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Submission to Coordination of Generation and Transmission Investment options paper

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The Public Interest Advocacy Centre (PIAC) is an independent, non-profit legal centre based in Sydney.

Established in 1982, PIAC tackles barriers to justice and fairness experienced by people who are vulnerable or facing disadvantage. We ensure basic rights are enjoyed across the community through legal assistance and strategic litigation, public policy development, communication and training.

Energy and Water Consumers' Advocacy Program

The Energy and Water Consumers' Advocacy Program (EWCAP) represents the interests of low-income and other residential consumers of electricity, gas and water in New South Wales. The program develops policy and advocates in the interests of low-income and other residential consumers in the NSW energy and water markets. PIAC receives input from a community-based reference group whose members include:

- NSW Council of Social Service;
- Combined Pensioners and Superannuants Association of NSW;
- Ethnic Communities Council NSW;
- Salvation Army;
- Physical Disability Council NSW;
- St Vincent de Paul NSW;
- Good Shepherd Microfinance;
- Affiliated Residential Park Residents Association NSW;
- Tenants Union;
- Solar Citizens; and
- The Sydney Alliance.

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Executive Summary

The National Energy Market (NEM) is in the middle of a transformation from an energy system relying primarily on centralised, fossil-fuel generation with passive demand, to one with a low- or zero-emission generation fleet interacting with more sophisticated and active demand-side behaviour. The uncertainty in demand growth, the cost trajectories of new technologies and the potential for new 'game-changing' technologies will place a greater importance on the robustness of modelled outcomes and the optionality offered by certain solutions.

In order to fully unlock the benefits of this transition, some investment will be required in the transmission and distribution networks. At the same time, the NEM is also facing a crisis of affordability for many residential, commercial and industrial consumers. This creates tension between new investment to unlock the benefits of the future energy system and avoiding exacerbating the current affordability issues.

The need for robust, whole-of-system solutions

Ultimately what is needed is a system-wide solution which minimises the cost, and maximises the benefits, of the delivering essential electricity services to consumers; one where all stages of the supply chain are considered – centralised generation, decentralised generation, demand response, energy efficiency and both transmission and distribution networks.

In the NEM, there is no such centralised authority and this role is instead delegated to market forces through a combination of price signals and regulatory oversight. In response to the need for strategic vision in developing the NEM for the future, the Australian Energy Market Operator (AEMO) has developed its inaugural Integrated System Plan (ISP).

While the ISP considers a range of factors in developing its optimal development path, PIAC considers that an important next step in such analysis remains lacking: how these costs and benefits are shared by different consumers. By considering the NEM and its consumers as a single, homogenous entity, the modelling does not consider the balance or fairness of how those total costs and benefits accrue to different groups – how that \$X million cost and \$Y million benefit is actually split between, for instance, consumers in different regions.

PIAC considers that this can mask serious concerns of equity as, under existing regulatory frameworks, some groups may potentially bear the majority of the total costs but only receive a small portion of the total benefits.

Delivering the ISP development path must not be rushed

Various stakeholders have expressed concerns that the development plan put forward in AEMO's ISP, in particular the Group 1 and 2 projects, cannot be delivered on time due to the existing NEM planning and regulatory processes. As a result, arguments have been proposed that these processes must be, at best, relaxed or, at worst, circumvented altogether.

PIAC does not agree with these concerns. Nor do we support any proposals which circumvent the tests designed to ensure the network investments are in the long-term interests of consumers.

The current regulatory and planning processes for network investment, most notably the RIT-T, exist for a very important purpose. Rather than being unnecessary red tape which delays the delivery of essential infrastructure, the RIT-T plays an important role in balancing the competing interests of network investment and affordable electricity supply. The ISP and the RIT-T play related yet different roles.

A staged integration of the ISP to transmission investment

PIAC considers that deciding on and establishing a single method for implementing the ISP development path to be premature. This is the first time AEMO has developed an ISP. As such, we expect future ISPs will continue to evolve and improve due to a number of factors. Instead, PIAC proposes that there should be a staged approach to integrating the ISP into the planning and regulatory framework for strategic projects.

Stage 1 – implementing Group 1 and 2 projects

- Enhance the current arrangements similar to Options 1 or 2 described in the AEMC options paper;
- Align the scenarios and modelling conducted between the ISP and the project-specific economic tests (such as the RIT-T) conducted by the relevant TNSP(s);
- Increase the AER's involvement in assessing RIT-Ts including assessing the robustness of the modelling conducted and the economic efficiency of the preferred option identified in the RIT-T;
- Develop an alternative investment efficiency test for strategic projects as discussed in Section 3.4;
- Use alternative funding or cost-recovery models, determined on a project-by-project basis, for strategic projects including government funding of all or part given limitations of current cost allocation arrangements described in Section 2.3.

Stage 2 – implementing late Group 2 and Group 3 projects

- Review progress in delivering ISP projects so far and reassess the need to further streamline the planning and investment processes – mid-2020s would potentially be a suitable time for such as review;
- Consider formalising in Rules the alternative funding arrangements for strategic projects used in Stage 1;
- Consider need to move to a different governance models where the ISP has more of a directive role (i.e.: towards Options 4 or 5 described in the AEMC options paper) with a commensurate increased involvement of AER in independently assessing economic efficiency.

A fit-for-purpose test for strategic projects

PIAC considers that strategic projects require a separate assessment framework which reflects the different nature of strategic projects compared to the more incremental network investments the current regulatory framework is better suited to.¹

¹ PIAC defines strategic projects to be those where significant benefits accrue across multiple NEM regions such as those involving major upgrades to interconnectors or national transmission flow paths.

PIAC proposes this could consist of an investment test specific for strategic projects which are identified in the ISP. Such a test could build on the general structure of the existing RIT-T but would need to consider a broader range of issues including the equitable allocation of costs across multiple NEM regions and determining the need for, and ultimately the structure of, alternative cost-recovery mechanisms if the current regulated cost-recovery methods are unsuitable.

If an alternative cost-recovery mechanism is required, PIAC considers the AER would be best-placed to make a formal determination as to what this should be. It would likely need to be made on a project-by-project basis to allow the AER to appropriately balance the risks and return for businesses and ensure the project is in the long-term interests of consumers.

PIAC considers that AEMO would be well-placed to conduct such an investment test for these strategic projects. This is not least because the projects would themselves be identified in the ISP but also as it would assist AEMO's role as a national system planner – beyond only being a National Transmission Planner.

PIAC also considers there is a strong role for the AER to be actively involved in assessing the economic efficiency of these strategic projects. There are a number of possible arrangements for this and PIAC has not yet developed a firm position on which is the most suitable.

