

30 September 2021

Ms Anna Collyer Chair Australian Energy Market Commission PO Box A2449 Sydney South NSW 1235

Electronic Submission – EPR0087

#### Consultation Paper – Transmission Planning and Investment review

Dear Ms Collyer,

Energy Networks Australia (ENA) welcomes the opportunity to provide a submission to the Australian Energy Market Commission's (AEMC's) consultation paper for its Transmission Planning and Investment Review ('the review').

ENA is the national industry body representing Australia's electricity transmission and distribution and gas distribution networks. Our members provide more than 16 million electricity and gas connections to almost every home and business across Australia. This response is on behalf of ENA transmission members.

The key points that have shaped our more detailed response to the questions posed by the AEMC in its consultation paper are outlined below. Those detailed responses are provided in the format requested by the AEMC, as an attachment.

#### Focus and coverage of the review

Transmission is a critical enabler of the transition to renewable energy. It is important that the outcome of the review delivers material benefits to consumers and does not expose them to critical risks and delays to transmission investment as the energy market transitions to a low carbon future. ENA supports the AEMC's prioritisation of issues that are practical to implement and will deliver long term, realisable benefits to consumers in relation to price, reliability and system security. The review should focus on the lowest long term total cost to consumers. ENA suggests that the AEMC add as an assessment criterion 'the extent to which reform options are likely to promote consumer confidence in the energy framework and improve social licence for the development of major transmission projects'.

ENA believes that the focus of the review should logically be confined to Integrated System Plan (ISP) projects that are not yet actionable. The actionable ISP projects from the 2020 ISP are already progressing through the current framework. No major concerns have been raised on the timeliness or efficiency of investment in non-ISP projects, the vast majority of which are mandated as a 'reliability corrective action' (with a corresponding obligation on the transmission network service provider (TNSP) to invest). Removing non-ISP projects from the scope of the review will allow ISP projects, which are of greatest concern to consumers, to receive more attention.

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# The ex-ante regulatory framework continues to be appropriate for major projects

The intrinsic and material uncertainty surrounding the costs and benefits of major discrete transmission projects is at the heart of the challenge for the regulatory framework. However, some elements of this uncertainty are already becoming less acute – such as uncertainty around greenfield investment costs (with the progression of several major transmission projects) and uncertainty over future generator retirements and technology costs (with the ISP scenarios capturing a range of assumptions, consulted on with stakeholders).

It is also important to recognise that, when the first ISP was developed in 2018, most stakeholders did not fully comprehend the seismic shifts about to impact the National Electricity Market (NEM). Further, the Australian Energy Market Operator (AEMO) and TNSPs had limited relevant experience in planning and delivering the type of mega-projects being conceived. The increases in estimated project costs since 2018 has more to do with AEMO and TNSPs developing a greater understanding of the drivers of major project costs than risk aversion or innate conservatism on the part of the TNSPs.

Notwithstanding, some areas of material uncertainty will remain, including the impact of environmental requirements on costs (including biodiversity offset costs), which depend on detailed route design, jurisdictional requirements and the potential for further future government policy changes. The costs associated to build and sustain a social licence to construct major new infrastructure are also a source of material uncertainty. This uncertainty gives rise to material risks, predominantly outside of the control of TNSPs, which may impact costs after the Australian Energy Regulator (AER) has approved the Contingent Project Application (CPA)<sup>1</sup>.

The new staged CPA process applying to ISP projects will assist in addressing the cost uncertainties associated with detailed route design and procurement, which have previously been a source of concern for TNSPs. HumeLink is the first major ISP project able to utilise this new provision.

However, even with the staged CPA process, the current regulatory framework does not fully deal with the allocation of external risks *ex ante* between TNSPs and consumers. As a consequence, consumers are bearing higher costs through cost estimates that factor in the additional risk and/or the costs that contractors price to take on external risks they may not be best placed to manage, and TNSPs are facing a higher level of risk which can result in commercial disincentives to invest.

The introduction of contestability for major transmission projects would not solve the problems with the extent and allocation of the external risks associated with major projects:

The price offered by a contestable provider prior to the commencement of a project would be akin to an *ex-ante* revenue allowance, as it would be determined upfront. A contestable provider would either need to structure its bid to accommodate the risks and uncertainties it would bear (in a

<sup>&</sup>lt;sup>1</sup> The Victorian transmission framework differs from the rest of the NEM, nevertheless the material cost uncertainties are still present.



similar manner to regulatory provision), or the contract would be subject to later variations, increasing the final cost paid by consumers, especially when considered over the life of the project.

Further, it could be difficult to replicate the benefits of the new staged CPA framework under a contestable approach, in terms of a process that facilitates the progressive activities necessary to estimate the overall efficient cost of the project more accurately, prior to construction commencing. Contestability could disrupt the continuity in consumer engagement between the planning and delivery processes, potentially undermining attempts to build social licence for the development. So the uncertainty issues would likely be exacerbated under a contestable model.

There are potential changes to the application of the current *ex-ante* framework that would represent a more effective and easily implementable option for addressing uncertainty and risk allocation, such as:

- Allowing for the identification of additional nominated pass-through events at the CPA stage (as well as the revenue determination stage) relating to clearly identifiable external risks that would otherwise be borne by the TNSP, such as decisions on biodiversity costs. Under the existing National Electricity Rules (NER), TNSPs would still need to demonstrate they have taken actions to minimise these costs, if the pass-through event occurs, and so incentives on TNSPs to minimise these costs would be maintained.
- Exclusion of identified major projects from the general 'over-spending' ex post review trigger, and replacement with a bespoke arrangement which would allow the AER observer status as the project progresses and major decisions are made.

#### **Planning framework**

ENA does not consider there is a need to further streamline the economic assessment of ISP and non-ISP projects under the NER, although there may be opportunities for the AEMC to clarify some elements and potentially to place a timeframe around the feedback loop process (noting that the intention was not for this process to add an additional six months to the end-to-end process, but this has been the experience to date).

The amended planning rules in the NER and associated AER guidelines (the 'actionable ISP' framework) have only been in place since July 2020 and should be given an opportunity to work. The forthcoming 2022 ISP will be the first prepared by AEMO under the full framework, and to date no ISP project has been through the entirety of the new framework.

The sheer size of the investments in the ISP, which will be reflected in network charges for years to come, means that it is important that there is a robust and transparent process for identifying the required investments and providing confidence that the assessment of the market benefits delivered to consumers is robust.

The regulatory investment test for transmission (RIT-T) conducted by TNSPs for ISP projects allows for further detailed assessment of option variants and market benefits that is simply not feasible at an ISP level, where AEMO is undertaking analysis across multiple investment combinations. The local TNSP has significant knowledge about the network assets to identify options and progress more detailed project assessments in the RIT-T. The RIT-T:

» includes the feasibility of fully considering certain benefit categories (such as competition benefits and option value), as well as identifying and evaluating non-network options.



» provides a transparent process for stakeholders to engage on specific projects and so can assist with community buy-in and developing social licence.

ENA considers that it is a matter for policy makers to determine either if a wider economic benefits test is desired, or if the value of emissions reductions should be captured as part of the cost benefit assessment for ISP projects, noting that the scope of the RIT-T assessment is currently limited by the National Electricity Objective.

Overall, the future operation of the actionable ISP arrangements will be a better test of the new framework's effectiveness, rather than the transitional experience over the last 12 months. ENA considers the new framework should be assessed in the already-planned review in 2025.

ENA notes that community engagement and acceptance are key to ensuring the timely delivery of major transmission projects. Improvements in this area may ultimately deliver a greater impact on investment timeliness than making fundamental changes to the investment planning framework.

#### Transmission investment and delivery

ENA notes the AEMC's key concern regarding TNSPs having an exclusive right to build and own transmission projects but no corresponding obligation to invest. ENA notes the commitment shown by TransGrid and ElectraNet to deliver Project EnergyConnect. For non-ISP projects, investment in major projects generally occurs to comply with obligations in the NER (including those relating to the connection of load and voltage requirements), or in a TNSP's licence. In these cases, the TNSP does have an obligation to invest. The ENA also notes that reluctance by TNSPs to invest in some circumstances may be for valid reasons from a consumer perspective, including where it arises from concerns with the assumptions underpinning the economic assessment.

