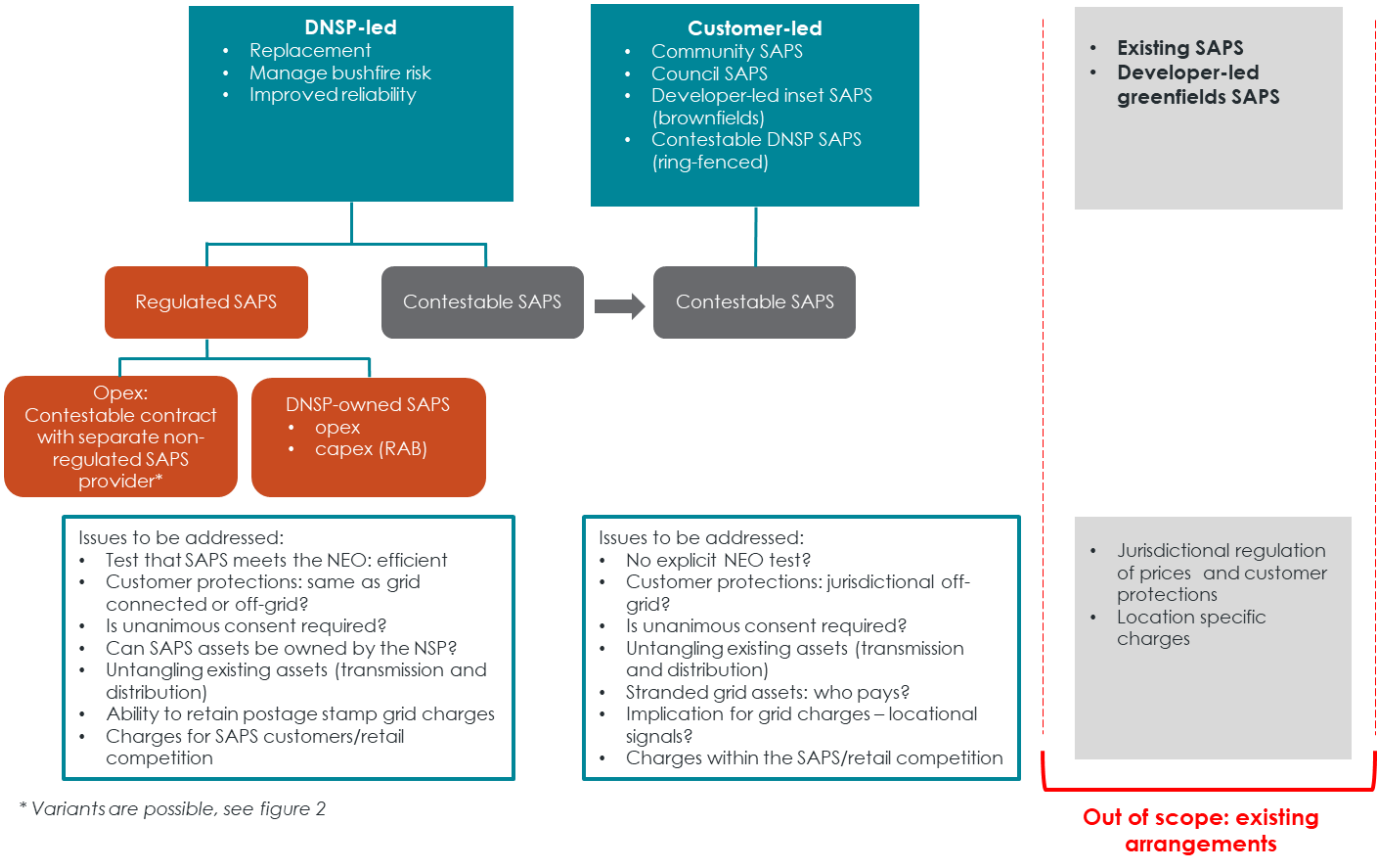
[7] AEMC, *National Electricity Amendment (Contestability of energy services) Rule 2017, Rule Determination*, 12 December 2017.

[8] Consistent with NER 6.5.6(a)(2) and 6.5.7(a)(2).

for any other customer-led transition to a SAPS. In practice, we consider that this is unlikely to occur, given that customers targeted for DNSP-led transition are likely to be those with a current high cost to serve via the interconnected grid, and for which the price of a stand-alone contestable SAPS solution is therefore likely to be above their current grid charges.

Figure 2-1 also highlights some of the issues raised by the transition of customers from grid-supply to a SAPS. It is clear from the figure that, whilst there is a large degree of overlap in the issues raised, there are also key differences depending on the driver behind the transition to a SAPS.

Figure 2-1: The issues raised by transition to SAPS depend on who is driving the transition



Given the different issues raised, the appropriate decision mechanism and the resulting steps to facilitate transition are also likely to differ depending on the driver.

Consistent with this, in the following two sections we present two separate decision mechanisms – the first for DNSP-led provision of SAPS as a standard control service, and the second for customer-led transition to a SAPS as a contestable service.

