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?	Additional questions: - Will existing regulatory requirements such as the RIT-T inhibit the speed at which ISP identified projects are progressed? - Will the net benefit of ISP identified project be reduced by a failure to deliver the projects soon enough to maximise benefits?
B)	Is our approach to making the ISP actionable (i.e. strengthening the link between the ISP and investment decisions) appropriate?	RES Australia supports the AEMC's approach of strengthening the link between the ISP and investment decisions. The ISP should help to reduce the lead time of projects with net benefits by fast tracking sanctioned investment decisions and the regulatory process that NSPs need to follow to secure approval.

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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?	We consider that formal advice from the COAG Energy Council would help AEMO determine the appropriate scenarios to be modelled in the ISP and help inform government of the costs and consequences of various energy policies.
B)	Are there other ways in which government policies that impact on the NEM could be incorporated as modelled scenarios in the ISP?	We also consider that the COAG Energy Council should advise whether environmental outcomes ought to be considered under the RIT-T framework. We note that the recognition of these benefits would act to accelerate projects that reduce constraints on renewable generation. For example, the Western Victoria renewable integration RIT-T process would benefit from a clear direction regarding the treatment of environmental benefits such as carbon reduction.
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?	RES Australia consider it appropriate that the ISP is focused on strategic investments that have a measurable positive impact on the dispatch of the NEM. These investments may be either small or large in value. We also support the inclusion of strategic projects that may significantly impact market outcomes in a single state.
B)	If so, how could this threshold be defined, or what criteria could be used to define it?	A measure that quantifies the impact on the dispatch of the NEM could be used as a threshold criterion for investments. This would ensure that the ISP remains focused on the investments that add the highest value. Care should be taken to ensure that calculation of a threshold criteria is not overly resource intensive.
Question 4: Risk allocation		

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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?	The risks of congestion and potential loss factors are evaluated when a new generator project is financed. Consequently, the long run marginal cost of generation is impacted by congestion and loss factor risk. In many cases, the investments proposed by the ISP would act to reduce the risk of congestion and improve loss factors for generators. By providing greater confidence in these investments, the risk to generators can be reduced and consumers will benefit from a reduced long run marginal cost. The risk of incorrect investment can be mitigated by thorough scenario testing; however, it should be recognised that a slow implementation of the investments also poses a significant risk to generators and consumers.
B)	What other regulatory changes may be required in order to mitigate against changes in the risk allocation?	We suggest that the AEMC and AER consider how the five-year regulatory determination cycle may impact the risk allocation to generators and consumers. For example, generators and consumers may bear the risk of delays when TNSPs defer investment decisions until they have funding certainty through a regulatory determination outcome.
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?	RES Australia supports the call for robust consultation on the investment options and suggest that stakeholder feedback is taken into account during the development, assessment and determination of options.
B)	Should there be more consultation for options that fall to the right-hand side of the table?	From our perspective, the consultation requirements ought to be the same regardless of whether AEMO or the TNSP has control over the phase of the investment decision.

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		AEMO decisions should be subjected to the same level of scrutiny and consultation.
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?	This option could be implemented relatively quickly because the scope of changes to regulatory framework is minor. Controls would need to be established to ensure that RIT-Ts are undertaken in line with the program anticipated by the ISP. Further controls would be required to ensure that the TNSPs address the needs identified by AEMO in the ISP as a minimum.
B)	Would the effective delivery of this option have an impact on the speed with which "strategic, national" investments are made?	The selection of the preferred option is usually sensitive to the assumptions and methodology used in the evaluation of benefits. This option would benefit from a fast-tracking process where ISP inputs and models could be utilised by the TNSP to evaluate benefits.
C)	Are there any regulatory or other implications that are not raised in the discussion of this option?	We support a review of the RIT-T process to determine if the process can be accelerated. For example, the Project Specification Consultation Report (PSCR) may not be required when the need is clearly defined in the ISP. There would still need to be an opportunity for stakeholders to provide feedback into the development of options for the Project Assessment Draft Report (PADR).
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?	This option could be implemented relatively quickly because the scope of changes to the regulatory framework is minor. Controls would need to be established to ensure that RIT-Ts are undertaken in line with the program anticipated by the ISP. Further controls or consultation would be required to prevent delays associated with TNSPs reworking or challenging the options developed by AEMO. The TNSP should have the discretion to make