However, there can be a misalignment between the long-term interests of consumers and the commercial considerations of investors where TNSPs are asked to bear more risk than they are being compensated for, and where cost recovery cashflows raise financeability concerns. Addressing the underlying causes of misalignment would be the most effective means of lowering the risk of non-investment. This could be achieved by:

- » minor amendments to the regulatory framework to more appropriately allocate external risks (as discussed above).
- » setting the Rate of Return at an appropriate level and introducing a financeability check, which would also ensure lower costs to consumers (through keeping the required return on debt low).

ENA does not consider the introduction of contestability to be an effective, proportionate or readily implementable change to address concerns about investment not proceeding:

Contestable provision of individual transmission investments introduces the need for coordination arrangements between different asset owners, which adds complexity and risk, and introduces potential constraints in how the network is managed, thereby introducing additional costs. The rights and responsibilities of all parties would require careful consideration (eg, asset maintenance and operation) in order to ensure that there is no adverse impact on overall network reliability and security.



- » The current framework is built on a policy of clear accountability for shared network service outcomes in each jurisdiction (outside Victoria); this would be undermined by a fragmented approach to shared transmission network investment.
- » Contestability would have implications for the costs paid by consumers, with a high likelihood of costs increasing as bidders would not be restricted to seeking a regulatory return nor to a regulated revenue timing profile.
- » No evidence has been provided from experience in Victoria that lower long-term total costs to consumers (not merely upfront costs) have been achieved under a contestable approach.
- Contestability comes with a substantial reduction in accountability for managing transmission infrastructure and transparency in relation to outturn costs. A contestable process—such as currently applies in Victoria—does not include the same active role for the AER in assessing the efficiency of costs as part of a CPA, and contestable projects do not currently go through the 'feedback loop' provisions to ensure that at the outturn contract cost the ISP project remains on the optimal development path and delivers a net benefit to consumers.
- » Most of the costs of ISP projects are already competitively tendered by TNSPs typically over 75% of project cost, with statutory costs such as environmental offsets, land acquisition and approvals making up a sizeable portion of the remainder - so customers already benefit from competitive outcomes under the current framework.

Some jurisdictions, notably New South Wales, have existing provisions in their legislation to 'direct' a TNSP to invest in a major project. Although these types of provisions do not necessarily support NEM-wide solutions, this appears to be a more suitable 'backstop' mechanism to compel investment if required, particularly if coupled with a requirement for a jurisdiction to seek advice from AEMO prior to making a direction.

#### Material change in network infrastructure costs rule change request

ENA supports transmission and distribution network service providers (NSPs) retaining primary responsibility for identifying a material change in network infrastructure costs, but agrees that a reasonable safeguard for consumers would be for the AER to be able to require NSPs to justify their view that a material change in circumstance has not occurred. Where the AER is not convinced, it could require the NSP to update and consult on the NPV assessment (rather than re-starting the entire regulatory investment test for transmission/distribution (RIT) process).

ENA considers that this requirement should only apply to projects subject to a CPA. In order to manage the risk of this requirement creating uncertainty and unduly extending investment timeframes, ENA supports clarification of when a project would no longer be subject to the material change in circumstance test. ENA suggests this should be at the stage of an approved CPA.

ENA does not support a pre-determined cost threshold at which the RIT would need to be re-applied, and notes that for major ISP and non-ISP projects the RIT-T already includes sensitivity testing to changes in capital costs, and that the impact of any cost increases outside of the range tested is already taken into account under the NER at the CPA stage.

The 'decision-rule' approach set out in the consultation paper is similar to the threshold analysis NSPs currently incorporate in their RITs, and ENA believes would provide a more useful approach. However, this approach should only be applied to major transmission projects, and should not apply to distribution



investments, or transmission investments below a certain size, as it could materially increase the time and costs associated with the planning of these projects and delay timely investment.

ENA considers that the level of cost estimation required at the RIT stage should remain a class 4 Association for the Advancement of Cost Engineering estimate, in line with AEMO's approach in the ISP. For major projects in particular, providing cost estimates at a greater degree of accuracy at the RIT-T stage would be costly and would require early works to be undertaken on each of the options being considered (for example, to confirm route selection and procurement information), which is impractical.

#### Contestability an assumed outcome?

ENA is disappointed that question 21 in the consultation paper is framed in a way that presumes the delivery of transmission projects should be made contestable. As outlined above and in the detailed responses to questions below, ENA does not believe the case for contestability has been made. It is not clear from the consultation paper exactly what customer outcomes contestability would improve and how it would do so.

ENA has attached a report ENA commissioned from FarrierSwier that identifies issues that would need to be addressed if a contestable model for transmission investment were to be contemplated. A focus on system-level outcomes and long-term total costs to customers is essential in any evaluation of contestability.

Should you have any queries on this response please feel free to contact Verity Watson, vwatson@energynetworks.com.au.

Yours sincerely,

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Andrew Dillon

CEO



# Attachment

### Introduction- Assessment criteria

1.	Do you agree with the Commission's proposed assessment framework for this Review?	Energy Networks Australia (ENA) generally supports the AEMC's proposed assessment framework, and its proposed prioritisation of issues that will deliver substantial improvements to consumers and are practical to implement. It is important that the outcome of the AEMC's review delivers material benefits to consumers. For major transmission projects, which will be reflected in network charges for years to come, ENA considers that the balance of emphasis in the assessment framework should be on promoting efficient investment outcomes, and ensuring that the assessment of the market benefits delivered to consumers is robust. ENA supports the AEMC's recognition that information provision and transparency are key elements in promoting economic efficiency, and notes that this extends to providing transparency to consumers and other stakeholders, to ensure accountable decision-making. ENA also notes that the assessment of economic efficiency needs to take into account the impact on the whole system, rather than be limited to a specific project, given the potential for material coordination issues to arise with some options the AEMC may be assessing (ie, the introduction of contestability). This is consistent with one of the objectives of the review to enable timely and efficient delivery of transmission services that are in the long-term interests of consumers.
		In relation to the implementation and effectiveness criteria, any proposed changes arising from the review should be able to be implemented in time to affect the major Integrated System Plan (ISP) projects currently identified as 'future ISP projects', if they are to deliver benefits to consumers and not delay investments.
		ENA believes that the focus of the review should logically be confined to ISP projects. Any major transmission project affecting the energy transition is expected to be included in the ISP, or to be dealt with on a jurisdictional basis (and therefore not subject to the national framework). Further, no major concerns have been raised on the timeliness or efficiency of transmission investments in non-ISP projects, the vast majority of which are mandated as a 'reliability corrective action' (with a corresponding obligation on the transmission network service provider (TNSP) to invest). Removing non-ISP projects from the scope of the review will also allow major ISP projects, which are of greatest concern to consumers, to receive more attention.

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2.	Are there any additional criteria the	ENA suggests that the AEMC add as an assessment criterion 'the extent to which reform options are likely to promote
	Commission should consider as a part of its	consumer confidence in the energy framework and improve social licence for the development of major transmission
	assessment framework?	projects'. Community concern in relation to greenfield transmission developments in particular is emerging as a material
		factor affecting the timeliness and costs of major transmission investment. It is important that the end-to-end planning and
		investment framework accommodates adequate consideration of community concerns and helps to build the social licence
		that is needed to underpin community acceptance of these investments.