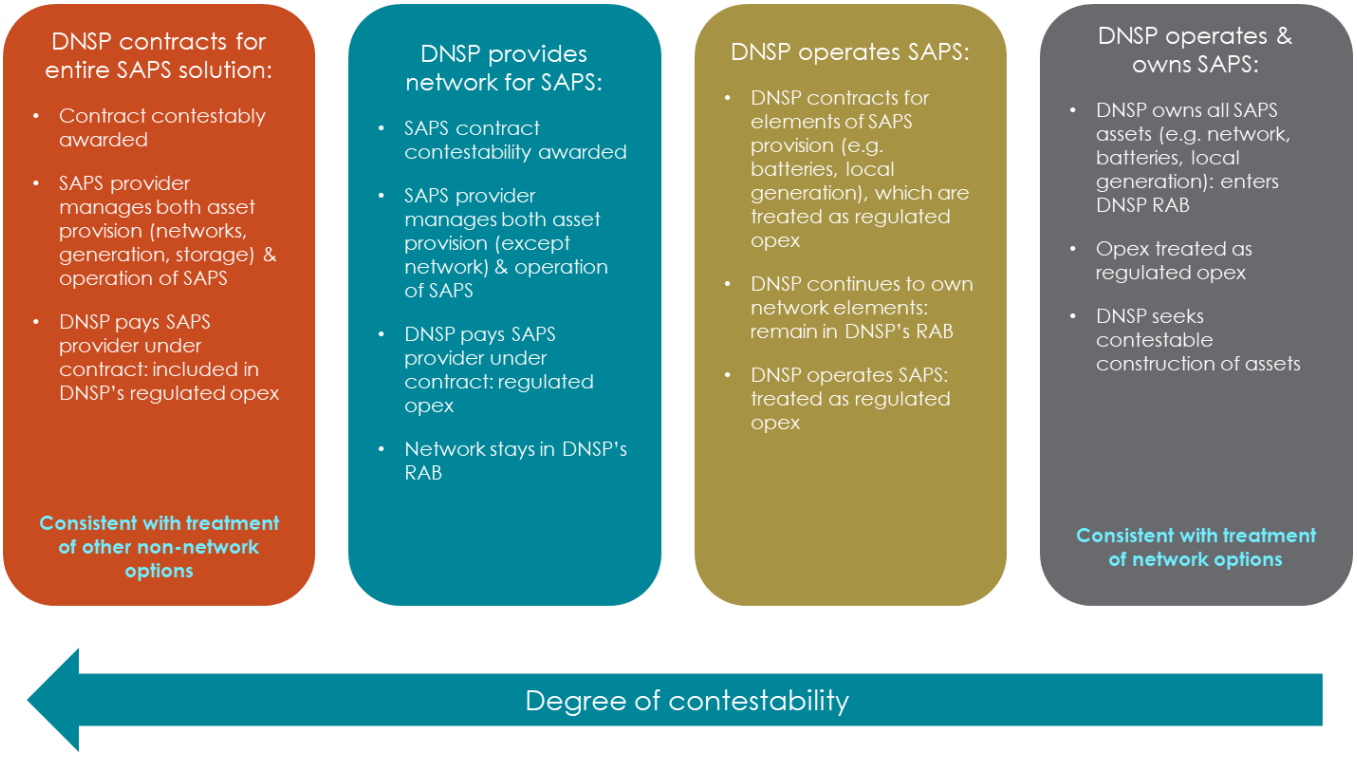
3. Proposed decision-making mechanism for DNSP-led SAPS

A key outcome of the workshop was that development of a decision-making mechanism for a DNSP-led SAPS should proceed as a separate workstream.

Before setting out the proposed decision-making mechanism, it is helpful to describe what a 'DNSP-led' SAPS solution could look like, as there are several potential variants under which the DNSP would have a greater or lesser role in the operation of the SAPS as well as the direct ownership of the assets (network, generation and storage) forming the SAPS.

Figure 3-1 sets out alternative models for a DNSP-led SAPS solution.

Figure 3-1: Alternative models for DNSP-led SAPS provision



Consistent with the policy direction that SAPS should be contestable where possible, the decision-making framework enables transition to a SAPS which is provided as a separate complete solution under a network support contract with the DNSP. That is, it would facilitate the provision of a SAPS on as contestable basis as possible, as shown on the left hand side of Figure 3-1. Under this model, the DNSP would not own any of the assets associated with the SAPS (including any network elements). The costs associated with the network support agreement would be recovered as part of the DNSP's regulated revenue.[9]

Aspects of the mechanism could then be relaxed or modified as needed. This could include an outcome where the network element of the SAPS continues to be provided by the DNSP, but where the SAPS

[9] The recovery of these costs would be smeared across all customers, not just those in the SAPS.

provider operates the SAPS under a network support agreement with the DNSP and provides all other SAPS elements (eg, local generation and storage), as shown in the second box in Figure 3-1.

- In this circumstance there would be a contract between the regulated DNSP and the SAPS provider in relation to the availability and performance of the network,[10] but the network assets would remain in the DNSP's RAB and would not be transferred to the SAPS.
- The DNSP would continue to recover the costs associated with the SAPS network through its regulated revenue allowance, as well as the operating costs associated with its contract with the SAPS provider.[11]

Where full contestable provision is not considered possible due to a lack of contestable proponents, the framework could be further relaxed to enable the DNSP to play a greater role in SAPS provision (as shown in the two right hand columns of Figure 3-1), either through:

- the DNSP undertaking the SAPS operator role and continuing to own the network, and contracting for other individual SAPS elements (eg, local generation and storage); or
- the DNSP directly owning and operating all of the SAPS assets (eg, network, local generation and storage), but contracting for their construction on a contestable basis.

These less contestable outcomes are discussed in section 3.3.

3.1 Decision-making mechanism for a DNSP-led SAPS

Figure 3-2 presents the high-level decision-making mechanism for DNSP-led SAPS as a standard control service. The decision-making mechanism sets out the steps involved in the transition, and the decision-maker at each point.

The mechanism in Figure 3-2 set outs (at a high level) a comprehensive mechanism:

- that assumes that the SAPS provider would also be the retailer to customers in the SAPS (ie, those customers would no longer be subject to retail competition);
- that would be suitable to apply to DNSP-led SAPS involving more than one customer, and where the SAPS solution is provided and managed by a completely separate, contestable SAPS provider under a network support contract with the DNSP; and
- that includes provisions for the SAPS provider to purchase network assets from the DNSP, where these assets could then be used in the SAPS.