Treatment of storage

Whilst there are examples of grid-scale storage being connected in the NEM, PIAC considers that additional clarity regarding its regulatory treatment would be beneficial. PIAC recommends a separate registration category for storage and hybrid facilities. The creation of a storage-specific registration category would allow a decision to be made about whether or not storage facilities should be charged TUOS, independent of any decision on charging generators.

The definition of the new storage-specific category must be agnostic of the technology used and the particular arrangements behind the connection point. Instead, it must be based on the potential impact from the point of view of the wholesale market and network – such as whether the particular facility both draws and injects material quantities of energy through its connection point. This impact-based categorisation allows for the many possible configurations of storage with and without co-located generation or load (both with respect to relative sizing and dispatch patterns).

Renewable Energy Zones

PIAC supports the timely and efficient connection of new generation to meet Australia's emission reduction obligations and to pass through the benefits of low-cost generation in wholesale prices to consumers. Experience has shown that the current regulatory framework is insufficient to fully realise the benefits of the coordinated connection of new generation and a Renewable Energy Zone (REZ) may be a way of addressing this.

PIAC notes that the AEMC will consider the possible frameworks for TNSP speculative investment further in this review. PIAC supports the prudent creation and use of a speculative investment mechanism for REZs similar to that intended for gas networks. As noted in our

submission to the AEMC's Review into the scope of economic regulation applied to covered pipelines, we support

incentivising pipeline service providers to use the speculative capital expenditure account with appropriate return on the risk associated with that expenditure but remain concerned about the operation of this mechanism.²

While PIAC supports the concept on the grounds that networks are better placed to bear the risk of speculative investment and are entitled to enjoy the benefits of successful speculation, our concerns stem from the shift in cost-recovery for connection assets from the connection proponents themselves to consumers.

PIAC also notes the suggestion from ENGIE where a TNSP would issue bonds to underwrite the transmission infrastructure project. While we are still not in a position to form a firm position on this, we consider it may prove a useful mechanism for TNSPs to manage and minimise the risk they incur in building a REZ.

² PIAC, [Submission to the AEMC Review into the scope of economic regulation applied to covered pipelines Draft Report](#), 2018, p 10.

1. Background and context

The National Energy Market (NEM) is in the middle of a transformation from an energy system relying primarily on centralised, fossil-fuel generation with passive demand, to one with a low- or zero-emission generation fleet interacting with more sophisticated and active demand-side behaviour. The uncertainty in demand growth, the cost trajectories of new technologies and the potential for new 'game-changing' technologies will place a greater importance on the robustness of modelled outcomes and the optionality offered by certain solutions.

In order to fully unlock the benefits of this transition, some investment will be required in the transmission and distribution networks. At the same time, the NEM is also facing a crisis of affordability for many residential, commercial and industrial consumers. This creates tension between new investment to unlock the benefits of the future energy system and avoiding exacerbating the current affordability issues.

Under the current regulatory frameworks, any network investment costs have been borne by consumers – i.e. socialised – by a regulated fee regardless of actual asset utilisation or benefits accrued. Despite recent improvements in engagement and consultation practices, consumers still have very limited input in major network investment decisions including their timing and cost.

It is important to contrast the current regulatory frameworks to that of 40 years ago when many of the existing NEM assets were built. At that time, generation and network assets were owned and operated by state government utilities and there were strong social welfare and state economic drivers underlying the sector's investment decisions – be it programs of rural electrification or providing stable supply for energy-intensive heavy industry. Further, with governments owning the entire energy value chain, for and on behalf of tax payers, commercial issues such as funding and short-term profits were not primary concerns.

Following multiple rounds of economic reforms and restructuring, socialising the total system cost by governments is no longer possible. For-profit corporations (including, to a certain degree, state-owned corporations) pursue a different set of outcomes. This is not a criticism of restructuring or of privatisation as such, but a recognition that the current industry structure and market design mean that the opportunities to deliver the optimal system-wide outcome are different to what was possible when much of the backbone of the interconnected electricity system was built.

2. Centralised system planning with the ISP

Ultimately what is needed is a system-wide solution which minimises the cost, and maximises the benefits, of the delivering essential electricity services to consumers. One where all stages of the supply chain are considered – centralised generation, decentralised generation, demand response, energy efficiency and both transmission and distribution networks.

2.1 IRP vs ISP

In other jurisdictions, most notably the US, this is done using an Integrated Resource Plan (IRP) by a central planning authority. An IRP will typically specify the optimal technical characteristic, timing and location of centralised generation, network and demand-side investments as well as

the optimal retirement of existing assets. Importantly, the centralised planning authority will generally also have the power to implement all the necessary investment decisions in its IRP.

In the NEM, there is no such centralised authority and this role is instead delegated to market forces through a combination of price signals and regulatory oversight. In response to the need for strategic vision in developing the NEM for the future, the Australian Energy Market Operator (AEMO) has developed its inaugural Integrated System Plan (ISP). As stated by AEMO:

The primary objective of the ISP is to identify a national, strategic plan to support development of the energy system which will deliver safe, reliable, and secure electricity at lowest cost and in the context of government policies.³

This is different from an IRP in a number of important ways. Most notably, the ISP only identifies the transmission investment required. Under the current regulatory framework, it does not and cannot direct investment decisions in the other stages of the supply chain. In that regard, it requires the rest of the industry to respond to the signals set out in the ISP in order to achieve the optimal whole-of-system outcome. If this were not to happen, the expected benefits elsewhere in the supply chain enabled by the transmission investment may not eventuate.

For example, the modelling underlying the ISP may suggest that the optimal outcome is achieved by a transmission network investment between locations A and B in 2025 and the connection of a number of new generators along this line between 2025 and 2030. However, as noted previously, the ISP can only outline the transmission investment required. Therefore, the ISP development path would identify the need for the transmission investment between A and B but it would be up to prospective generators (through various market signals) to identify the opportunity and act on it to connect along that route within the modelled time period. For this to happen, these market signals must be sufficiently clear and the prospective generators must be sufficiently comfortable with these signals to make investments in line with the ISP modelling. Without this, generators may not connect to the new line at all despite the transmission investment having been made.

Therefore, while it is important to consider how to delineate the link between the ISP development path and actual transmission investments, it is essential that the AEMC not lose sight of the related and equally necessary link between transmission investments and generation investments.

2.2 Ensuring equitable cost allocation of whole-of-system planning

While the ISP considers a range of factors in developing its optimal development path, PIAC considers that an important next step in such analysis remains lacking: how these costs and benefits are shared by different consumers.