# CHAPTER 3 – Issues in the regulatory framework and processes for planning of major transmission projects

#### Implications of increased uncertainty for the ex-ante incentive-based regulatory framework

3.	Do you agree that the identified factors contribute to an increase to the uncertainty surrounding major transmission projects, relative to BAU projects? Are there other factors that should be taken into account?	<ul> <li>ENA agrees that uncertainty is a key issue affecting the application of the ex-ante regulatory framework to major transmission projects. This uncertainty also has the potential to affect the timeliness of transmission investments (as changes in key assumptions can impact the outcome of investment planning assessments), and so needs to be taken into account in considering the effectiveness of the planning framework.</li> <li>ENA agrees with the key elements of that uncertainty identified by the AEMC but notes the following:         <ul> <li>Uncertainty over future generator retirements, availability and technology costs is becoming less acute. Although uncertainty remains, different assumptions are captured within the ISP scenarios used for planning purposes, which are consulted on with a broad range of stakeholders;</li> </ul> </li> </ul>
		<ul> <li>Uncertainty around the costs of greenfield transmission investment in Australia is also reducing, with the progression of several ISP projects (Project EnergyConnect (PEC), HumeLink) as well as the development of other major transmission projects outside of the National Electricity Market (NEM), including Renewable Energy Zones (REZs) in NSW and Victoria and CopperString in Queensland. The Australian Energy Market Operator (AEMO) has also updated its database on transmission costs, through a process that has involved consultation with stakeholders;</li> </ul>
		• Uncertainty over costs relating to the specific route of major transmission projects (which includes the extent of biodiversity offset costs required) will remain a key area of uncertainty, and can only be addressed by detailed analysis once the preferred investment option is identified. It is therefore important that both the planning framework and the ex-ante cost recovery framework are able to accommodate this uncertainty; and
		<ul> <li>Uncertainty surrounding both jurisdictional and federal government policies (eg, jurisdictional REZ policy, federal government policy in relation to new generation development) has also had a major impact on transmission planning and remains a key area of future potential uncertainty.</li> </ul>
4.	Do you consider that the current ex-ante incentive-based approach to regulation is appropriate for major transmission projects? Why? Are there opportunities to drive more efficient expenditure and operational outcomes?	ENA considers that an ex-ante incentive-based approach to regulation does remain appropriate for major transmission projects but that incremental adjustments to the existing framework could be made to ensure that it operates in the best interests of consumers. The staged Contingent Project Application (CPA) process for ISP projects that was introduced as part of the 'actionable
		ISP' changes to the National Electricity Rules (NER or Rules), and which forms part of the Australian Energy Regulator's



(AER) Guidance Note on the Regulation of Actionable ISP Projects, <sup>2</sup> will help to address some of the issues relating to the impact of uncertainty on project costs. The staged CPA process allows TNSPs to obtain cost recovery for more detailed project planning and design works (including those relating to the specific project route), following the identification of the preferred option under the regulatory investment test for transmission (RIT-T) and prior to finalisation of the overall project cost estimate. This addresses cost uncertainty relating to route selection and greenfield investment, as it allows TNSPs to undertake the works necessary to estimate project costs more accurately. This in turn means that TNSPs do not have to build-in such a high risk allowance in relation to project costs at the time of their final CPA application, as key areas of uncertainty have been addressed through the works in the first stage.
The staged CPA process is expected to be applied for the first time to HumeLink. ENA considers that the staged CPA process is a material improvement in the regulatory framework and will go a long way to addressing some of the risks associated with applying the ex-ante regulatory framework to major transmission projects.
There are a number of other incremental changes that could be made to the ex-ante regulatory framework that would improve the balance between risks and project costs. TNSPs should not bear risks that are outside of their control. Even with the staged CPA process, the current regulatory framework is not resulting in an optimal allocation of risks ex-ante between TNSPs and consumers, with the consequence that consumers are bearing higher costs (through cost estimates that factor in the additional risk and/or the costs that contractors price to take on external risks they may not be best placed to manage), and TNSPs are facing a higher level of risk, which can result in commercial disincentives to invest.
ENA encourages the AEMC to consider incremental changes such as:
• Extending cost pass through arrangements for externally imposed costs (eg, biodiversity costs) to contingent projects, through allowing additional nominated cost pass-through events to be proposed as part of a CPA, as well as in the TNSP's revenue determination. The AER could then consider the appropriateness of treating uncertainty through a cost pass-through event, in the same way that it assesses the efficiency of self-insurance, insurance and cost pass-through in its normal regulatory determinations. Further, under the existing Rules, TNSPs would still need to demonstrate that they have taken actions to minimise these costs if the nominated pass-through event occurred and so incentives on TNSPs to minimise these costs would be maintained; and
<ul> <li>Excluding major projects from the general NER ex-post review provisions (and in particular the calculation of the 'overspending requirement' in NER clause S6A.2.2A), with its replacement with a bespoke arrangement for major projects which would allow the AER observer status as the project progresses and major decision are</li> </ul>

<sup>2</sup> AER, *Guidance Note - Regulation of actionable ISP projects*, March 2021.



		made. Such a bespoke arrangement could be modelled on that proposed by TransGrid for PEC, <sup>3</sup> and would build on the greater level of AER scrutiny that has already been a feature of TNSPs' CPA processes.
5.	Do you agree that the Review should take forward this issue as a priority issue? If not, why?	The AEMC should progress this issue further in the review so that further incremental changes to the ex-ante framework can be considered. However, ENA is of the opinion that other issues are a higher priority for the review because:
		• Recent changes to the regulatory framework (ie, the introduction of the staged CPA approach) are expected to go a long way to addressing the issues identified by the AEMC; and
		ENA does not consider that major reform to the current arrangements is necessary to address this issue.
		The introduction of contestability for major transmission projects would not address the current problems with the extent and allocation of external risks (as appears to be suggested in the AEMC's consultation paper):
		• The price offered by a contestable provider prior to the commencement of a project is akin to an ex-ante revenue allowance, determined upfront as an outcome of the contestability process.
		• A contestable provider would either need to structure its cost forecast to accommodate the risks it bears (in a similar manner to TNSPs under the current ex-ante framework), or the contract would be subject to later variations,
		raising the ultimate price paid by consumers over the life of the project. Currently AEMO as the Victorian
		transmission planner cannot take on any risk/liability, so risks for contestable projects in Victoria are either built
		into the contract cost or variations are passed to consumers.
		• It would be difficult to replicate the benefits of the new staged CPA framework under a contestable approach, in
		terms of a process that facilitates the activities necessary to more firmly estimate the overall cost of the project.
		• The degree of transparency as to how risks are priced by the contestable provider would also be substantially less
		than that afforded to the AER under the current CPA process – noting that for TransGrid's portion of PEC the AER
		was fully briefed on the contract award process, to which there were several independent observers. <sup>4</sup>
		For many major greenfield ISP projects, a major proportion of the costs are government costs, which are independent of
		who builds and owns the project. For example, for HumeLink around 28 per cent of the current cost estimate relates to
		government-imposed biodiversity costs (ie, \$935m compared to the costs for lines and substations of \$2.38 bn (around
		80 per cent of which will be subject to competitive procurement)).
		Further, the introduction of contestability has broader implications for the effective delivery of major projects and the
		costs associated with those projects (discussed in response to Chapter 4 questions below). Recent experience in Victoria