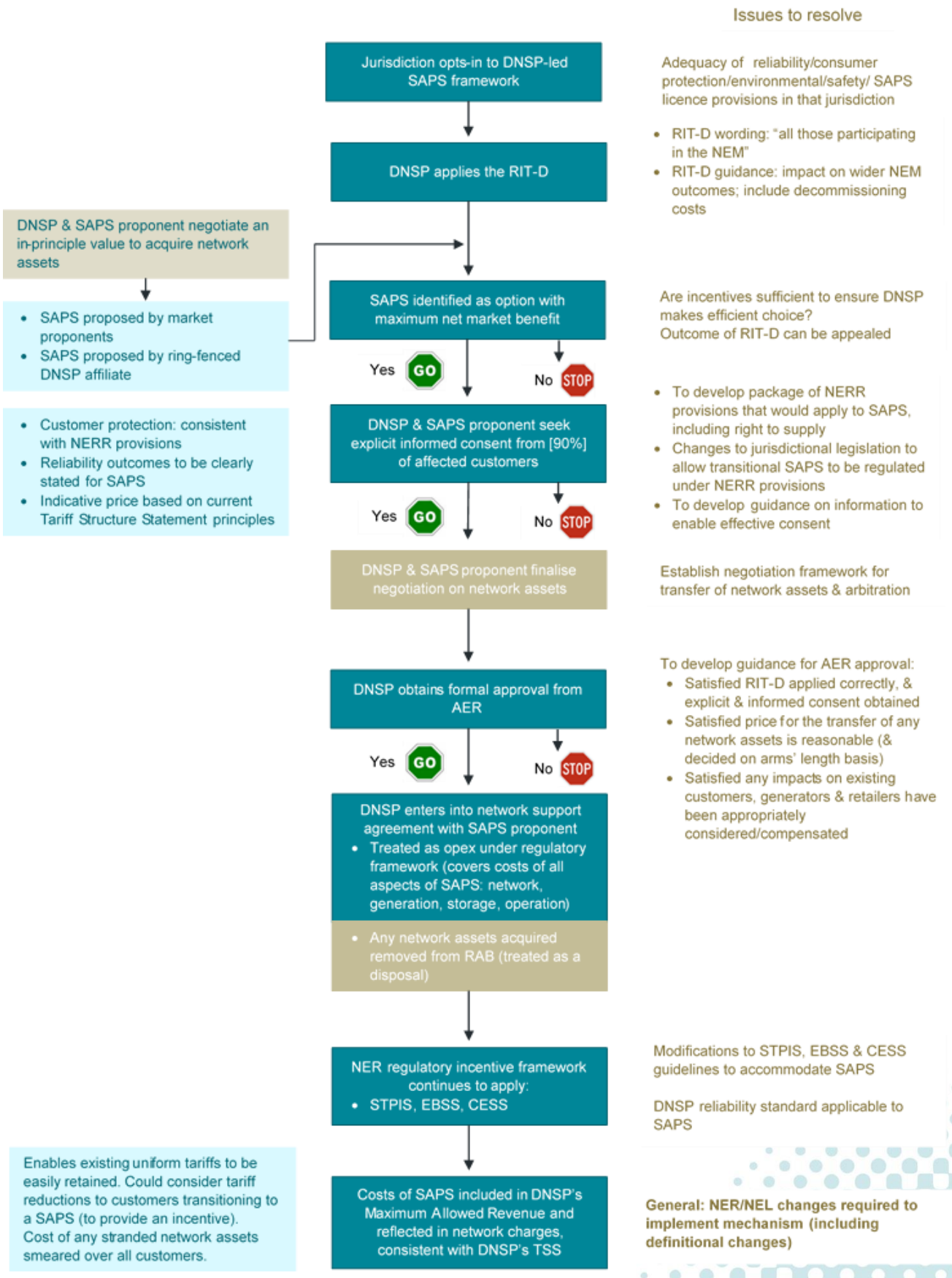
In section 3.2 we describe how elements of the mechanism could be modified in less complex situations, including where there is only a single customer.

Figure 3-2 provides commentary on specific steps in the process (on the left hand side of the figure) and highlights key issues that would need to be resolved in order to apply the mechanism (on the right hand side).

[10] Consideration would need to be given to whether this is a 'distribution service' provided by the DNSP, and therefore whether it is consistent with the ring-fencing provisions.

[11] Again, the recovery of these costs would continue to be smeared across all users.

Figure 3-2: DNSP-led decision-making mechanism (standard control service)



The following features of the mechanism are worth highlighting:

- There would be an initial, once-off 'trigger' decision by a jurisdiction to opt-in to allowing DNSP-led SAPS transition.
  - This trigger is considered necessary, as each jurisdiction will need to be confident that their jurisdictional arrangements for network reliability,[12] customer protection,[13] safety (including the rights of access to premises for the SAPS provider), environmental protections[14] and the licensing of SAPS[15] are appropriate.
  - Including an 'opt-in' step allows jurisdictions to adopt the framework as soon as they consider that their own jurisdictional arrangements are appropriate, rather than waiting for all jurisdictions to be ready.
- The steps to identifying a SAPS as a potential solution encompass both application of the existing Regulatory Investment Test - Distribution (RIT-D) by the DNSP, and also obtaining explicit informed consent from more than a set proportion of consumers that would be transitioned.
  - This recognises that the value to consumers of grid-connection may differ from the economic costs and benefits included in the RIT-D assessment.
- The RIT-D is an existing process that allows the identification of the most efficient solution for network investment (and covers both augmentation and replacement expenditure).[16] This is the solution that is considered to have the greatest net market benefit (ie, benefits minus costs) compared to other solutions, where benefits are the benefits to all NEM participants.
  - The existing arrangements require DNSPs to consider non-network options as well as network options. A SAPS would therefore be treated essentially as any other non-network option as part of the RIT-D evaluation.
  - The existing RIT-D guidance would need to be reviewed to ensure that it is fit-for-purpose to be applied to SAPS solutions. In particular, although under the RIT-D all costs and benefits accruing to parties across the NEM should be included (which would capture differences in wholesale market costs, where relevant), to date the guidance provided has not made the inclusion of wholesale market costs clear.
  - The RIT-D consultation process facilitates the DNSP receiving indications of interest and indicative pricing from potential proponents of SAPS solutions. The DNSP would seek interest from potential SAPS proponents who are prepared to commit to a long-term contract.
  - The RIT-D assessment would be based on the indicative prices of the solutions submitted by the SAPS proponent(s). This could include a set-up cost,[17] any on-going operating and maintenance cost and (potentially) a pass-through of any fuel costs associated with the SAPS. The RIT-D assessment would also include an estimate of the price at which the DNSP would expect to re-contract with the SAPS provider at the end of the proposed contract (in situations where the contract was for less than the typical RIT-D assessment period of 15-20 years).
  - Where the RIT-D assessment found that the SAPS solution was the option with the greatest net benefit, then the DNSP would run a formal, contestable tender process for the long-term contract to provide the SAPS solution.

[12] Reliability obligations are currently imposed on DNSPs on a jurisdictional basis, as a result of jurisdictional legislation (typically as a licence condition).

[13] Either jurisdictional arrangements or new NERR based protections (discussed further below).

[14] Since SAPS are likely to involve back-up generation powered by diesel or LPG, which raises emissions concerns in residential areas that may not be sufficiently covered by existing jurisdictional regulations.

[15] Which may be as one entity, or in relation to the individual activities (eg, generation, network, retailing) being provided by the SAPS.

[16] The RIT-D applies wherever a DNSP is undertaking a project to address an 'identified need' identified by the DNSP (NER Chapter 5.10.2), which exceeds a certain cost threshold (currently $6m). Consideration of a SAPS to replace an existing distribution line would automatically be captured by the NER requirements to apply the RIT-D, and would not require an additional trigger to be added to the NER. Section 3.3 sets out a simplified mechanism that could be applied to investments below the RIT-D threshold.

[17] Where the SAPS proponent would purchase assets from the DNSP in order to deliver the SAPS, then the expected cost of purchasing the network assets would be reflected in the price offered by the SAPS proponent.

- Where there was no submissions to the RIT-D from potential SAPS proponents, then the DNSP can include an indicative SAPS solution as part of the RIT-D assessment, under which the DNSP provides part or all of the SAPS. Where this option was found to pass the RIT-D, this could then result in the DNSP itself providing the SAPS solution – discussed further in section 3.3 below.