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		minor changes to the options to take local network issues or synergies into account.
B)	Would the effective delivery of this option have an impact on the speed with which "strategic, national" investments are made?	The selection of the preferred option is usually sensitive to the assumptions and methodology used in the evaluation of benefits. This option would benefit from a fast-tracking process where ISP inputs and models could be utilised by the TNSP to evaluate benefits.
C)	Are there any regulatory or other implications that are not raised in the discussion of this option?	We support a review of the RIT-T process to determine if the process can be accelerated. For example, the Project Specification Consultation Report (PSCR) may not be required when the need is clearly defined in the ISP. The RIT-T process would need to modified because the current PADR incorporates steps 2 – 4. In this option, these steps would be split between AEMO and the TNSP. Alternatively, the ISP could be substituted for the PSCR and parts of the PADR.
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?	This option would take longer to implement because rule changes would be required to bind the AER to AEMO's recommendations. Further controls and robust consultation would be required to prevent delays associated with TNSPs reworking or challenging the option selected by AEMO. The TNSP should have the discretion to make minor changes to the option to take local network issues or synergies into account.
B)	Would the effective delivery of this option have an impact on the speed with which "strategic, national" investments are made?	The selection of the preferred option is usually sensitive to the assumptions and methodology used in the evaluation of benefits. This option has the potential to reduce the level of repetition between AEMO and the TNSPs.
C)	Are there any regulatory or other implications that are not raised in the discussion of this option?	Further work is required to determine how the AER can ensure that the investments are carried out efficiently

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		without reducing the speed with which the investments are made.
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?	This option would take longer to implement because rule changes would be required to bind the AER to AEMO's recommendations. This option is preferential to option 4 because there is more certainty and confidence in the implementation of the investment. The TNSP should have the discretion to make minor changes to the options to take local network issues or synergies into account. Further work is required to clarify how this option could be undertaken with contestability.
B)	Would the effective delivery of this option have an impact on the speed with which "strategic, national" investments are made?	The TNSP typically operates the transmission network subject to technical and procedural constraints that will impact the functional specification.
C)	Are there any regulatory or other implications that are not raised in the discussion of this option?	Options 1-4 do not facilitate the contestable delivery of the investments, so the AER will have a role to play in ensuring the investments are efficient.
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?	This option is undesirable because AEMO do not currently have the skill sets or knowledge to develop sufficiently detailed functional specifications in states other than Victoria. The detailed understanding of the network has been built up over decades of experience within TNSPs. AEMO would need to rely heavily on the TNSPs for input, so it would be more efficient for the TNSPs to develop the functional specifications directly.
B)	Would the effective delivery of this option have an impact on the speed with which "strategic, national" investments are made?	This option could not be implemented quickly because AEMO would need to upskill significantly and there would be a large degree of consultation between AEMO and the TNSPs.

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C)	Are there any regulatory or other implications that are not raised in the discussion of this option?	This option is the option that would best facilitate the contestable delivery of investments. However, there is a large risk that this will cause delay and a number of disputes over the contestable scope. The best approach is to allow the TNSPs to develop the functional specifications and ensure that the AER is equipped to ensure the works are delivered efficiently.
Question 11: Other options and considerations		
A)	Are there other options to strengthen the link between the ISP and individual TNSP investments that are not raised here?	RES Australia considers that COAG needs to provide AEMO and the TNSPs with directions and mandated milestones in order to ensure that the ISP can be delivered in a timely manner. Technoeconomic analyses like the ISP and RIT-T are extremely sensitive to small changes in the methodology and input assumptions, so the process needs to avoid the situation where the ISP and RIT-T yield vastly different results. The process would therefore benefit from a consensus on important input assumptions and methodology for the RIT-Ts.
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?	The existing framework for TUOS charges should be maintained. For transparency, there should not be a situation where parts of the shared transmission network are funded under completely different arrangements.
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?	In the context of the ISP, there are three emerging benefits that are not usually considered in the RIT-T: 1. Environmental benefits. If the proposed investment reduces constraints on renewable generation and subsequently reduces dispatch of thermal generation, reduced carbon emissions should be valued as a