<sup>&</sup>lt;sup>3</sup> See TransGrid, *Project EnergyConnect | Contingent Project Application – Revised Capex Application*, 30 April 2021, p. 27. <sup>4</sup> See TransGrid, *Project EnergyConnect | Contingent Project Application*, 29 June 2020, p. 16,



		for large greenfield projects has been that introducing contestability has a wide range of implications on communities and the ability to obtain social acceptance of projects.
Ec	conomic assessment of major transmission proje	ects
6.	Are there opportunities to streamline the economic assessments of ISP and non-ISP projects without compromising their rigour? If so, how could the framework be streamlined?	ENA does not consider that there is a need to further streamline the economic assessment of ISP and non-ISP projects. The actionable ISP framework should be given the opportunity to work
		The amended planning Rules and associated AER guidelines (the 'actionable ISP' framework) have only been in place since July 2020 and should be given an opportunity to work.
		• The forthcoming 2022 ISP will be the first ISP prepared by AEMO under the full framework. The 2020 ISP was not developed under the new AER guidelines (and as a consequence was subject to less consultation and less rigour in the cost benefit assessment, as well as being based on outdated transmission costs).
		<ul> <li>Further, no actionable ISP project has yet been through the entirety of the new planning framework.</li> <li>HumeLink, VNI West and MarinusLink are currently going through the actionable ISP process but were begun under the previous framework.</li> <li>QNI minor and VNI minor were progressed under the old framework, prior to having the new AEMO feedback loop applied under the new Rules.</li> <li>PEC was progressed under the old framework.</li> <li>The AER's guidance note on the regulation of actionable ISP projects (which covers procurement and project risks) was only finalised in March 2021.</li> </ul>
		ENA considers that the 2022 ISP is likely to be a more robust basis for future RIT-Ts and AEMO's feedback loop assessment. The future operation of the actionable ISP arrangements will therefore be a better test of the new planning arrangements rather than the transitional experience over the last 12 months. ENA considers that the actionable ISP framework, including the role of the RIT-T, should be given an opportunity to function as intended and the arrangements reviewed in 2025 (as already allowed for under the NER).
		ENA recognises that there is a tension between the robustness and transparency of the economic assessment and the overall timeframe for investment delivery. However, ENA considers that the sheer size of the investments in the ISP befits the balance being weighted towards robustness. The extent of timing that could be saved from an amended, less



rigorous process can be measured in months, for assets that will be reflected in consumers' bills at least 50 years into the future.

The need to regularly update inputs and assumptions used in the economic assessment is an outworking of the uncertainties affecting major transmission projects (as identified by the AEMC and discussed above). These uncertainties are driven by changes in government policy, market conditions and other factors. The scenarios adopted in the ISP and RIT-T are one means of managing these uncertainties. However, there will inevitably be changes between ISPs.

The actionable ISP framework is likely to work best for RIT-Ts that are able to be progressed quickly following the ISP, or where the feedback loop aligns with the timing of a new ISP. This 'bunching' of assessments may be inevitable, and is not a signal that the planning arrangements are not appropriate.

#### The RIT-T plays a distinct role for ISP projects in the current framework

The RIT-T plays an important and distinct role in the actionable ISP framework, through promoting a much greater degree of transparency and rigour in the analysis owing to its focus on a particular project. Further, the RIT-T for major transmission projects:

- provides a discipline on AEMO and the ISP process, helping to ensure the robustness of the investment choice and the costs incurred by consumers;
- is able to consider some of the more complex benefit categories (ie, competition benefits, option value) and canvass non-network options (NNOs) in more detail than is feasible at the ISP level, where AEMO is optimising across all investments (see ENA's response to questions 13-15, below);
- considers all credible options that may meet the identified need (including NNO), whereas the ISP does not;
- enables a greater level of community engagement than is possible through the ISP, helping to build community understanding and social licence; and
- provides a more detailed and granular net present value (NPV) analysis for a specific project than the ISP.

Therefore, it is not apparent that a sufficiently rigorous assessment of large-scale projects would occur if the ISP itself was the only cost-benefit test undertaken.

#### **Opportunities to streamline the current process:**

In the context of the points raised above, ENA considers that the AEMC could clarify the following elements of the existing framework to enhance the framework's efficiency:

- confirming that RIT-T assessments are able to use the latest available information eg, the draft Inputs, Assumptions and Scenarios Report (IASR) (as used in the MarinusLink Project Assessment Conclusions Report (PACR)) – in their analysis;
- giving careful consideration to the timing of feedback loop assessments to align with draft or final ISPs; and
- placing a timeframe around the feedback loop process, noting that the intention was not for this process to add an additional six months to the end-to-end process.



		These reforms would not necessitate additional analysis or add time to overall project delivery; rather they would ensure that assessments required under the existing framework make the best use of available data. This represents a sensible approach to managing uncertainty and streamlining cost-benefit assessments to the extent possible, without undermining their rigour.
7.	Do you agree that the RIT-T has a clearer value-add in relation to non-ISP projects? If not, why?	ENA agrees that the RIT-T plays a crucial role as the primary cost-benefit assessment for non-ISP projects. The RIT-T is used to identify the potential for NNOs, and provides transparency and opportunities for stakeholders to engage. However, ENA's view is that the RIT-T also retains an important role in the assessment of major ISP projects (as discussed above in the response to question 6). The value-add of a RIT-T for major ISP projects is at least as significant as for non-ISP projects, given the scale and importance of ISP projects for consumers.
8.	Do you agree that the Review should take forward this issue as a priority issue? If not, why?	ENA does not agree that this issue should be taken forward as a priority issue for the review.
		It is important that the new actionable ISP framework be given an opportunity to work. ENA therefore suggests remaining with the planned review of the new arrangements in 2025. Minor changes to existing arrangements could be made to address issues arising to date.
Be	nefits included in planning processes	
9.	Are the benefits included in current planning processes sufficiently broad to capture the drivers of major transmission investment? Does the scale and pace of the NEM's energy transition necessitate inclusion of other classes of market benefits or wider economic benefits? If so, what kind of other classes of market benefits or wider economic benefits should be included?	ENA considers that the issues identified in previous reviews by the Productivity Commission, the (former) COAG Energy Council and the AEMC remain regarding the inclusion of broader economic benefits and the additional complexity that would bring. Further, although a number of submissions to the Energy Security Board (referenced in Appendix A of the consultation paper) expressed support for broadening the scope of the benefits test, the conceptual and pragmatic reasons for not widening the test <sup>5</sup> would need to be solved before the test could be broadened.
		Further, these difficulties would be exacerbated in the context of major ISP projects because these benefits would also need to be included in the ISP assessment, which considers optimisation across all major transmission investments. This would be complex, time intensive and likely to be subject to dispute.
		As a result, ENA is of the view that the consideration of wider economic benefits in this review does not meet the AEMC's 'effectiveness of implementation' criterion. However, ultimately, it is a matter for policy makers to determine if a wider economic benefits test is desired.
10	Are major transmission projects failing to satisfy economic assessments because certain	ENA has seen no evidence of major transmission projects failing to satisfy economic assessments because certain benefits are not able to be quantified.

<sup>5</sup> Productivity Commission, *Electricity Networks Regulatory Frameworks*, April 2013, pp. 647–8 and app D.



benefits (market or non-market) are not permitted to be quantified?	ENA notes that governments are able to make a contribution to ensure projects pass the RIT-T, which can include sizing projects bigger or earlier to meet state policy objectives, noting that the current scope of benefits assessment under the RIT-T under the Rules is effectively constrained by the NEO.
11. Are changes warranted to the manner in which carbon emissions inform transmission planning and regulatory processes?	This as an issue to which policymakers may wish to give further consideration. AEMO's ISP scenarios do already capture different assumptions about future emissions reduction levels. However, if policymakers consider that further reform is required to ensure that emissions reductions are valued appropriately in the ISP and RIT-T cost-benefit assessments, ENA considers this would be reasonably straightforward to implement through applying a valuation to the emission reductions associated with different options. The wholesale market modelling that underpins the current cost-benefit assessments already contains all of the information that would be needed to value the reduction in emissions as a separate, additional benefit category.
12. Do you agree that the Review should take forward this issue as a priority issue? If not, why?	<ul> <li>ENA does not agree that this should be taken forward as a priority issue because:</li> <li>The inclusion of broader benefits has been considered in previous review processes; and</li> <li>It is not a key factor affecting the timely and efficient delivery of major transmission projects.</li> </ul>
Guidance on hard to monetise benefits	
13. What classes of market benefits are hard to monetise? Is there a way that these benefits could be made easier to quantify?	In addition to the benefit categories identified by the AEMC, option value is a market benefit category which is complex to model and has not been explicitly quantified as part of the majority of ISP/RIT-T assessments to date (outside of its inclusion via scenario analysis).
	ENA does not consider that there is a way in which these benefits could be made easier to quantify, given the nature of how they arise. As the market develops further, these benefit categories may become more prevalent and material as part of the justification for ISP projects (and as the scope for dispatch cost benefits potentially diminishes). ENA therefore expects that these benefit categories will become a more frequent feature of both the ISP and RIT-T assessments.
	ENA also notes that to date these benefit categories have been calculated where they are material (eg, competition benefits in the recent TransGrid HumeLink PACR; option value for ElectraNet's Eyre Peninsula RIT-T). ENA does not agree that the overall end-to-end investment process would be materially shortened where these benefit categories are more frequently calculated as part of the ISP or RIT-T assessments, even where they are not considered material initially, due to the complexity and time required. ENA considers that the current approach, where these benefits are calculated at the point at which they are clearly going to be material to the choice of investment option, strikes the appropriate balance.
14. Would guidance on hard to monetise benefits improve the timeliness at which projects proceed through the regulatory process?	ENA does not consider that the provision of further guidance on hard to monetise benefit categories would improve the timeliness at which projects proceed through the regulatory process. Rather, additional guidance risks increasing the complexity (through restraining the choice of an appropriate and proportionate approach) and therefore adding to the time required to complete the process.