- The proposed mechanism includes a requirement to obtain explicit, informed consent from more than a set percentage of customers that would be transitioned to the SAPS:
  - As noted above, a requirement to obtain explicit, informed consent from customers takes account of concerns that customers value their connection to the grid for non-economic reasons.
  - The proportion of consenting customers required is for determination (90% has been used as an indicator). Relevant considerations include:
    - Where the reliability, customer protections and service standards provided by the SAPS are very similar (or even superior) to those offered to those same customers where they are grid-connected, a lower consenting percentage would potentially be justified than if the customer protections and service standards differ (for example, as a consequence of being based on jurisdictional arrangements).
    - Where customers are giving up access to retail competition, it is important that they realise the implications of this. This would support requiring a higher percentage threshold.
    - Conversely, if a way was found to allow SAPS customers to access prices that were linked to competitive outcomes, then the percentage consenting could be lowered. Similarly, in areas where there are limited prospects[18] for effective retail competition (such as Tasmania, and parts of regional Queensland) a lower consenting threshold may be justified.

- Under the proposed mechanism, the DNSP would continue to face the same reliability obligations for customers being supplied via the SAPS as it does for grid-connected customers:[19] [20]
  - The jurisdictional reliability obligations imposed on DNSPs would need to be reviewed to ensure that they are fit-for-purpose to apply to customers that are supplied via a SAPS.[21]
  - The same reliability obligations could continue to apply to customers who are transitioned to a SAPS, although there may be circumstances where it is appropriate to amend the jurisdictional reliability standard for those customers.[22]
  - DNSPs would reflect the reliability obligations in the network support contract with the SAPS provider, and would continue to be incentivised to outperform these obligations (where it is efficient to do so) via the application of the Service Target Performance Incentive Scheme (STPIS).

- The proposed mechanism is based on SAPS customers continuing to receive the same level of customer protections as grid-connected customers:
  - Where the transition is DNSP-led, the workshop agreed that as far as possible it would be desirable to retain the same protections, as currently reflected in the NERL and NERR (recognising that in some areas these protections may need to be modified through Rule changes to make them fit-for-purpose for a SAPS).

[18] It would be relevant to consider both the current state of retail competition, and also whether this is expected to persist in future, as once customers transition to a SAPS they would not be able to access benefits from any *future* retail competition.

[19] Reliability obligations are currently imposed on DNSPs on a jurisdictional basis, as a result of jurisdictional legislation (typically as a licence condition).

[20] Where a process which begins as a DNSP-led transition leads, in practice, to a customer-led SAPS transition (as discussed earlier in section 2.3), then the reliability standard provided by the SAPS need no longer be the same as for a regulated outcome. This may lead to the need to establish 'minimum' reliability standards in the customer-led case. This is discussed further in section 4.

[21] For example, current jurisdictional reliability obligations are often expressed as obligations applying to 'rural feeders' or 'urban feeders' which pre-supposes a grid connection.

[22] This may be the case, for example, where the cost of a SAPS solution to meet the existing standard far exceeds the cost of a SAPS solution to provide a lesser, but still acceptable, reliability standard. Any decision as to vary the existing DNSP reliability obligations would need to have the relevant jurisdictional approval. Such circumstances are not expected to occur frequently.

  - If this proves difficult to achieve in practice (due to the extent and nature of the changes to jurisdictional legislation that may be required), then a 'second-best' solution would be to adopt the jurisdictional SAPS protections.

- The proposed mechanism contains a formal approval role for the AER in relation to the SAPS transition. The workshop came to the view that this approval role was important to signal independent oversight of the transition. The AER's approval role would be largely focused on compliance with the NER and NERR, and therefore would fall within the current AER staff skill set. The approval role would cover:
  - confirmation that the RIT-D had been applied correctly;[23]
  - confirmation that the process under which the DNSP has obtained explicit and informed consent is consistent with the relevant provisions in the NER and/or NERR;
  - confirmation that any value agreed between the DNSP and the SAPS proponent has been agreed on a commercial, arms' length basis (which is particularly relevant where the SAPS proponent is a ring-fenced affiliate of the DNSP);
  - confirmation that the DNSP has appropriately considered the impact on existing customers, affected generators and affected retailers. The workshop came to the view that the impact on these parties was an aspect of market risk, and did not require special protections.
- The mechanism assumes that a SAPS would be provided as a non-network solution to the DNSP, and would therefore be treated as opex:[24]
  - The opex cost would cover all of the costs to the proponent of providing the SAPS, ie, network (including any assets purchased from the DNSP), generation (capital and operating costs), storage, as well as the operating costs associated with managing the SAPS.
  - The costs of any network assets that become stranded as a result of the transition of customers to the SAPS would continue to be recovered from all remaining grid-connected customers, as these assets would remain in the RAB. This could include both stranded transmission and distribution assets.
- All other aspects of the regulatory framework would be retained – in particular the existing incentive mechanisms (STPIS, Efficiency Benefit Sharing Scheme (EBSS), Capital Expenditure Sharing Scheme (CESS)), as well as the DNSP's existing approach to determining network tariffs (as set out in its Tariff Structure Statement (TSS)):
  - The continuation of the incentive mechanisms addresses potential concerns that the reliability of the service provided by the SAPS might deteriorate over time. As noted above, the DNSP would have an incentive to agree performance standards with the SAPS proponent as part of its network support agreement that meet or exceed its jurisdictional reliability obligations, as any change in performance would impact the amount the DNSP receives under the STPIS.
  - Existing postage stamp grid pricing could be retained, as the costs of the SAPS would feed into the DNSP's overall regulated revenue requirement, and then would continue to the apportioned across different customers in line with the DNSP's current policies.
- The mechanism would facilitate discounts being offered to customers being transitioned to a SAPS:
  - Under a uniform tariff policy, customers in areas with a low cost to serve are effectively subsidising customers in areas with a higher cost to serve.
  - Where the overall costs of providing supply to high cost customers is reduced through the adoption of a SAPS, this benefits all of the customers of the DNSP, as the overall revenue requirement falls.
  - Providing a discount to those customers being transitioned would provide an incentive for them to consent to being moved to a SAPS, and would still benefit all other customers, as the extent of the cross subsidy would fall.

[23] There are currently provisions under the NER to enable interested parties (other than the AER) to lodge a formal dispute in relation to the outcome of the RIT-D. The AER approval step proposed here is in addition to this existing dispute provision.

[24] An extension of the mechanism to enable the SAPS to be directly provided by the DNSP as a regulated service in some circumstances, and for costs to enter the RAB, is discussed below.