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		benefit. This benefit category would obviously be subject to political ideology and hence requires guidance from COAG. 2. Generator investment risk. A higher capacity transmission network will reduce the risk of constraints and loss factor volatility for new entrant generators. As a result, the long run marginal cost of new generation would be reduced to reflect the lower level of risk in the market. 3. System strength. The RIT-T should value the difference between options where some options provide better outcomes in terms of fault level impact.
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?	The AER has had a strong focus on reducing electricity prices and TNSPs have deferred or cancelled some investments in response. Due to funding uncertainty, TNSPs do not usually undertake a RIT-T unless they are in a good position to make an investment. There is a risk that the recent focus on reducing prices has delayed investments that provide positive net benefits. It is possible that TNSPs have not sought approval for the inclusion of additional benefits in order to maintain a level of trust with the AER.
Question 13: Potential concerns with the RIT-T process		
A)	What are stakeholder views on current limitations with the RIT-T process?	The RIT-T is not suited to the large-scale investments that are required to facilitate the energy transformation. Under the existing process, it is difficult to compare options with large differences in the scope of investment. The RIT-T is better suited to discrete localised investments. The existing RIT-T process would also necessitate a lot of re-work that has been undertaken as part of the ISP. The RIT-T benefit categories do not account for environmental benefits or

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		reduced investment risk for new entrant generation projects. However, the economic principle underwriting the RIT-T is sound.
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?	No response.
C)	What changes may make the existing RIT-T process "faster"?	The speed with which the RIT-T is undertaken could be improved by utilising the outworking of the ISP to reduce the level of analysis required during the RIT-T. The process can also be accelerated by allowing AEMO and TNSPs to focus on their strengths. AEMO will be best placed to evaluate the benefits associated with reduced congestion while TNSPs will be best placed to develop functional specifications and secure land rights. The development of options should be undertaken collaboratively between AEMO, TNSPs and industry. It is important that the process enables investments to be made without unnecessarily delaying the realisation of benefits. It is also important that RIT-T processes currently underway are not delayed until a determination is made regarding the linkage between the ISP and RIT-T. For example, the Western Victorian Renewable Integration RIT-T has been ongoing for several years since the need was initially identified. This RIT-T was delayed to await the outcomes of the ISP and further delays will lead to negative market outcomes.
D)	What is the role of a dispute process in the RIT-T? How could spurious disputes be minimised?	Disputes can be minimised by properly consulting the stages of the RIT-T with industry. The existing consultation timeframes afford participants ample opportunity to provide feedback. Consultation could be improved in some regions by more proactive industry engagement but the consultation timeframes should not be extended because

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		the speed to deliver these investments will impact the magnitude of realised benefits.
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?	This option represents very minimal change from the status quo. Connecting parties are generally aware of favourable resources, available land and spare network capacity but more information regarding fault levels and telecommunications infrastructure could be provided to support the development of the most efficient generation fleet. There is an existing opportunity for developers to fund a private transmission line. This opportunity should be free from the risk of subsequent parties connecting to the line under an open access arrangement.
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?	The AEMC assessment is accurate; however, a large amount of risk sits with the generator. For this option to work, the RIT-T process would need to include the benefits associated with uncommitted projects, under the assumption that these projects will become committed if the investment goes ahead.
Question 15: REZ options – generator coordination		
A)	Do stakeholders agree with our conclusions for how this model can occur under current regulatory arrangements?	The SENE rule has not been effective to date and has not resulted in the realisation of any REZ opportunities. Under the existing access arrangements, investors are reluctant to fund a network investment that would be classified as shared transmission network and subject to open access. While the TCAPA rule will be helpful in reducing

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		augmentation costs, generators still face the fundamental issue of open access. While a pioneer scheme may be useful to subsidise incumbent generators for subsequent connections, there will not be sufficient certainty when a project is financed, so the cost of new entrant generation will not reflect this efficiency. We agree with stakeholder's feedback that competitive tension and commercial sensitivities will act as a large disincentive for the cooperation of generators. The connection of an adjacent generator typically has a significant negative impact on a project's economics by reducing loss factors, increasing congestion risk and increasing the risk of delays in the registration and commissioning phase. As a result, generators will find it difficult to support competing developer's projects despite best intentions.
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?	We agree with the AEMC's assessment that this option does not strengthen the link between the ISP and transmission investment due to the commercial hurdles discussed above.
Question 16: REZ options – TNSP speculative investment		
A)	Do stakeholders agree with our conclusions for how this model can occur under current regulatory arrangements?	We agree with the assessment that most TNSPs are unlikely to make speculative investments due to their conservative risk appetite. The AEMC should further investigate changes to the framework that would allow TNSPs to receive higher rates of return for efficient investments. An economic analysis or RIT-T could be undertaken to determine the benefits of the investment. If the benefits do not exceed the costs, a portion of the investment could be included in the TNSPs asset base. A