The ISP, and indeed many other planning processes, focusses on optimising the balance of total costs and total benefits to the NEM – that the optimal solution will cost \$X million and provide \$Y million in benefits. In doing so, it considers the NEM and its consumers as a single, homogenous entity. It does not consider the balance or fairness of how those total costs and benefits accrue to

³ AEMO, *Integrated System Plan*, 2018, p 17.

different groups – how that \$X million cost and \$Y million benefit is actually split between, for instance, consumers in different regions.

PIAC considers that this can mask serious concerns of equity as, under existing regulatory frameworks, some groups may potentially bear the majority of the total costs but only receive a small portion of the total benefits. If this is the case, this could suggest one of two things:

- The proposed optimal solution should be reconsidered in favour of one with a more equitable sharing of costs and benefits; or
- An alternative funding or cost-allocation arrangement is required to deliver the modelled optimal solution.

These are discussed in more detail in Section 2.3.1 in the context of Regulatory Investment Tests (RIT) and Section 2.3.2.

Recommendation 1

PIAC recommends that future ISP development plans must, in addition to considering the whole of system costs and benefits, also consider how these costs and benefits accrue to different groups of consumers.

2.3 The necessary frameworks for the ISP strategic projects

As noted by AEMO, the primary objective of the ISP includes identifying a national, strategic plan for the energy system.⁴ PIAC draws particular attention to the terms national and strategic in this description. This suggests projects which have the potential to provide a fundamental shift in the way that the NEM operates and the benefits which consumers can receive. It also suggests projects with a NEM-wide benefit, or at least significant benefits across multiple NEM regions.

This is similar to when much of the existing interconnection and national transmission flow paths were built. At that time, both generation and network assets were owned by state government utilities and by owning the entire energy supply chain for and on behalf of tax payers, commercial issues like funding and short-term financial outcomes were not seen as significant issues.

This is markedly different to what the current regulatory framework has been designed for. PIAC contends that the current regulatory framework is better suited to more incremental expansion or reinforcement of the existing transmission network. This can be seen by the misalignment between the cost-benefit analysis done in a RIT and the cost recovery itself.

2.3.1 Misalignment of cost-benefit analysis and cost recovery

The RIT is designed as a NEM-wide cost-benefit analysis. As a result, the modelling is insensitive to where in the NEM these costs or benefits occur – it only considers the total costs and total expected benefits across all consumers throughout the NEM. This is in contrast to the way that costs are recovered through network costs which are primarily based on where the network expenditure occurred.⁵

⁴ AEMO, *Integrated System Plan*, 2018, p 17.

⁵ There are mechanisms in place to apply network costs across network jurisdictions. However, we consider the effectiveness of these in certain cases to be only marginal.

For projects which are incremental expansions or reinforcements of the existing network, this misalignment would not pose a significant issue as the expected benefits from the investment accrue exclusively to consumers within the network’s jurisdiction. However, this is not necessarily the case for more strategic or nationally significant investments such as those on interconnectors, national transmission flow paths and projects closer to the borders between meshed network jurisdictions. In these cases, a significant proportion (even the majority) of benefits may accrue to another jurisdiction.

This misalignment effectively means that one set of consumers may be paying for the benefits received by a different set of consumers. This is counter to one of the fundamental principles of the NEM which is cost-reflectivity. Further, if the misalignment between costs and benefits is large, a particular project may actually have a negative net economic benefit (i.e. an overall detriment) for consumers in one network’s jurisdiction despite being positive NEM-wide.

Example: the South Australia Energy Transformation RIT-T

The issues described above are exemplified by the current RIT-T process being undertaken by ElectraNet (and supported by TransGrid) on their SA Energy Transformation RIT-T. Following their modelling of multiple credible options, ElectraNet’s preferred option was a 330kV interconnector from South Australia to Wagga Wagga in NSW (option C3i).

The preferred option has a disproportionate split of costs and expected benefits between SA and NSW. As noted in analysis done by The Energy Project, the expected benefits from the preferred option is split approximately 60% to SA consumers and 40% to NSW consumers.⁶ This is in contrast to the costs which are borne 27% by SA and 73% by NSW consumers. This is summarised in Table 1.

Table 1 Summary of costs and benefits to NSW and SA consumers from the preferred option

	NSW consumers	SA consumers
Costs borne (ElectraNet modelling)	73% (\$1,100 M)	27% (\$400 M)
Expected benefits accrued (ElectraNet modelling)	40% (\$556 M)	60% (\$831 M)

As we noted in our submission to the RIT-T process, PIAC considers this misalignment between the cost-benefit analysis and the cost recovery to be a limitation of the current RIT-T design and is detrimental to the long-term interests of consumers.⁷

2.3.2 Strategic projects need a fit-for-purpose assessment framework

This difference between the nature of the projects considered in the ISP and the existing regulatory framework suggests there is merit in developing an alternative economic analysis and cost recovery frameworks for strategic projects. This would help to ensure that the full extent of

⁶ The Energy Project, *Submission: SA Energy Transformation RIT-T Project Assessment Draft Report*, pp 15-16.
⁷ PIAC, [Submission to ElectraNet’s SA Energy Transformation RIT-T](#), 2018.

the costs and benefits from the project are considered. It would have to include the impacts of the cost-recovery across different consumer groups as described above in Section 2.2. As a result, it may also include different funding and cost-recovery arrangements to the current TUOS arrangements.

It will be important to clearly define what projects could be subject to this alternative framework – i.e. what constitutes a ‘strategic project.’ PIAC considers that a possible definition would be where significant benefits accrue across multiple NEM regions such as those involving major upgrades to interconnectors or national transmission flow paths. We note that this is generally in line with what the AEMC have proposed in their options paper.⁸

Recommendation 2

PIAC recommends the AEMC define strategic projects as those where significant benefits accrue across multiple NEM regions, such as those involving major upgrades to interconnectors or national transmission flow paths.

Recommendation 3

PIAC recommends the AEMC consider an alternative framework for planning, assessing and recovering costs for strategic projects. Such a framework would need to consider how to recover costs across multiple regions in an equitable way.

3. Implementing the ISP development path

Various stakeholders have expressed concerns that the development plan put forward in AEMO’s ISP, in particular the Group 1 and 2 projects, cannot be delivered on time due to the existing NEM planning and regulatory processes. As a result, arguments have been proposed that these processes must be, at best, relaxed or, at worst, circumvented altogether.

PIAC does not agree with these concerns. Nor do we support any proposals which circumvent the tests designed to ensure the network investments would be in the long term interests of consumers.

3.1 The complementary roles of the ISP and RIT-T

The current regulatory and planning processes for network investment, most notably the RIT-T, exist for a very important purpose. Rather than being unnecessary red tape which delays the delivery of essential infrastructure, the RIT-T plays an important role in balancing the competing interests of network investment and affordable electricity supply. The ISP and the RIT-T play related yet different roles.