- The extent of required discounts will be linked to the threshold set for the proportion of consenting customers required for transition. The lower the proportion of consenting customers required, the lesser the need to offer discounts to incentivise transition.

The mechanism set out in Figure 3-2 makes provision for assets to be 'sold' by the DNSP to the SAPS proponent, where those assets can be used in the SAPS:

- The DNSP and a potential proponent for a SAPS would need to undertake preliminary negotiation on the value of any network assets to be transferred, during the RIT-D process, to feed into the network support price offered by the SAPS.
  - This could be an 'in principle' negotiation at the RIT-D stage, to be firmed up to a committed price following success at achieving sufficient consent from affected customers.
- There would then be a formal finalisation of these negotiations, once the RIT-D and customer consent stages have been passed.
- The framework includes an arbitration framework, if commercial agreement cannot be reached:
  - commercial negotiations should be the preferred solutions, rather than an administrative value being imposed on the transaction
  - However the NER should include principles which an arbitrator would take into account in the event that commercial agreement cannot be reached. These principles could reflect:
    - An 'upper bound', being the cost that the SAPS proponent would incur to invest in new assets, adjusted to reflect the age of the existing network assets (ie, a Depreciated Optimised Replacement Cost (DORC) valuation); and
    - A 'lower bound', being the opportunity cost to the DNSP from the sale of the assets. This would include the value of the foregone regulated revenue stream associated with the assets, minus the on-going operating and maintenance costs of the assets.
- The DNSP's RAB would be adjusted as a result of the sale of the network assets to the SAPS provider, in line with the existing provisions for asset disposals.
- Where the SAPS provider does not require the network assets, these assets would be 'stranded' by the SAPS solution. The assets would remain in the DNSP's RAB, and the cost would continue to be recovered from all customers as part of the DNSP's regulated revenue requirement.[25]

As flagged in section 2, there may be circumstances in which the DNSP could continue to own the assets used in the SAPS (and where these assets would therefore remain in the RAB), and where the SAPS proponent would provide and operate all other elements of the SAPS solution, under contract to the DNSP. In this scenario, the elements of the decision-making framework relating to the transfer of network assets (shown in the three boxes with brown shading in Figure 3-2) would not need to be applied.

[25] Even though customers are continuing to pay for these stranded assets, overall the cost of supplying the customers transitioning to the SAPS would be lower, and therefore the total costs paid by all customers would be lower with the SAPS than if the transitioning customers remained grid-connected.

3.2 Application to a single customer or where network investment would be below the RIT-D threshold

The mechanism set out in Figure 3-2 is a comprehensive mechanism suitable for the transition of groups of customers to a SAPS, when the cost of maintaining the connection to the grid is above the RIT-D threshold (currently $5m). However, there are circumstances in which single customers may be the focus of a DNSP-led transition to a SAPS, or where the cost of the grid-connected alternative is less than the RIT-D threshold.

In this situation, some of the complexity of the comprehensive mechanism would not be required. In this case:

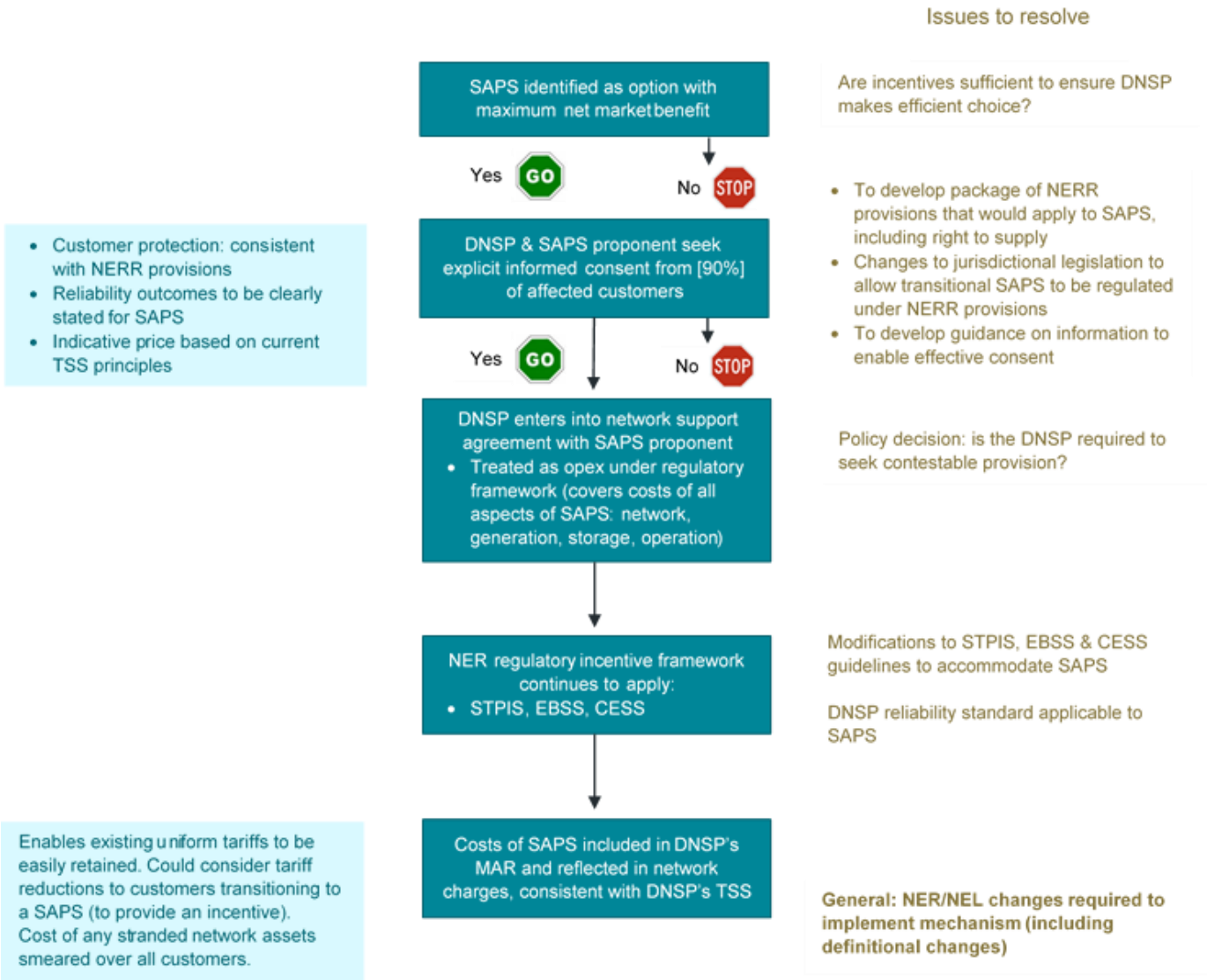
- The formal RIT-D process could be replaced by a Net Present Value (NPV) assessment that demonstrates that the SAPS is the option with the greatest net market benefit (least net cost).
  - This could be provided as part of the DNSP's annual planning report.
  - The NPV assessment would continue to include all the costs and benefits applicable to the wider market (just as with the RIT-D assessment), but would not require the same consultation process as the RIT-D.
- The formal approval process from the AER may be unnecessary, given that fewer issues are likely to arise for single-customer and smaller-scale transitions.
- There would be no transfer of DNSP assets in the case of single-customer transition.