	Ancillary services benefits are likely to become more material as new technologies and new market arrangements for these services develop. As such, it may be expected that quantification of this benefit category may become more common going forward (particularly as other benefit categories, such as dispatch cost benefits, start to become less material). The modelling of ancillary service benefits is likely to be based on an expansion of the existing wholesale market modelling approaches, and ENA would expect developers of the wholesale market models currently adopted to be expanding their modelling into ancillary services.
	Further guidance on competition benefits and option value is unnecessary, as AER guidance and established precedent in both of these areas already exists.
	ENA notes that overall timeliness would be impacted if AEMO were to incorporate all of these benefits in the ISP assessment (which may not be practically feasible). AEMO has not quantified these benefits in its ISP assessment to date. As stated, the RIT-T can provide value in identifying additional benefits for a specific investment, as demonstrated most recently by the assessment of competition benefits for HumeLink.
15. Do you agree that the Review should take forward this issue as a priority issue? If not, why?	For the reasons identified in response to question 14, ENA does not consider that this should be a priority issue for the review.
Market versus consumer benefits test	
16. Do you consider that there are certain changes that have occurred in the energy sector that warrant reconsidering the merits of a market versus consumer benefits test? If yes, what are these changes and why do they require revisiting this issue?	ENA agrees with the AEMC that a market benefits test remains fit-for-purpose.
17. Do you agree that the Review should take forward this issue as a priority issue? If not, why?	ENA considers that this is not a priority issue.
Treatment of non-network options	
18. Do you agree that there are barriers for non- network options in economic assessments? If so, do you agree with the barriers identified? Are there any further barriers? How should these barriers be addressed?	ENA does not agree that TNSPs have a bias against NNOs in their economic assessments. As the AEMC acknowledges, there is no evidence that TNSPs are biased towards accumulating capex. ENA considers that the RIT-T plays a crucial role in identifying NNOs. The RIT-T process allows NNO proponents to engage and put forward their options. The fact that the ISP has not replicated or replaced this process reinforces the value of the RIT-T in this area.



NNO have been considered and implemented by TNSPs on several occasions, for both ISP and non-ISP projects, including most recently:

	<ul> <li>In April 2020 AEMO issued Powerlink with a fault level shortfall notification for the Ross node in far north Queensland. Powerlink subsequently commenced an expression of interest process for both short and long-term solutions seeking offers for non-network solutions to address the fault level shortfall. Powerlink subsequently entered into a short-term agreement with CleanCo Queensland to utilise CleanCo's hydro generation assets to provide system strength services. Powerlink also entered into an agreement with Daydream, Hamilton, Hayman and Whitsunday Solar Farms in north Queensland to validate the expected positive benefits of inverter tuning during the daytime. Powerlink also worked with Mt Emerald Wind Farm and AEMO on changes to control settings. Based on AEMO's most recent assessment, the minimum fault level requirement at Ross is being met with no shortfall identified.</li> </ul>
	NNO were also thoroughly explored as part of the PEC RIT-T, including via the commissioning of a stand-alone consultant report on the potential for NNO.
	The AER's recent change in guidance on treatment of NNO has raised a key barrier for non-network options in economic assessments. The AER now requires the full costs of NNO to be included in the cost-benefit assessment, even where the NNO proponent expects to recover part of those costs through revenues from other market participants rather than through proposed network support costs. <sup>6</sup> TransGrid's Broken Hill PADR provides a real-world example of the potential impact of this change in approach. ENA notes that the change in the AER's guidance arose out of the development of the AER's Guidelines to make the ISP actionable, but was not consulted on explicitly. ENA suggests that the latest AER guidance be further considered and consulted on as part of this review, given that it will have a material effect on the assessment of NNOs in the ISP and RIT-Ts (as well as RIT-Ds) and can potentially represent a significant barrier to the development of NNOs.
19. Do you agree that the Review should take forward this issue as a priority issue? If not, why?	ENA supports the recent change in the AER's guidance on the treatment of NNOs being considered as part of this review.

<sup>6</sup> AER, Final Decision – Guidelines to make the Integrated System Plan actionable, August 2020, p. 26.



# **CHAPTER 4** – Issues in the regulatory framework and processes for transmission investment, financing and delivery

Balancing TNSP's exclusive right to build and	own transmission projects
20. Are there features of financing infrastructure projects used in other sectors that should be considered in the context of	ENA considers that financing arrangements for infrastructure projects used in other sectors are likely to be of limited assistance in revealing efficient financing arrangements for major electricity transmission investments. There is unlikely to be a 'silver bullet' found in other sectors.
the efficient and timely delivery of major transmission projects?	One of the key differences with electricity transmission is the importance of the integration of major projects with the overall operation and management of the electricity system, to provide reliability and system security.
	There are many unsuccessful examples of public/private partnerships in other sectors, where investment has either been subject to extensive delays and/or unexpected costs.
<ol> <li>Should the delivery of transmission projects be made contestable? If not, why?</li> </ol>	The case has not been made that moving to the contestable provision of transmission projects is likely to deliver benefits for consumers. ENA considers that introducing contestability is not the most effective, appropriate or proportionate approach to addressing the AEMC's concern in relation to the lack of obligation on TNSPs to invest under the current framework. ENA's general and specific concerns are outlined below.
	In general:
	• <b>Consumer costs may not be lower under a contestable approach</b> : There is a lack of evidence, or reason to expect, that a contestable framework would result in lower prices for consumers compared to the ex-ante regulatory framework. Rather, there is a high likelihood of costs increasing, as bidders would not be restricted to seeking a regulatory return.
	• <b>Underlying uncertainty will remain and be priced into contestable bids</b> : Contestability would not solve the underlying uncertainties that impact the timely and efficient delivery of major transmission projects. Under a contestable framework, risks are still present for tenderers. Contestability introduces competition in terms of the pricing of that uncertainty, which would continue to be borne by consumers (see response to question 5).
	The uncertainty relating to major projects – which may provide a disincentive for TNSPs to invest because of the risks they currently bear– can be addressed more effectively through modifications to the ex-ante framework. These modifications are discussed in ENA's response to question 4, above, and question 22, below.
	In relation to the potential benefits of contestability, the key elements of regulated major projects are currently put out to commercial tender to achieve cost efficiencies. Further, under the current regulated framework there is a high degree of transparency on areas such as degree of risk transfer and tender evaluation, through the AER's involvement in the CPA process. The AER's March 2021 Guidance Note also sets out requirements on TNSPs to seek out and incentivise innovation