The ISP models the most efficient system for the whole of the NEM at a high level, based upon the best available information and assumptions at the time. The ISP outcomes are limited by the difficulty for stakeholders to actively debate the detailed assumptions and modelling for a particular project and the ISP process may be unable to respond to rapid developments in the industry. The current scope of the ISP is different from what a RIT-T provides.

⁸ AEMC, *COGATI options paper*, 2018, p 20.

On the other hand, the RIT-T identifies the most cost-efficient solution to a particular identified need. As a result, it is better able to examine alternative options (including deferred timing) in greater detail than the ISP and drives more active discussion with stakeholders. It also requires the proponent to articulate the issue to be addressed and the risks involved (i.e. the identified need) in terms of impacts on consumers rather than purely a system optimisation exercise. This process helps to tie the proposed expenditure more directly to the long-term interests of consumers. This is especially important given that, under the current regulatory framework, consumers bear all of the risk of inefficient network investment once the expenditure is approved.

As noted in our submission to the AER's review of the RIT guidelines, PIAC considers that "it is essential that the ISP and RIT-T processes and content are aligned to ensure there is consistency and oversight of the transmission planning and investment decisions, while also ensuring there is no unnecessary duplication of effort which can lead to delays, costs and uncertainty."⁹

While we maintain our position that there must be greater alignment between the ISP and RIT-Ts, it is important to note that the ISP and RIT-T perform two similar yet complementary functions to achieve the long-term interests of consumers.¹⁰ We strongly oppose any proposal for implementing the ISP development plan which removes the economic assessment of project options provided by a RIT-T.

3.2 There is no need to decide on a single model for implementation now

PIAC considers that deciding on and establishing a single method for implementing the ISP development path to be premature. This is the first time AEMO has developed an ISP. As such, we expect future ISPs will continue to evolve and improve due to a number of factors:

- Clarification of the scope of the ISP – what is within and what is outside of scope for the ISP;
- Continual improvement of AEMO's modelling processes;
- Better understanding of changes in the impacts and opportunities provided by changing demand behaviour, the development of new business models for energy supply and technological advancement; and
- Continual improvement of AEMO's stakeholder consultation in developing the ISP and maturation of industry's use of the ISP in planning and investment decisions. As noted in Section 2.1, achieving the optimal system-wide solution modelled in an ISP also depends on the decisions of other NEM institutions and participants.

3.3 A staged approach to implementing the ISP

PIAC proposes that there should be a staged approach to integrating the ISP into the planning and regulatory framework for strategic projects.

Stage 1 – implementing Group 1 and 2 projects

- Enhance the current arrangements similar to Options 1 or 2 described in the AEMC options paper;

⁹ PIAC, [Submission to RIT application guideline review Issues Paper](#), 2018, p 8.

¹⁰ PIAC, [Submission to the AER's draft RIT-T and RIT-D guidelines](#), 2018, pp 3-5.

- Align the scenarios and modelling conducted between the ISP and the project-specific economic tests (such as the RIT-T) conducted by the relevant TNSP(s);
- Increase the AER's involvement in assessing RIT-Ts including assessing the robustness of the modelling conducted and the economic efficiency of the preferred option identified in the RIT-T;
- Develop an alternative investment efficiency test for strategic projects as discussed in Section 3.4;
- Use alternative funding or cost-recovery models, determined on a project-by-project basis, for strategic projects including government funding of all or part given limitations of current cost allocation arrangements described in Section 2.3.

Stage 2 – implementing late Group 2 and Group 3 projects

- Review progress in delivering ISP projects so far and reassess the need to further streamline the planning and investment processes – mid-2020s would potentially be a suitable time for such as review;
- Consider formalising in Rules the alternative funding arrangements for strategic projects used in Stage 1;
- Consider need to move to a different governance models where the ISP has more of a directive role (i.e.: towards Options 4 or 5 described in the AEMC options paper) with a commensurate increased involvement of AER in independently assessing economic efficiency.

Recommendation 4

PIAC recommends that a staged approach be used to implement the development in the ISP. For the first stage, it should seek to enhance the current arrangements similar to Options 1 or 2 described in the AEMC options paper. For the second stage, it should reassess the need for further changes to governance, planning and investment-making processes in the NEM, based on the experiences of the first stage.

3.4 A new investment test for strategic projects

As discussed in Section 2.3, PIAC considers that strategic projects require a separate assessment framework which reflects their different nature compared to the more incremental network investments the current regulatory framework is better suited to.¹¹

PIAC proposes this could consist of an investment test specific for strategic projects which are identified in the ISP. Such a test could build on the general structure of the existing RIT-T but would need to consider a broader range of issues including, but not limited to:

- The equitable allocation of costs across multiple NEM regions, including whether they are in line with the accrual of benefits;
- A broader range of benefits and costs which could be considered either directly or qualitatively in the cost-benefit analysis; and
- Determining the need for, and ultimately the structure of, alternative cost-recovery mechanisms if the current regulated cost-recovery methods are unsuitable.

¹¹ PIAC defines strategic projects to be those where significant benefits accrue across multiple NEM regions such as those involving major upgrades to interconnectors or national transmission flow paths.

If an alternative cost-recovery mechanism is required, PIAC considers the AER would be best-placed to make a formal determination as to what this should be. It would likely need to be made on a project-by-project basis to allow the AER to appropriately balance the risks and return for businesses and ensure the project is in the long-term interests of consumers.

PIAC considers that AEMO would be well-placed to conduct such an investment test for these strategic projects. This is not least because the projects would, themselves be identified in the ISP, but also as it would assist AEMO's role as a national system planner – beyond only being a National Transmission Planner.

PIAC also considers there is a strong role for the AER to be actively involved in assessing the economic efficiency of these strategic projects. As an independent economic regulator, the AER is well-placed to assess whether the projects are in the long-term interests of consumers. There are a number of possible arrangements for this and PIAC has not yet developed a firm position on which is the most suitable. For instance, following the list of projects identified in the ISP development plan:

- AEMO could opt to conduct a strategic investment test for a strategic project in its role as the National Transmission Planner. The AER would be an active participant in this test. At the conclusion of the test, the AER would then independently determine whether the identified solution is in the long-term interests of consumers; or
- The AER could determine which of these projects require a strategic investment test. AEMO, as the National Transmission Planner, would conduct this test and the AER would be an active participant.

Recommendation 5

PIAC recommends the AEMC consider developing a separate investment test for strategic projects. PIAC considers that AEMO, as the National Transmission Planner, is well-placed to conduct this test with active participation by the AER.

This strategic investment test must also consider the equitable allocation of costs across NEM regions and may require determining cost-recovery mechanisms. If an alternative cost-recovery mechanism is required, PIAC considers the AER would be best-placed to make a formal determination as to what this should be.