Figure 3-3 shows the simplified decision-making mechanism that would apply in this circumstance, as a result of these changes.

The key policy issue is whether the DNSP would be required to contract for provision of a single-person SAPS on a contestable basis, via a network support agreement, or whether it would be able to own the SAPS assets directly as part of its regulated activities.

As noted above, the broader policy position is that SAPS assets would be contestably provided where possible. This implies that in this situation, the DNSP should still be seeking contestable provision where possible, under a network support agreement.

Figure 3-3: Simplified DNSP-led decision-making mechanism for transitions below the RIT-D threshold (including single-customer)



3.3 Provision of a SAPS on a non-contestable basis

As flagged in section 3, there are circumstances in which the contestable provision of a SAPS may not be possible, due to lack of potential proponents.

In some circumstances, a SAPS may be identified as the potential least cost solution under the RIT-D analysis conducted by the DNSP, but there may be no proponent to provide it as a network support service:

- in this circumstance, a waiver or exemption[26] could be provided (determined by the AER) to enable the DNSP to provide the SAPS directly (rather than via a contract with an affiliated ring-fenced entity), and for the assets to then enter the RAB.
- The waiver or exemption could be provided on a case by case basis following the DNSP's application of the RIT-D, or could be a 'blanket waiver' or 'blanket exemption' where the AER considers that there is not a viable market for contestable SAPS provision (eg, in remote areas):
  - the RIT-D process would highlight to the market that there was an opportunity to provide a SAPS. Where no submissions from proponents are received, this would be a good indication of lack of market interest.
- Even if contestable provision is not possible, the DNSP could be required to contract with a separate entity to build the SAPS, but would then be responsible for operation.
  - This is similar to network development, where the DNSP contracts out construction. Arguably no special provisions are required, as the DNSP is incentivised to minimise its capital costs under the regulatory framework (including the CESS).

However, the implications of permitting such waivers or exemptions for the development of the market for non-network support and for contestable SAPS should be carefully considered. This is particularly the case for blanket waivers or exemptions.

[26] A 'waiver' would be required in the case of the ring-fencing guidelines, whilst an 'exemption' would be required under the Contestability Rule change where the NSP wanted to own 'restricted' behind the meter assets.

4. Proposed decision-making mechanism for customer-led SAPS

Figure 4-1 presents the decision-making mechanism for a contestable, customer-led SAPS.

Many of the features of the mechanism are common to the DNSP-led mechanism discussed in the preceding section. In particular:

- The SAPS proponent is required to seek explicit informed consent from a certain proportion of the customers that would transition to the SAPS.
  - We have suggested that this proportion is set above that required for a DNSP-led transition, given that the transition will not benefit all remaining grid-connected customers, and that it will be important for customers to understand that the proposed jurisdictional reliability and consumer protection arrangements applying to the SAPS will differ from the arrangements when they are grid-connected.
- There is a negotiation and arbitration framework applying to the transfer of any network assets to the SAPS. Following the transfer of these assets, the value of the assets agreed in this negotiation would be removed from the DNSP's RAB.
  - For the customer-led SAPS, it is important that there is an independent arbitration arrangement that acts to prevent the DNSP seeking to 'block' the transition by requiring an unreasonably high price for the sale of any network assets to the SAPS.
- There is a formal consent role for the AER before customers can transition.
  - In the case of a customer-lead transition, this would include over-sight of both the price agreed for any transfer of assets, and the exit fee paid for any stranded assets (see below).

There are however some key differences between the two mechanisms, as a result of the different issues arising under a customer-led transition:

- The mechanism requires the SAPS proponent to gauge indicative customer support as a first step, in order to ensure that negotiations between the SAPS and the DNSP on the transfer of assets reflect a real prospect that the customer transition may occur;
- The SAPS proponent would then need to seek the required licences/authorisations from the jurisdiction;
- Consideration should be given to establishing a 'minimum reliability standard' for customer-led SAPS, that jurisdictions could sign-up to adopt:
  - This recognises that the existing jurisdictional reliability obligations on DNSPs will no longer apply to customer-led SAPS customers.[27]
  - Introducing a minimum reliability obligation would protect customers who transition to a customer-led SAPS from ending up in a situation where they receive poor service standards. Previous consultation has highlighted that customers are not well-equipped to understand and provide informed consent to different reliability outcomes.
- Regulation of charges and customer protections in the SAPS would be under jurisdictional regulation:
  - This differs from the DNSP-led mechanism, as in this case customers are electing to move to a SAPS, and so there is no presumption that existing protections/charges should be maintained.
  - Supplier of Last Resort (SOLR) arrangements may need to be reflected in the arrangements for customer-led SAPS.[28]

[27] Existing DNSP reliability obligations would apply to DNSP-led SAPS, as discussed in section 3.

[28] For DNSP-led SAPS, the DNSP would remain the SOLR, and so there would be no need for additional arrangements to be put in place. The DNSP's contract with the SAPS-provider would take this role into account.

- The mechanism allows for an 'exit fee' to be levied on customers transitioning to the SAPS, covering the cost of any assets that are stranded as a consequence of the transition:
  - These would include assets that are dedicated to the customers in the SAPS, but which the SAPS is not proposing to use.
  - It could also include assets that have been sized to supply the customers who are now choosing to transition to the SAPS, and where expected future load-growth does not justify remaining customers continuing to pay for the additional capacity. This may include both transmission and distribution assets.
  - The objective of the exit fee would be to avoid remaining grid-connected customers being required to pay for assets which have been stranded as a result of the move by some customers to a SAPS.
  - Revenue from the exit fee would netted off the Network Service Provider (NSPs) regulated revenue requirement (in the same manner as a customer contribution), for both affected TNSPs and DNSPs.