in the design of the solution (and therefore potential cost savings) through the early stages of its tendering process, by tendering a functional specification rather than full design solution. <sup>7</sup>
ENA also has a number of specific concerns regarding the operation of a contestable framework for major transmission projects:
(a) Transparency and accountability
There would need to be clear separation of the contestable assets from the existing transmission network such that the responsibility for individual assets and the overall network are clear for consumers. This point is discussed in the attached FarrierSwier report (pages 16 and 17).
When it comes to major projects that will be reflected in network charges for several decades, it is crucial that project costs are transparent to maintain accountability. Moving to a contestable framework is likely to reduce this transparency because responsibility for transmission network costs would be divided and parties may not be forced to reveal their outturn costs in the same way as under a regulated model.
Under the current Victorian arrangements (which ENA notes has not been applied to major greenfield projects to date):
• There is no feedback loop confirmation by AEMO that at the outturn tender cost the project is still on the optimal development path;
<ul> <li>There is no equivalent CPA process and review by the AER of whether the costs are efficient or opportunity for stakeholder consultation; and</li> </ul>
• Final outturn costs (including contract variations) have not been transparent to date and would not be subject to the threat of ex-post review in the same way that regulated investments are.
Further challenges under a contestable framework include:
<ul> <li>Ensuring that consumers' ability to engage with project proponents is not lessened due to lack of transparency and regulatory oversight; and</li> </ul>
<ul> <li>Ensuring clarity around the responsibility for ongoing operation and maintenance of different parts of the transmission network.</li> </ul>
(b) Rigour in economic assessments
A contestable model would place sole reliance on AEMO, as both the central planner and the presumptive investment procurer (and would forgo the TNSP RIT-T element of the process). This would need to be accompanied by a strong

<sup>7</sup> AER *Guidance Note - Regulation of actionable ISP projects*, 31 March 2021, p.13.



accountability framework, so that consumers could have confidence in the efficiency of the investment and the outturn costs. Substantial time and effort to implement is a likely consequence.

ISP assessments occur well in advance of the actual investment occurring and at a less granular level than the RIT-T. The ISP (centralised assessment) would play a more significant role under a contestable framework. Given the scale and significance of the investments, ENA has significant concerns over reducing the rigour of the economic assessments in this way.

#### (c) Reliability and security concerns

Introducing contestability may have significant implications for the reliability and security of the network. If different parties can own different transmission assets within one jurisdiction, a lack of accountability for the overall transmission system may arise.

This issue is elaborated on in the attached FarrierSwier report, including at page 12 where the report poses the question: "Will a contestable provider who is only responsible for just certain parts of the network have incentives to minimise the costs of those network elements at the expense of total system costs or long-term security and reliability?"

However, ENA does not consider that accountability for the operation of these assets should be passed through to the regulated TNSP, as that would result in unacceptable risk for the TSNP and a lack of accountability for the contestable provider.

#### (d) Level of competition

It is likely that for very large projects, only one or two high quality bidders would enter a competitive tender as noted in the recent Grattan Institute report, Megabang for megabucks.<sup>8</sup> This level of competition may undermine the rationale that contestability could be used to drive down efficient costs.

#### (e) Other practical concerns

It is unclear to ENA how a contestable framework would interact with staging processes (ie, the staged CPA process) that are proving useful for reducing uncertainty in the delivery of major transmission projects. If the incumbent TNSP was required to undertake the detailed planning works currently envisaged to be supported by the first stage of a CPA process, in order to arrive at a more detailed route specification, it would appear that this TNSP could have an advantage in a subsequent competitive process. Further, if contestable delivery was introduced at this point, this could disrupt the continuity in consumer engagement between the planning and delivery processes, potentially undermining attempts to build social licence for the development. Recent experience in Victoria for large greenfield projects is that introducing contestability has a wide range of implications on communities and the ability to obtain and sustain social acceptance of projects, and that opportunities for consumer engagement are lower.

<sup>8</sup> Grattan Institute, Megabang for megabucks – Driving a harder bargain on megaprojects, May 2021, ch. 3 [https://grattan.edu.au/report/megabang-for-megabucks/].



	In contrast, if the project is put out to tender without the detailed planning works having been undertaken, the risks for contracting parties can also be higher (and would get priced in), as they would essentially inherit a project that has no defined route and no land tenure in place prior to contracting. This goes against the project management principle of reducing risk before signing major construction contracts. If the projects were contestable following the ISP, then they may potentially be reliant on preparatory reports and vendors may price in higher risk premiums. In addition to the points discussed above, the attached Farrier Swier report provides a useful overview of issues that need to be considered in deciding whether to move to a contestable framework. This includes costs, benefits, and a number of practical considerations. Overall, ENA is of the view that the introduction of contestability would not be supported by the AEMC's 'effectiveness of implementation' evaluation criterion.
22. What options, other than changes to the right of TNSPs to provide regulated transmission assets, could be considered to	ENA recognises the AEMC's concerns around the right but lack of obligation for TNSPs to invest in major transmission infrastructure. However, there are more effective, proportionate and implementable options that should be considered to ensure the delivery of major transmission assets.
ensure timely investment and delivery of major transmission projects?	There can be a misalignment between the long-term interests of consumers and the commercial considerations of investors where TNSPs are being asked to bear more risk than they are being compensated for and where cost recovery cashflows raise financeability concerns. Some of the recent modification to the regulatory framework (in particular the introduction of the staged CPA process) will go a long way to addressing the concerns in relation to risk.
	Addressing these underlying causes of misalignment would be the most effective means of lowering the risk of non- investment under the current framework. This could be done by:
	• amending the regulatory framework to more appropriately allocate external risks (as discussed above in response to question 4).
	• setting the Rate of Return at an appropriate level and introducing a financeability check, which would also ensure lower costs to consumers (through keeping the required return on debt low), including by representing a transparent regulatory commitment to the RAB-based benchmark cost recovery model.
	ENA also notes that TNSPs have committed to investment in major ISP projects (notably PEC), even ahead of the latest changes in the regulatory framework, and have actively sought solutions to enable such investment (including in the case of PEC the agreement of concessional financing from the Clean Energy Finance Corporation (CEFC)). ENA therefore considers that the additional measures outlined above would likely be sufficient to allay any continued concerns about TNSPs not having an obligation to invest under the current framework.
	Notwithstanding, it is also important to recognise that TNSPs do already have obligations to invest in some cases, notably where they face an obligation under the NER or a jurisdictional instrument (such as the requirement to meet voltage standards or to supply anticipated load) which requires investment. Such investments are the subject of 'reliability corrective action' RIT-Ts under the current framework.
	ENA notes that the ability for jurisdictions to impose obligations on the regulated TNSPs, including obligations to undertake specific investments, already exists in some jurisdictions' legislation (including NSW and Victoria). This provides a potential



	backstop if a TNSP declines to invest in an actionable ISP project. Using this type of backstop arrangement, particularly where any direction is made in consultation with AEMO to lower sovereign risk concerns, would be more appropriate than introducing contestability or a more wide-ranging obligation on TNSPs to invest on the completion of the planning process. Further, the existence of these statutory provisions, and the possibility that other jurisdictions could enact similar provisions, are likely to incentivise TNSPs to invest in major projects.
	ENA also notes that it is unclear that the option of introducing an obligation to invest in all cases would be beneficial for consumers. A reluctance by TNSPs to invest in some circumstances may be for valid reasons from a consumer perspective, including where it arises from concerns with the assumptions underpinning the economic assessment. ENA considers that, while they should be an important trigger for assessment about the appropriateness of regulatory settings, ISP investments not proceeding will not always exclusively indicate a problem with the regulatory framework. The current planning process, and in particular the separate RIT-T evaluation, enables a party with 'skin in the game' (ie, the incumbent TNSP) to fully assess the benefits of the investment. This is beneficial, from a consumer perspective, as it provides further transparency and support for a robust assessment.
23. Do you agree that the Review should take forward this issue as a priority issue? If not,	ENA understands that this is an area of key concern for the AEMC and stakeholders that will need to be addressed by the review.
wny?	Given that TNSPs already tender a large portion of ISP project costs, ENA suggest evidence of long-term benefits for consumers should be provided to warrant the complexity of adopting contestability, and that careful consideration should be given to the details of the arrangement, as these details will affect the extent of risk and costs borne by consumers. It would also be important to consider carefully which investments would be potentially subject to contestability. ENA notes that in some overseas jurisdictions, very limited investment occurs as contestable investment.
Treatment of 'early works'	
24. Do stakeholders seek further clarity on the meaning of preparatory activities and early	ENA considers that further clarity would be helpful in distinguishing between the concepts of 'preparatory activities' and 'early works', and the related cost recovery provisions in relation to each.
works?	The differences between preparatory activities, which may be required by AEMO as part of the ISP for future ISP projects, and early works, which may be required either to enable a more accurate cost estimate for a preferred project once it completes the planning process, or to complete certain activities 'early' in order to compress the overall investment timeframe, is essentially one of magnitude and the extent to which the activities are project-specific.
	Cost recovery for preparatory activities under the current framework is through the inclusion of those planning activities within the TNSP's opex forecast. ENA notes that the extent of the required preparatory activities can be difficult to forecast, as they are dependent on activities required as part of future ISPs. It may therefore be more appropriate for the cost of these preparatory activities to be treated as a cost pass-through, triggered by publication of the final ISP, and not subject to a materiality threshold.
	In contrast, early works relate to more material planning activities related to specific ISP projects (including actionable ISP projects) and would generally be capitalised and recovered via the first stage of the staged CPA process. However, cost recovery for early works in situations where the option does not proceed and there is no CPA need to be further considered