3.5 Comments on spectrum of proposed options

As noted previously, PIAC does not support any move in the short-term towards the right-hand side of the spectrum of options. We have summarised a number of observations on the implications of the five options proposed in the AEMC's options paper in Table 2.

In particular, we draw attention to the fact that options towards the right-hand side of the spectrum require progressively greater time and resources for AEMO to develop the ISP. This is due, not only due to the increasing complexity and detail required in the modelling of market impacts and identification of the most economically efficient options, but also in the need for more robust stakeholder engagement in the development process. Therefore, we suggest that more time may be needed between subsequent ISP publications. For instance, for Option 5, it may be

more appropriate for AEMO to develop the ISP on a 3- or 5-yearly basis rather than annually as currently proposed.

Table 2 Implications of proposed models for implementing ISP

	Option 1	Option 2	Option 3	Option 4	Option 5
Centralisation of invest-making power and responsibility	 Increasing				
Need for robust consultation in ISP development	 Increasing				
Level of detail required in ISP modelling	 Increasing				
Resources and time required to conduct necessary modelling	 Increasing				
Level of independent oversight required to assess and ensure economic efficiency	 Increasing				
Time required between subsequent ISP publications	 Increasing				
Changes required to current regulatory frameworks (e.g.: NEM governance roles, revenue determinations, planning requirements)	 Increasing				

4. Treatment of storage

Whilst there are examples of grid-scale storage being connected in the NEM, PIAC considers that additional clarity regarding its regulatory treatment would be beneficial. As storage exhibits behaviour of both generation and load, it raises questions about the appropriate charging and registration arrangements. While it is related, PIAC considers this issue to be distinct from any proposal to introduce TUOS charges to generators more broadly.

PIAC recommends a separate registration category for storage and hybrid facilities. The creation of a storage-specific registration category would allow a decision to be made about whether or not storage facilities should be charged TUOS, independent of any decision on charging generators. A separate registration category would also encourage a more holistic integration of grid-connected storage into the regulatory and operations system of the NEM rather than

potentially having to compromise between the generation and load categories. This is particularly important given the transition currently underway and expectations that grid-connected storage will become more common in the future.

The definition of the new storage-specific category must be agnostic of the technology used and the particular arrangements behind the connection point. Instead, it must be based on the potential impact from the point of view of the wholesale market and network – such as whether the particular facility both draws and injects material quantities of energy through its connection point. This impact-based categorisation allows for the many possible configurations of storage with and without co-located generation or load (both with respect to relative sizing and dispatch patterns).

For example, a storage facility which is co-located with generation (or load) may display the same behaviour from the system-side as a pure generation (or load) facility and hence would not require being registered under the new storage-specific category. This could be due to the storage capacity being considerably smaller than the co-located generation (or load) capacity or by restrictions on its charge and discharge profile. Therefore:

- pumped hydro would be classified as storage as it will draw from and inject into the grid at roughly equal levels;
- solar thermal would probably classify as a pure generator since the draw from the grid is likely quite small compared to injection into the grid; and
- a hybrid facility with renewable energy paired with storage device (behind the connection point) might be classified as a pure generator if the dispatch of the storage device is primarily to smooth variations in renewable generation or to defer injection into the grid to times of higher price.

Recommendation 6

PIAC recommends that the AEMC creates a separate registration category for grid-connected storage and hybrid facilities. This category should remain technology neutral and be based on whether the facility both injects and draws material quantities of energy through its connection point.

5. Model for a pure REZ

As part of the energy transformation in the NEM, many prospective generation proponents are looking to connect in areas which currently have limited network capacity if the network reaches the area at all. PIAC supports the timely and efficient connection of new generation to meet Australia's emission reduction obligations and to pass through the benefits of low-cost generation in wholesale prices to consumers. Experience has shown that the current regulatory framework is insufficient to fully realise the benefits of the coordinated connection of new generation and a Renewable Energy Zone (REZ) may be a way of addressing this.

In general, PIAC agrees with the AEMC's conclusion in its discussion paper that it

does not necessarily think that it is appropriate for consumers to bear the costs associated with centralised resources... This risk is better placed with the generation and transmission businesses themselves.¹²

While PIAC considers this to be the first-best option, there may be certain cases where it is in the long-term interests of consumers for some costs and risks to be socialised (i.e. borne by consumers). If costs are to be socialised, scrutiny and transparency is required to ensure that this is indeed in the long-term interests of consumers and not simply providing a windfall gain to generation or transmission businesses. In addition to scrutiny of the cost and size of the investment, the manner in which the socialised costs are recovered from consumers is also very important – therefore it is preferable for socialised costs to be recovered in a progressive way such as, where possible, through government funding recovered from consumers via the tax system. This is discussed in more detail in our submission to the discussion paper.¹³

5.1 TNSP speculative investment in a REZ

PIAC notes that the AEMC will consider the possible frameworks for TNSP speculative investment further in this review – as such we concentrate our comments on this model.

PIAC supports the prudent creation and use of a speculative investment mechanism for REZs similar to that intended for gas networks. As noted in our submission to the AEMC's Review into the scope of economic regulation applied to covered pipelines, we support

incentivising pipeline service providers to use the speculative capital expenditure account with appropriate return on the risk associated with that expenditure but remain concerned about the operation of this mechanism.¹⁴

While PIAC supports the concept on the grounds that networks are better placed to bear the risk of speculative investment and are entitled to enjoy the benefits of successful speculation, our concerns stem from the shift in cost-recovery for connection assets from the connection proponents themselves to consumers. In particular we are concerned regarding:

- The appropriateness of applying this mechanism (which was designed for additional capacity in gas pipeline expansions to facilitate potential new load connections) to a REZ (to expand the transmission network to facilitate potential new generation connections); and
- The lack of detail regarding the higher rate of return to be applied.

Appropriateness of the speculative gas mechanism to electricity networks

The speculative investment mechanism for gas pipelines was designed to allow network operators, while expanding their core regulated network to meet load growth, to build additional capacity in expectation of further load in the future. The return allowed on the original assets and the higher return allowed on the speculative portion of the assets would both be recovered from consumers. In the absence of the speculative investment, should the further load growth

¹² AEMC, *Coordination of generation and transmission investment Discussion Paper*, 2018, p 64.

¹³ PIAC, [Submission to the Coordination of Generation and Transmission Investment discussion paper](#), 2018, pp 5-9.

¹⁴ PIAC, [Submission to the AEMC Review into the scope of economic regulation applied to covered pipelines Draft Report](#), 2018, p 10.

eventuate, additional assets would need to be constructed alongside the original which would be recovered from consumers.