Under the proposed mechanism, customers in the SAPS would no longer have access to the same uniform network tariff as grid-connected customers. Given that those customers have chosen to leave the grid (where the uniform tariff is available to them), then this does not appear problematic. Moreover, in practice, it is unlikely that customers would move to a SAPS unless their charges fell. However, where jurisdictional governments did want to maintain some form of uniform tariff for customers in SAPS, then this would need to be done via Community Service Obligation (CSO) arrangements.

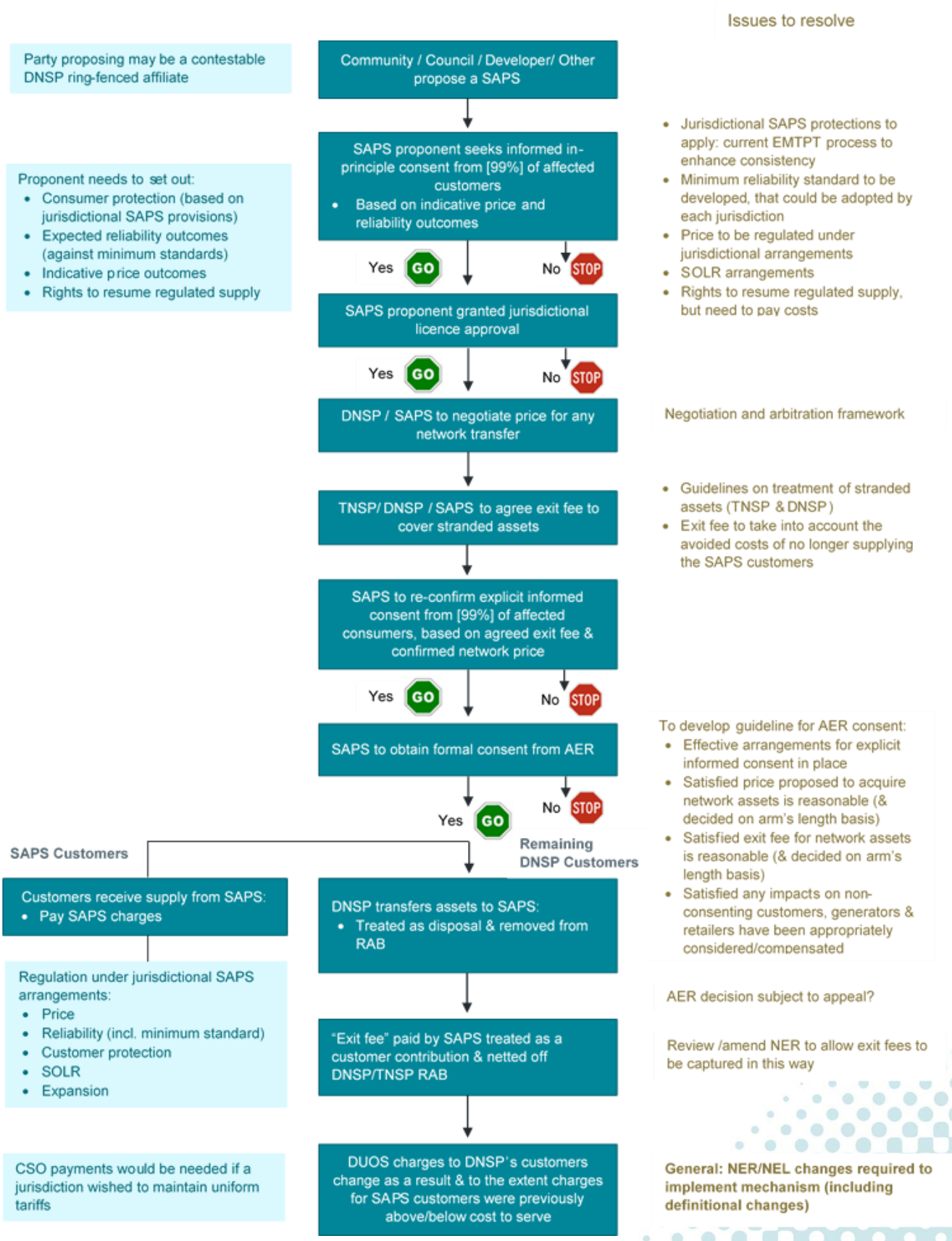
One of the key policy areas to consider is the potential for customer-led transition to a SAPS to lead to inefficient outcomes. In particular, customers with a low cost to serve, who are currently cross-subsidising customers with a high cost to serve under uniform network tariff policies, may be targeted by contestable SAPS providers who may be able to offer those customers a more attractive price. As those customers leave the network, the extent of cross-subsidy between the remaining customers would increase, further exacerbating the risk of more customers transitioning to a SAPS.

Although one solution to this issue would be to introduce locational network prices, this is unlikely to be palatable in practice.

Levying an exit fee (as discussed above) can help to address some of this concern, as it exposes customers to the costs associated with their decision to transition to a SAPS (and avoids the remaining grid-connected customers having to also wear the costs of these stranded assets). However the underlying issue of the current cross-subsidy remains.

For customers that remain grid-connected, their distribution charges would change following other customers transitioning to a SAPS, as a result of a combination of any exit fees levied, any transfer of assets to the SAPS, and the reduction in the overall number of grid-connected customers across which network costs are shared. The first two factors will reduce overall charges for grid-connected customers, whilst the last factor will increase charges per customer.

Figure 4-1: Customer-led SAPS



5. Next steps

In terms of a forward workplan, four broad areas of work were identified at the workshop, in relation to each mechanism:

1. Review feasibility of providing some limited access to competitive market outcomes for SAPS customers
2. Fleshing out the decision-making mechanisms.
3. Identifying legal and regulatory changes required to give effect to the mechanism.
4. Undertaking a formal risk assessment.

It was agreed at the workshop that these areas of work could be pursued separately for the DNSP-led and customer-led mechanisms, whilst noting the degree of overlap. It would also be possible for the work under each of these areas to be pursued in tandem in the case of each mechanism, rather than sequentially.

The remainder of this section summarises key issues to be resolved in relation to each of these four areas.

5.1 Review feasibility of providing some limited access to competitive market outcomes for SAPS customers

Previous work has identified different models that could continue to allow SAPS customers some access to (for example) retail prices that reflect competitively determined NEM wholesale prices. Whilst there is scepticism that these models could be applied on a large-scale, the workshop concluded that the issue is worth further investigation.

The default position reflected in the mechanisms in this paper is that SAPS customers would no longer have access to competitive wholesale prices, and that the customer protection provisions would need to take this into account (and may include some form of overall price monitoring or price controls).

In particular, the requirement for customers to provide explicit, informed consent in the DNSP-led model recognises that those customers are giving up the right to participation in the competitive market.