	(see below). This could include stakeholder engagement costs which are incurred in order to start to build social licence for the project, with the aim of reducing the subsequent investment timeframe.
25. Should the Commission consider how the costs of early works can be recovered?	ENA considers that there does need to be further consideration given to how early works costs can be recovered. ENA notes that to date, the cost of early works for some ISP projects has needed to be covered through government underwriting agreements, outside of the regulatory framework.
	the new staged CDA arrangement should better enable cost recovery for early works activities for major transmission
	projects going forward. However, cost recovery through the staged approach can only occur after a RIT-T is completed and the AEMO feedback loop has been satisfied.
	<ul> <li>where these activities are either undertaken ahead of the CPA process (in order to shorten the overall investment timeframe), or where they are required in order to adequately estimate the costs of the option in the RIT-T, then it is possible that the option does not proceed to the CPA stage, and therefore under the current framework cost recovery for these early works costs are uncertain. For example, it is not clear how the cost of early works can be recovered:         <ul> <li>if a TNSP is required to undertake early works but the project does not proceed (for example, due to an update to the ISP or the project failing the feedback loop);</li> <li>if a non-network solution is ultimately selected in a RIT-T.</li> </ul> </li> <li>It may be appropriate to allow a TNSP to lodge a CPA for undertaking early works ahead of completion of a RIT-T, where this is recommended by the ISP.</li> </ul>
	ENA also notes that if a contestable framework were introduced, there would need to be cost recovery arrangements for early works undertaken by the incumbent TNSP, where these activities were still required in order to properly scope the works to be tendered. As noted above, the lack of continuity where early works are undertaken by a different party to the one that will own the asset in the long term may lead to added complexity and erode social licence, to the disadvantage of consumers.
26. Do you agree that the Review should take forward this issue as a priority issue? If not, why?	ENA agrees that the review should take this issue forward as a priority.

#### Processes for jurisdictional environmental and planning approval

27. Would additional clarity on cost recovery arrangements for preparatory activities or early work improve a TNSP's ability to meet jurisdictional requirements in a timely manner?

ENA agrees that a lack of clarity for cost recovery for preparatory activities and early works linked to environmental and jurisdictional approvals is likely to be a source of investment delays and that additional clarity on cost recovery would likely improve the timeliness of the overall investment process.



28. Do jurisdictional planning and environmental requirement intersect with the national transmission planning and investment frameworks in ways that are not discussed above and may require further consideration?	<ul> <li>Environmental planning issues are a key source of cost and route uncertainty that impacts the regulatory approval process (as noted in ENA's response to questions 3 and 4 above). The relative timing of these two processes – with the environmental approvals inevitably lagging behind the regulatory considerations but potentially impacting the cost outcomes – needs to be recognised and considered within the overall investment framework.</li> <li>The potential effects of environmental approvals planning and investment frameworks are amplified by: <ul> <li>the large and uncertain amounts of costs involved;</li> <li>potential for duplication of assessment and approval processes at the jurisdictional and federal levels; and</li> <li>the role that political issues can play in this area</li> </ul> </li> </ul>
29. Do you agree that the Review should take forward this issue as a priority issue? If not, why?	<ul> <li>Environmental approval should be taken forward as a priority issue for the review.</li> <li>Community engagement and acceptance are key to ensuring the timely delivery of major projects, and play a major role in obtaining jurisdictional and environmental planning approval. Improvements in this area, including consideration of compensation and how to build social licence, may ultimately deliver a greater impact on investment timeliness than making further, significant changes in the investment planning framework.</li> </ul>

## **OTHER COMMENTS**

30. Please provide any further comment relating to issues discussed in the chapters 1-4 of the consultation paper.	ENA encourages the AEMC to consider the interactions between elements of this review. It is difficult to see a world where improved investment frameworks, fit-for-purpose regulatory incentives, better environmental planning, efficient early works and contestability are all progressed together (or are all required). Contestability could undermine progression in the other areas and seems to be an extreme (and potentially ineffective) solution to a problem that would not exist should the other incremental investment framework improvements be made.		
31. Please discuss any further issues the Commission should take forward in this review in relation to topics covered in	The AEMC states in the consultation paper that it does not intend to consider financeability issues in relation to regulatory transmission investments as part of its review, as it considers that this issue is more appropriately addressed through the AER's 2022 Rate of Return Instrument (RORI) review.		
chapters 1-4 of the consultation paper.	ENA encourages the AEMC to reconsider this position and to include financeability issues within the scope of its review. As explained above, finanaceability issues are one source of the potential for misalignment between the long-term interests of consumers and the commercial considerations of investors. The financeability issue stems from structural constraints in the National Electricity Law and NER, which are not able to be addressed by the AER through its RORI review. As an example, the AER faces a legally binding constraint to establish a <i>single</i> rate of return applicable to all electricity transmission capital investments, comprising of either mature network assets, or potential new major greenfields-type investments (See National Electricity Law s.18J(2)(a)). In these circumstances, a reference of the issue in its entirety back to the AER will not overcome or recognise this constraint. ENA notes that:		



- Financeability is relevant to the underlying uncertainty affecting the decision to invest in major transmission assets, and the scale of the investment required, whether they be regulated or contestable investments.
- Large transmission investments are often a significant part of a network's existing RAB, which brings into focus the role of financeability. The \$290m in concessional CEFC financing required for PEC demonstrates that financeability issues can and are occurring in practice.
- Regulators in other jurisdictions (Ofwat and Ofgem in the United Kingdom, and the Independent Pricing and Regulatory Tribunal and the Essential Services Commission (Victoria) in Australia) have implemented financeability tests as safeguards against conditions that may result in underinvestment and potentially detrimental consumer outcomes.

ENA agrees that there are sound considerations which would lead to the AER usefully enhancing its consideration of financeability in future Rate of Return Instrument reviews, to ensure the determined rate of return methodology is internally consistent and appropriate. This should proceed, but is not a substitute for addressing specific additional challenging issues of financeability that arise in relation to major ISP investments under current regulatory settings.