By contrast, for a REZ, the benefit of the speculative investment is reduced connection costs for new generation. In the absence of the speculative investment, these higher connection costs would have been borne by the connection generators and not by consumers.

This is further complicated if the speculative investment is unable to piggy-back off a regulated investment to the shared transmission network. For instance, it might be expanding the shared transmission network into a new geographic area with the primary target of connecting new generation.

Determining a rate of return for speculative investments

While the AEMC's review into gas pipeline regulation has recommended that the rate of return set as part of a revenue determination can act as a floor, there is no further detail. This lack of detail and guidance not only makes it very difficult for PIAC and other consumer advocates to support this proposal, it may also discourage network businesses from using the provisions at all. PIAC considers that additional detail and guidance is required regarding:

- How should the AER and/or AEMO determine when a speculative investment has been undertaken? To ensure that TNSPs are not merely rent-seeking, it is essential that the speculative investment is additional to what would be prudent under the normal regulatory framework.
- How should the AER determine when and what portion of a speculative investment has been utilised and should begin earning a return?
- How can the AER accurately determine the additional risk, if any, the network business has borne by undertaking the speculative investment? This includes how this process relates to the new binding rate of return instrument the AER is intended to develop.
- How will the higher rate of return for the speculative investment is applied to the assets once they are being utilised?
 - For instance, it could be defined as an uplift factor added to the base rate of return determined by the AER for its regulated services (e.g. an additional 1% on top of the base rate of return). In this case, it raises questions of whether this uplift factor should be universal for any such investment or whether it is to be determined on a case-by-case basis.
 - Alternatively, it could be determined as a completely separate rate of return determined by the AER in parallel to the base rate of return.
- How long will the assets will earn a higher rate of return? For instance, it could be for the life of the assets (which could potentially lock in higher returns for 40 to 50 years). Alternatively it could be for a finite duration (e.g. 10 years) before it is rolled into the normal Regulated Asset Base (RAB) and earns the base rate of return.

- Will assets continue to earn a higher rate of return if they are replaced? This is of particular relevance for secondary systems, such as protection relays, which typically have a shorter life than other assets such as transformers.

Transmission bonds

PIAC notes the suggestion from ENGIE where a TNSP would issue bonds to underwrite the transmission infrastructure project. While we are still not in a position to form a firm position on this, we consider it may prove a useful mechanism for TNSPs to manage and minimise the risk they incur in building a REZ.

Recommendation 7

PIAC recommends the AEMC consult further on the model of TNSPs issuing bonds to prospective generators to help underwrite the cost of, and hence reduce the risk of, a speculative REZ investment by the TNSP.

ATTACHMENT 1: Coordination of generation and transmission investment – options paper: stakeholder feedback template

The template below has been developed to assist stakeholders in providing their feedback on the questions posed in this paper and any other issues that they would like to provide feedback on. The AEMC encourages stakeholders to use this template to assist it to consider the views expressed by stakeholders on each issue. Stakeholders should not feel obliged to answer each question, but rather address those issues of particular interest or concern. Further context for the questions can be found in the options paper.

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Questions		Feedback
Chapter 4 – Making the ISP an actionable strategic plan		
Question 1: Questions arising from the ISP - The paper considers a number of questions about the role and regulatory implications of the ISP, including the links between the ISP and transmission investment decisions.		
A)	Are there any questions about the role and regulatory implications of the ISP that are not set out in the options paper?	As we have discussed in Section 2.2, while the ISP considers a range of factors in developing its optimal development path, PIAC considers that an important next step in such analysis remains lacking: how these costs and benefits accrue to, and are shared by different consumers. The ISP, and indeed many other planning processes, focusses on optimising the balance of total costs and total benefits to the NEM – that the optimal solution will cost \$X million and provide \$Y million in benefits. In doing so, it considers the

Questions		Feedback
		<p>NEM and its consumers as a single, homogenous entity. It does not consider the balance or fairness of how those total costs and benefits accrue to different groups – how that \$X million cost and \$Y million benefit is actually split between, for instance, consumers in different regions.</p> <p>PIAC considers that this can mask serious concerns of equity as, under existing regulatory frameworks, some groups may potentially bear the majority of the total costs but only receive a small portion of the total benefits. Conversely there are potentially groups who will reap the benefits of a particular project, but who will not be required to bear any of the associated risk or costs of investment.</p>
B)	Is our approach to making the ISP actionable (i.e. strengthening the link between the ISP and investment decisions) appropriate?	<p>The ISP only identifies the transmission investment required. Under the current regulatory framework, it does not and cannot direct investment decisions in the other stages of the supply chain. In that regard, it requires the rest of the industry to respond to the signals set out in the ISP in order to achieve the optimal whole-of-system outcome. If this were not to happen, the expected benefits elsewhere in the supply chain enabled by the transmission investment may not eventuate.</p> <p>Therefore, while it is important to consider how to delineate the link between the ISP development path and actual transmission investments, it is essential that the AEMC not lose sight of the</p>

Questions		Feedback
		related and equally necessary link between transmission investments and generation investments. (See Section 2.1)
Question 2: Interaction between the ISP and government policies		
A)	The ISP will necessarily have to take into account government environmental and industry policies in modelling ISP scenarios. Do stakeholders consider it would be helpful for the COAG Energy Council to provide formal advice to AEMO as to what government policies or scenarios should be modelled in the ISP?	No comment
B)	Are there other ways in which government policies that impact on the NEM could be incorporated as modelled scenarios in the ISP?	No comment
Question 3: “Strategic, national” investments and regional investments		
A)	It is proposed that the ISP only focusses on “strategic, national” investments. Do stakeholders consider this is appropriate?	Yes. Clearly defining the scope of the ISP would help to avoid unnecessary duplication with ongoing TNSP planning processes and avoid uncertainty if there were potentially conflicting network plans. In doing so it is essential to define what constitutes a ‘strategic project’ (and, by extension, what is not).
B)	If so, how could this threshold be defined, or what criteria could be used to define it?	As noted in Section 2.3.2, PIAC suggests a possible definition would be where significant benefits accrue across multiple NEM regions such as those involving major upgrades to interconnectors or national transmission flow paths.
Question 4: Risk allocation		

Questions		Feedback
A)	The paper canvasses a number of options for making the ISP actionable. How may the existing risk allocation for consumers, TNSPs and generators change under the proposed options?	<p>Even if a project passes the RIT-T and the capex is included in the RAB, under the current regulatory framework, consumers bear the risk that the modelled benefits do not eventuate. Key to managing this are:</p> <ul style="list-style-type: none"> • Using Value of Customer Reliability estimates and setting a reliability standard which accurately reflect consumers' willingness to pay – such as the 0.002% Unserved Energy in the Reliability Standard; • Robust and transparent regulatory tests with an independent, expert economic regulator; • Allocating risks to parties best able to manage them; and • Setting fair and efficient rates of return for regulated assets.
B)	What other regulatory changes may be required in order to mitigate against changes in the risk allocation?	No comment