Where a model is found that allows SAPS customers to continue to access prices that reflect wholesale market outcomes, then the threshold (and potential justification) for customers to provide explicit informed consent should be revisited.

5.2 Fleshing out the decision-making mechanisms.

In relation to further developing each of the mechanisms, the future work plan can be characterised as falling into areas that need to be addressed for both the DNSP-led and consumer-led mechanism (albeit that the details and outcomes may differ in each case), and areas that are relevant only to one or other of the mechanisms.

5.2.1 Items common to both DNSP-led and customer-led mechanisms

The areas that need to be addressed for both mechanisms are:

- Determining the information that should be provided to customers to ensure effective explicit informed consent, and the manner in which effective consent should be sought:
  - This is likely to differ between the DNSP-led transition and a customer-led transition.
  - For the DNSP-led transition, further thought should also be given to the appropriate thresholds for customer consent, and whether this should be fixed or allowed to vary based on external factors (eg, whether there is a realistic prospect of effective retail competition).

- Develop guidance for AER approval of SAPS transition:
  - This is likely to be largely the same for both mechanisms.
  - This guidance should focus on confirmation of compliance with prescribed processes (eg, application of the RIT-D (where required), process followed in obtaining explicit and informed consent, satisfaction that all values have been agreed on an arms'-length basis where parties are affiliated).
  - Determining whether the AER's approval decision should be subject to appeal and, if so, on what basis.
- Determining the arbitration framework and process that should apply to any transfer of network assets, and the principles that should guide arbitration, for both DNSP-led and customer-led SAPS:
  - Again, this is likely to be largely the same for both mechanisms.
  - There are a number of precedents for alternative arbitration approaches already in the NER and National Gas Rules.
  - The arbitration principles should reflect an 'upper bound' of the cost that the SAPS proponent would incur in investing in new assets, adjusted to reflect the network's age, and a 'lower bound; being the opportunity cost to the DNSP for the sale of the assets.
  - They should also ensure that the value agreed is consistent with that which would be agreed by independent parties, in situations where the DNSP and the SAPS proponent are affiliates.

5.2.2 Items relevant for DNSP-led mechanism

The key additional areas that need to be further developed for the DNSP-led mechanism are:

- Determining what package of customer protections from the NERL, NERR and NER should be brought across to SAPS customers under a DNSP-led transition:
  - As a further exercise, identifying the changes that would be required to jurisdictional legislation to enable these provisions to be applied to a DNSP-led SAPS, in lieu of the existing jurisdictional SAPS legislation.
  - If this proves difficult in practice, then a second-best solution would be to adopt the jurisdictional SAPS provisions.
- Determining the criteria that should be applied in deciding whether it is appropriate to relax requirements for the SAPS solution to be procured on a fully contestable basis (including the network assets):
  - This needs to include consideration of how these relate to the waiver provisions in the ring-fencing guidelines as well as the exemption provisions in the NER in relation to ownership of in-front-of-the-meter assets, and whether these provisions are already fit-for-purpose.
- Determining what principles should apply in offering tariff discounts to affected customers in a DNSP-led SAPS transition.

5.2.3 Items relevant for customer-led mechanism

The key additional areas that need to be further developed for the customer-led mechanism are:

- Establishing a 'minimum reliability standard' that jurisdictions could sign-up to adopt.
- Determining the principles that should be applied in determining exit fees:
  - These principles should assist with identifying 'stranded' assets (both transmission and distribution), as well as the costs that will be avoided by the DNSP and/or TNSP as a result of the SAPS.
  - They should also ensure that the value agreed is determined on an arms' length basis, where the DNSP and the contestable SAPS proponent are affiliates.

5.3 Identifying required legal and regulatory changes required to give effect to the mechanism

This third task requires a review of both national and jurisdictional legislation.

- Under the national frameworks, the following instruments would need to be reviewed to ensure that they are fit-for-purpose to be applied to SAPS solutions:
  - the NEL, NERL, NER, NERR, AER Ring-Fencing Guidelines, RIT-D, AER RIT-D Guidelines, AER Guidelines for STPIS, EBSS, CESS.
- Specific issues include:
  - Whether the definitions of 'distribution services' and 'standard control services' are sufficiently flexible to allow a DNSP to own and operate part of a SAPS solution;
  - Whether the current ring-fencing provisions would allow a DNSP to own and operate part of a SAPS solution directly, rather than via a ring-fenced entity.
  - Whether the AER's RIT-D and the AER's RIT-D Guidelines adequately provide for SAPS solutions to be considered (including but not limited to the guidance provided on the calculation of wholesale market impacts from non-network solutions, and the current wording 'all those participating in the NEM').
- For each jurisdiction, the following instruments would need to be reviewed to ensure that they adequately address the issues that may be raised by SAPS solutions:
  - reliability standards, safety laws, environmental protections.
- Specific issues include:
  - Whether the definition of reliability standards for standard control services captures services provided by SAPS solutions.
  - Whether current legislation provides right of access for SAPS providers to address electrical safety issues in a SAPS solution.
  - Whether current environmental legislation is appropriate, given the likely increase in back-up LPG or diesel generation that might be associated with a SAPS solution.

5.4 Undertaking a formal risk assessment

The workshop also concluded that a formal risk assessment should be undertaken in relation to each model, separately for a DNSP-led and customer-led SAPS.

This formal risk assessment should include consideration of:

- The prospects and timing for achieving all of the identified legal and regulatory changes.
- The risks (and therefore the resulting costs) of inefficient investment if there is no DNSP-led SAPS framework.
- The risks of 'network-flight' and consequent asset stranding and impact on remaining grid-connected customers where a framework for customer-led SAPS is introduced.

A1. Acronym list

List of acronyms used throughout the report.

Acronym	Definition
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
CESS	Capital Expenditure Sharing Scheme
COAG	Council of Australian Governments
CSO	Community Service Obligation
DNSP	Distribution Network Service Provider
DORC	Depreciated Optimised Replacement Cost
EBSS	Efficiency Benefit Sharing Scheme
EMTPT	Energy Market Transformation Project Team
LPG	Liquified Petroleum Gas
MAR	Maximum Allowed Revenue
NEM	National Energy Market
NEO	National Electricity Objective
NER	National Electricity Rules
NERL	National Energy Retail Law
NERR	National Energy Retail Rules
NPV	Net Present Value
NSP	Network Service Provider
RAB	Regulated Asset Base

RIT-D	Regulatory Investment Test for Distribution
SAPS	Stand-alone power system(s)
SOLR	Supplier of last resort
STPIS	Service Target Performance Incentive Scheme
TNSP	Transmission Network Service Provider
TSS	Tariff Structure Statement

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