Questions		Feedback
		higher portion of the investment could be included if benefits increase in the future. We support further analysis and consideration of the transmission bonds model but caution the creation of a barrier to entry because generators would require large balance sheets to support the purchase of bonds.
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?	We encourage the AEMC to further consider this option with the objective of creating improved confidence in the implementation of ISP investments without creating barriers to entry.
Question 17: REZ options – TNSP prescribed services		
A)	Do stakeholders agree with our conclusions for how this model can occur under current regulatory arrangements?	We agree that changes to the NER would be required to facilitate the implementation of this option. The AEMC should consider that this option has the highest potential to reduce the cost of new entrant generation by reducing loss factor and congestion risk at the time that generation projects are financed. We also support ElectraNet's view that the current framework can accommodate the assessment of strategic investments prior to the commitment of new generation but there are limited examples of this leading to investment. Unfortunately, this approach is not often taken other TNSPs. Changes to the NER or RIT-T guidelines could help provide TNSPs with better direction in how to assess investments when there is uncertainty regarding the commitment of new load or generation. Ausgrid's proposal of sharing the risk between TNSPs and consumers may help mitigate the risk of stranded assets and overinvestment. This proposal should be considered in more detail by the AEMC. The thorough scenario analysis of the ISP will also help mitigate

Questions		Feedback
		these risks. We do not agree with the AEMC's assessment that an investment will need to deliver a prescribed transmission service on the basis of an expectation that new generation will connect in a particular part of the NEM. There are many developers with competing projects in identified REZ zones. The TNSPs have already received connection enquires or applications for these projects. For some areas, the progression of an investment will provide a high degree of certainty for these renewable projects. As such, the risk of stranded assets for ISP identified investments can be managed by engaging with stakeholders in the assessment phase to understand the economics of the connecting generators. In our view, this approach would also support the maintenance of open access arrangements.
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?	No response, please refer to the above response.
Question 18: REZ options – clustering		
A)	Do stakeholders agree with our conclusions for how this model can occur under current regulatory arrangements?	A form of clustering is already implemented in Victoria, where AEMO assess generators as a cluster when they expect connections to occur within six months of each other. We caution the implementation of a connection application season where NSPs will be receive a large influx of applications on the due date. NSPs will also be motivated to find minor issues with an applicant's information and delay an application to the following season. A similar

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		approach was taken in Ireland which caused significant issues and delays. This approach also has the potential to cause inefficient outcomes that are inconsistent with the open access approach. For example, a number of generators may seek to connect to a subsystem. As a result, a thermal bottleneck may occur. Under the clustering approach, the cost of alleviating the bottleneck may be borne by all connecting generators. The cost should be born by the generator that contributes the most to the bottleneck. This provides an incentive for developers to choose connection locations where power flows are more evenly distributed on the network, thereby maximising utilisation of assets. Further to Reach Solar's comments, we are concerned that renewable projects are complicated transactions and seasonal processing of applications is likely to cause significant issues with the development of efficient generation projects.
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?	The clustering approach is inconsistent with the ISP options and would not facilitate the progression of the ISP investments as it is driven by generator connection applications rather than the ISP.
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?	We agree with the conclusion that changes to access arrangements would need to be considered if the AEMC considers a model where generators pay for increased transmission capacity. Options 1, 3 and 4 are likely to be the options that are most compatible with the existing

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		access arrangements. We note that it is possible for a new entrant generator to come into an area and constrain off incumbent generators. To better manage this risk, the TNSP should undertake a benefits test when this risk is identified. The impacted generators may opt to fund the gap between the assessed benefits and the cost of augmentation. We note that any form of firm access arrangement that applies to shared transmission network assets is likely to result in inefficient outcomes where generators connect to inefficient locations that block entry for further participants.
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?	We support the conclusion that proactive investment is required to keep congestion at an efficient level. Proactive management and forecasting of congestion is important. The risk of congestion sits with generators and subsequently consumers. A congestion risk assessment is typically undertaken by consultants when renewable projects are financed. History has proven that congestion is difficult to forecast due to difficulties in predicting future generator developments and perfect foresight of technical issues. An example of an unforeseen technical issue is the lack of fault level and subsequent limit that was placed on asynchronous generation in South Australia. These issues are likely to be exacerbated in the near term without proactive management of congestion.

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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?	We support the CEC's feedback on the following key points in relation to energy storage: - A long-term approach is needed for the registration of storage facilities and a firm position on their charging arrangements. - Storage should have its own classification in the NEM. - Storage should not have to pay TUOS or DUOS because it is not the end user of electricity. - If end users and storage facilities pay TUOS, double charging will occur.
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 response, refer to question 21.
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?	No response, refer to question 21.
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?	No response, refer to question 21.