Questions		Feedback
Question 5: Level of consultation required under each of the options for how the ISP could be made actionable		
A)	What do stakeholders think about the level of consultation that would be required under each of the options considered for how to make the ISP an actionable strategic plan?	<p>As greater powers of direction are placed in the ISP development plan (i.e. moving to the right in the table of options), greater consultation and regulatory oversight is essential. (See Table 2)</p> <p>It is essential the ISP modelling is robust and reflects consumers' willingness to pay.</p> <p>Further, achieving the optimal whole-of-system outcome as modelled in the ISP would often require other investment decisions in other parts of the supply chain (such as generation). Therefore, it is essential that stakeholders are sufficiently comfortable with the ISP and other market signals are effective such that they will make their own investments in response to its development plan and modelling (see Section 2.1). Robust consultation will be essential in helping create stakeholders' willingness to use and respond to the ISP development plan.</p> <p>The need for robust consultation, along with the necessary increased level of modelling detail and rigour would suggest that in options to the right-hand side of the table, the ISP have longer intervals between subsequent versions (e.g. on a 3- or 5-yearly basis rather than annually). This is discussed in Section 3.5.</p>
B)	Should there be more consultation for options that fall to the right-hand side of the table?	Yes – see Q5a

Questions		Feedback
Question 6: Role of the ISP, option 1 – Requirement for TNSPs to consider ISP- identified needs in their TAPRs		
A)	What are stakeholder views on this option for how to make the ISP an actionable strategic plan?	Simple to implement. This is a better option for short-term implementation (see Q11 and Sections 3.3 and 3.5)
B)	Would the effective delivery of this option have an impact on the speed with which “strategic, national” investments are made?	There is potential for further alignment between ISP modelling and RIT-T to avoid unnecessary duplication without removing independence.
C)	Are there any regulatory or other implications that are not raised in the discussion of this option?	No comment
Question 7: Role of the ISP, option 2 – Requirement for TNSPs to conduct RIT-T on ISP- identified needs and options		
A)	What are stakeholder views on this option for how to make the ISP an actionable strategic plan?	Simple to implement and a reasonable next step. This is a better option for short-term implementation (see Q11 and Sections 3.3 and 3.5)
B)	Would the effective delivery of this option have an impact on the speed with which “strategic, national” investments are made?	There is potential for further alignment between ISP modelling and RIT-T to avoid unnecessary duplication without removing independence. Eg: economic scenarios to be considered, appropriate base case assumptions, VCR assumptions.
C)	Are there any regulatory or other implications that are not raised in the discussion of this option?	No comment

Questions		Feedback
Question 8: Role of the ISP, option 3 – AEMO determines “best” option		
A)	What are stakeholder views on this option for how to make the ISP an actionable strategic plan?	<p>PIAC does not support a move to this option at this time. (see Q11 and Sections 3.3 and 3.5)</p> <p>It would require substantive increase to level of detail in AEMO’s modelling and consultation in developing the ISP for AEMO to identify the “best” option.</p> <p>Need to consider how realistic it would be for AEMO to do this and interested parties to be able to properly be engaged if annually.</p> <p>Need to make clear and transparent the criteria under which a TNSP can decide to proceed with the “best” option identified in the ISP without running RIT themselves.</p>
B)	Would the effective delivery of this option have an impact on the speed with which “strategic, national” investments are made?	No comment
C)	Are there any regulatory or other implications that are not raised in the discussion of this option?	No comment

Questions		Feedback
Question 9: Role of the ISP, option 4 – AEMO directs TNSP to proceed with the “best” option		
A)	What are stakeholder views on this option for how to make the ISP an actionable strategic plan?	<p>PIAC does not support a move to this option at this time. (see Q11 and Sections 3.3 and 3.5)</p> <p>It would require substantive increase to level of detail in AEMO’s modelling and consultation in developing the ISP for AEMO to identify the “best” option.</p> <p>Need to consider how realistic it would be for AEMO to do this and interested parties to be able to properly be engaged if annually.</p> <p>Need to make clear and transparent the criteria under which a TNSP can decide to proceed with the “best” option identified in the ISP without running RIT themselves.</p>
B)	Would the effective delivery of this option have an impact on the speed with which “strategic, national” investments are made?	No comment
C)	Are there any regulatory or other implications that are not raised in the discussion of this option?	No comment

Questions		Feedback
Question 10: Role of the ISP, option 5 – AEMO directs TNSP to implement the investment		
A)	What are stakeholder views on this option for how to make the ISP an actionable strategic plan?	<p>PIAC does not support a move to this option at this time. (see Q11 and Sections 3.3 and 3.5)</p> <p>It would require substantive increase to level of detail in AEMO’s modelling and consultation in developing the ISP for AEMO to identify the “best” option.</p> <p>Need to consider how realistic it would be for AEMO to do this and interested parties to be able to properly be engaged if annually.</p> <p>Need to make clear and transparent the criteria under which a TNSP can decide to proceed with the “best” option identified in the ISP without running RIT themselves.</p>
B)	Would the effective delivery of this option have an impact on the speed with which “strategic, national” investments are made?	No comment
C)	Are there any regulatory or other implications that are not raised in the discussion of this option?	No comment

Questions	Feedback
<ul style="list-style-type: none"> ▪ Question 11: Other options and considerations 	
<p>A) Are there other options to strengthen the link between the ISP and individual TNSP investments that are not raised here?</p>	<p>As described in Section 3.3, PIAC suggests a staged approach to integrating the ISP into the planning and regulatory framework for strategic projects.</p> <p>Stage 1 would seek to enhance the current arrangements (similar to Option 1 or 2) and align ISP and RIT-T modelling as well as considering alternative funding or cost-recovery models, determined on a project-by-project basis.</p> <p>Stage 2 would commence in the mid-2020s with a review of progress to date in delivering ISP projects and reassess the need to further streamline the planning and investment processes.</p> <p>PIAC also proposes considering a new investment test for strategic projects which would, among other things, consider the equitable allocation of costs across multiple NEM regions and determine the need for alternative cost-recovery mechanisms if the current regulated cost-recovery methods are unsuitable. PIAC considers that AEMO would be well-placed to conduct such an investment test for these strategic projects with active involvement of the AER including in determining if an alternative cost-recovery mechanism is required to achieve the long-term interests of consumers. (See Section 3.4)</p>

Questions		Feedback
B)	Are there any other matters that should be taken into account when considering options to strengthen the link between the ISP and TNSPs' individual investments?	See Q11a
Chapter 5 – the regulatory investment test for transmission		
Question 12: RIT-T benefits		
A)	Are there any additional benefit categories that should be considered in the RIT-T?	No comment.
B)	Why have no network businesses sought approval from the AER for additional benefits to be considered in RIT-T assessments as allowed for under the current NER?	No comment.
Question 13: Potential concerns with the RIT-T process		
A)	What are stakeholder views on current limitations with the RIT-T process?	<p>PIAC's submission to the AER's review of the RIT guidelines comments on opportunities to further strengthen aspects of the draft guidelines and raise other issues related to the application of the RIT guidelines in the current regulatory framework.¹⁵ In particular, we note:</p> <ul style="list-style-type: none"> the current RIT does not consider how the costs and benefits of various projects accrue to different types of consumers or consumers in different regions – for instance if the misalignment between costs and benefits is large, a particular project may actually have an overall economic detriment for consumers in one jurisdiction despite being beneficial

¹⁵ PIAC, [Submission to the AER's draft RIT-T and RIT-D guidelines](#), 2018.

Questions		Feedback
		<p>NEM-wide. (This is also discussed in Section 2.3.1)</p> <ul style="list-style-type: none"> • further work is required to align the RIT process and obligations with the network development path outlines in AEMO's Integrated System Plan. • the importance of transparently selecting robust and defensible estimates of the value of customer reliability (VCR) (as a proxy for the impact on consumers of losing supply) in conducting scenario analyses and list various factors to consider in selecting VCR estimates.
B)	Setting aside the ISP and how to make it more "actionable," what other issues warrant attention when considering the objective of the RIT-T?	See Q13a
C)	What changes may make the existing RIT-T process "faster"?	<p>It is essential to remember that the RIT-T and other regulatory oversight mechanisms are there for an important reason. They deal with investments and related costs that have potential to impact consumers for decades. While there are many ways of making the process faster, they must not compromise the economic efficiency of the investments.</p> <p>The focus must be on making any regulatory process better or more fit-for-purpose, not simply "faster".</p>

Questions		Feedback
D)	What is the role of a dispute process in the RIT-T? How could spurious disputes be minimised?	No comment.
Chapter 6 – Renewable Energy Zones		
Question 14: REZ options – enhanced information provision		
A)	Do stakeholders agree with our conclusions for how this model can occur under current regulatory arrangements?	Agree.
B)	Do stakeholders agree with our assessment of whether this REZ model is consistent with the options discussed for making the ISP actionable? What other considerations should be taken into account?	Support enhancing information provision and accessibility. PIAC agrees that enhanced information provision and accessibility should occur regardless of which REZ option is pursued. However, PIAC considers this alone will be unlikely to deliver the economies of scale and scope in new generation connection and coordination.
Question 15: REZ options – generator coordination		
A)	Do stakeholders agree with our conclusions for how this model can occur under current regulatory arrangements?	Agree.
B)	Do stakeholders agree with our assessment of whether this REZ model is consistent with the options discussed for making the ISP actionable? What other considerations should be taken into account?	Agree.
Question 16: REZ options – TNSP speculative investment		
A)	Do stakeholders agree with our conclusions for how this model can occur under current regulatory arrangements?	Agree.
B)	Do stakeholders agree with our assessment of whether this REZ model is consistent with the options discussed for making the ISP actionable? What other considerations should be taken into account?	As noted in Section 5.1, while PIAC supports the investigation of speculative TNSP investments as a way of delivering REZs, there are a range of

Questions		Feedback
		<p>important questions which must be answered to ensure such investments are, indeed, in the long-term interests of consumers such as determining an appropriate rate of return reflecting the speculative nature of the investment, determining the portion of the total REZ asset value which should earn a return, and how long such assets should earn such returns.</p> <p>PIAC recommends investigating methods to address the risk borne by the TNSP such as ENGIE's suggestion of issuing transmission bonds or enabling contestable provision of such infrastructure.</p>
Question 17: REZ options – TNSP prescribed services		
A)	Do stakeholders agree with our conclusions for how this model can occur under current regulatory arrangements?	No comment.
B)	Do stakeholders agree with our assessment of whether this REZ model is consistent with the options discussed for making the ISP actionable? What other considerations should be taken into account?	While there may be certain instances where it can be in the long-term interests of consumers to socialise some of the cost of enabling new generation, PIAC has reservations regarding this proposal given the affordability crisis facing many consumers.
Question 18: REZ options – clustering		
A)	Do stakeholders agree with our conclusions for how this model can occur under current regulatory arrangements?	No comment.
B)	Do stakeholders agree with our assessment of whether this REZ model is consistent with the options discussed for making the ISP actionable? What other considerations should be taken into account?	As noted in our earlier submission to this review, PIAC questions whether the clustering method can

Questions		Feedback
		<p>deliver the best whole-of-system outcome due to concerns around whether:</p> <ul style="list-style-type: none"> the incumbent TNSP is the most appropriate body to conduct this process; and whether the proposed 'season' for connections may prevent otherwise efficient generation connections proceeding.
Question 19: REZs and access		
	Do stakeholders agree with our conclusion about the types of REZ models that are feasible under the current transmission access framework?	No comment.
Chapter 7 – Congestion and access		
Question 20: Conclusion on need to consider access issues		
	Do stakeholders agree with the Commission's conclusion in this Chapter that access and congestion management issues are likely to need to be addressed in the near term, once the role of the ISP has been addressed?	<p>Agree.</p> <p>Principles regarding access and congestion should guide the development and implementation of the ISP.</p>
Chapter 8 – Treatment of storage		
Question 21: Storage and TUOS		
	Do stakeholders agree with the way the Commission has framed the issue of whether or not storage should pay transmission use of system charges?	<p>Agree the key issue is the treatment of storage systems which both draw from and inject into the grid. This aligns with PIAC's position in Section 4, that the treatment of storage with respect to registration category and TUOS charging should depend on its behaviour as seen by the network and wholesale market – not the technology used or arrangement behind the connection point.</p>

Questions		Feedback
Question 22: Storage and TUOS - current arrangements		
	Do stakeholders have any comments on the Commission's initial views on storage and transmission charges? Are there any other arguments that are not discussed?	No comment
Question 23: Storage and TUOS - considering changing existing arrangements		
	Are there any matters the Commission hasn't discussed that should be addressed if a change to the existing arrangements for transmission charging for storage is considered?	If specific transmission charging arrangements are introduced for storage systems, for balance, it is important that any avoided transmission cost and/or over-recovered TUOS charges be payed to the storage owner.
Question 24: Storage and TUOS - additional considerations		
	When considering the approach to the recovery of transmission charges, are there any additional factors worthy of consideration that the Commission has not listed?	See response to Q23.