## Template for Material change in network infrastructure project costs rule change request

## CHAPTER 5 – Material change in network infrastructure project costs rule change request

Who should decide whether the RIT-T must be reapplied? <sup>9</sup>				
32. Should this decision remain the responsibility of the proponent or should it be a matter for	ENA considers that the proponent should retain primary responsibility to decide whether the regulatory investment tests for transmission and distribution (RIT) should be reapplied because:			
the AER? Why?	NSPs are best placed to judge when a change in circumstance may lead to a different ranking in the RIT; and			
	<ul> <li>issues regarding uncertainty and timeliness for major transmission projects, discussed in ENA's response to questions 4 and 6 above, may be exacerbated by uncertainty over whether and how often the AER may direct a TNSP to reapply the RIT-T.</li> </ul>			
	Further, the actionable ISP framework already includes the following mechanisms to address the implications on the economic assessment of material changes in costs for ISP projects:			
	<ul> <li>the application of the feedback loop ahead of the CPA stage is to confirm that any increase in costs does not change the project's status as being on the optimal development path;</li> </ul>			
	<ul> <li>any material change in circumstance more generally (such as a new government policy) would be reflected in an ISP update, which would identify whether the ISP project (if not considered committed) is still on the optimal development path; and</li> </ul>			
	• the AER guidance note on the regulation of actionable ISP projects specifically provides for consultation			
	between the PACR and CPA to cater for scope changes in the case of route adjustments. <sup>10</sup>			
	In the case of non-ISP projects that are subject to a CPA, the AER may already ask the proponent to confirm that there has been no material change in the costs and benefits of the project at the CPA stage.			

<sup>&</sup>lt;sup>9</sup> Although the AEMC's submission template poses the question 'who should decide whether the RIT-T must be applied', question 11(1) in the consultation paper, and the discussion in sections 5.1 to 5.4.1 of the paper which precede question 11(1), relates to the regulatory investment tests for transmission (RIT-T) and for distribution (RIT-D). References in ENA's submission to 'RIT' are references to the tests for transmission and distribution.

<sup>&</sup>lt;sup>10</sup> AER, Guidance note – Regulation of actionable ISP projects, p.5.



33. If the decision remains with the proponent, should the AER have the right to test that opinion?	Yes. ENA considers that a reasonable safeguard for consumers would be for the AER to be able to ask the NSP (for both transmission and distribution) to justify its view that there has not been a material change in circumstance. The NSP could provide such justification by drawing on its earlier NPV assessment or by updating the assessment to demonstrate that the option rankings do not change. ENA notes that, in effect, this was the approach that was applied to PEC, where the AER asked ElectraNet to confirm that there had been no material change in circumstance. If the AER was not satisfied with an NSP's justification, it could direct the NSP to redo and consult on a specific aspect of the RIT that is the source of concern for the AER. Taking this approach would achieve an appropriate balance in ensuring		
	the timeliness of the regulatory process while maintaining its rigour. ENA considers that requiring an NSP to redo the entire RIT process would represent an overly rigorous approach without clear benefits to consumers for the additional time taken.		
	ENA also questions the value to consumers of applying this approach to projects which are included in a regulatory determination, and suggests it may be appropriate to limit the approach to contingent projects.		
Cost thresholds			
34. Should the NER include a requirement to reapply the RIT, or update analysis, when costs increase above specified thresholds? If so, do you have a view as to what those thresholds should be?	ENA considers that the use of thresholds in this circumstance is unnecessary and contradicts other aims of the AEMC's review. RITs already include sensitivities around the impact on the option ranking if there is a change in project costs. The CPA process specifically addresses the impact of cost increases, either through the AEMO feedback loop provision or the non-ISP CPA justification for the project. Requiring the RIT-T to be re-run for cost increases above a specified threshold would be an additional and duplicative step targeting the same issue, which would further delay investment. This is in contrast to the aims of the review to ensure the timely and efficient delivery of major transmission projects. Further, AEMO also has an obligation under the NER to consider whether any change in circumstance is material and could affect the ISP optimal development path.		
35. Do you consider this requirement should apply to all RIT projects or only those above a	ENA agrees with the AEMC that the thresholds proposed in the rule change request are too low and do not reflect the nature of cost estimates at the RIT-T or CPA stage.		
particular cost threshold/s? If so, do you have a view as to what the threshold/s should be?	Further, a single approach to all RIT-T projects is unlikely to be appropriate given the different circumstances surrounding different types and sizes of projects to which a RIT-T is applied.		
	If a threshold were to be imposed, it should:		
	<ul> <li>Only apply to major ISP projects above a certain size, with a process adopted to identify the appropriate threshold; and</li> </ul>		
	Only apply to cost changes that occur prior to major contracts being agreed.		
36. Do you have any views regarding the suggested alternative "decision rule" approach?	ENA considers that the proposed 'decision rule' approach is similar to the threshold analysis typically undertaken in a RIT and would be a more appropriate way to consider the application of a threshold.		



	ENA agrees that such a rule could also be extended to the identification of other factors (i.e. those subject to substantial uncertainty and material to the outcome for that particular RIT-T), such as changes in particular market benefit categories.				
	However, the inclusion of a decision rule should only be contemplated for investments that meet the major project threshold. Extending the same approach to distribution and to lower cost transmission investments appears unreasonable given the vastly different nature of the issues faced, including the relative significance of the ISP and CPA processes compared to investments included in the regulatory reset.				
37. Should updated project cost data be provided to AEMO to help improve the accuracy of the ISP?	ENA supports updated data being provided to AEMO in relation to major transmission projects, to help improve the accuracy of the ISP.				
38. Do you have any other suggestions regarding alternative ways to manage cost increases?	The new staged CPA process provides a useful mechanism, with oversight from the AER, to identify the cause of cost increases for major transmission projects.				
Requirements when reapplying the RIT					
39. Should the requirement to reapply the RIT be more targeted?	Yes. ENA supports the AEMC's proposals for a more targeted approach. As discussed in ENA's response to question 33 above, this is likely to achieve a more appropriate balance between timeliness and rigour in the regulatory process.				
40. Should any additional analysis and modelling that is required to be undertaken be published and subject to public consultation?	Yes, ENA supports transparency in the regulatory process and the opportunity for stakeholders to engage in the proces				
Trigger to reapply the RIT <sup>11</sup>					
41. Do you have any views as to how the requirement to reapply the RIT should be given effect, including for contingent and non-contingent projects?	If a requirement is imposed, ENA considers that it should not apply to non-contingent projects. Given the cost of the RIT-T as a proportion of total project costs, any requirement is only likely to benefit consumers in the case of major transmission projects. Refer to question 33 for ENA's suggested approach in relation to contingent projects.				
42. Should there be a cut-off point (e.g. once the AER approves the CPA, or once construction	ENA considers that a cut-off point is appropriate and that the point at which the AER approves the CPA would be the most sensible choice.				

<sup>&</sup>lt;sup>11</sup> Although questions 41 to 43 in the AEMC's submission template seek comment on triggers to 'reapply the RIT', section 5.4.4 of the consultation paper is titled 'Trigger to reapply the RIT-T'.



	commences) beyond which any requirement to update analysis cannot be triggered? If so, what would be an appropriate cut-off point?	Further, any requirements to update the analysis should only occur prior to major contracts being entered into for project delivery.		
43	. Should there be a limit on how many times RIT analysis must be updated?	ENA does not consider that there needs to be an explicit limit on the number of times the RIT-T analysis may be updated. Rather, it is important to clearly restrict the requirement to re-do the RIT-T analysis to material projects (i.e. ones to which a CPA applies) and to have a clear cut-off point (see responses to questions 41 and 42).		
Sh	ould RIT cost estimates be more rigorous?			
44	. Do you consider that the current level of rigour used for RIT cost estimates is suitable? If not, what level of rigour is appropriate? In particular, would it be appropriate to require an AACE 2 estimate (i.e. a detailed feasibility study) for each credible option?	ENA considers that the level of cost estimation required at the RIT stage should remain a class 4 estimate, in line with AEMO's approach in the ISP. ENA does not consider that the additional costs to obtain more accurate cost estimates is warranted or practical at the RIT stage and considers that the current level of rigour is fit-for-purpose. Using class 2 estimates to assess all credible options would be a costly exercise and is unlikely to provide commensurate benefits for consumers. For major projects in particular, providing cost estimates at a greater degree of accuracy at the RIT-T stage would be costly and would require early works to be undertaken on each of the options being considered, such as detailed route selection and procurement processes, which is clearly impractical.		
45	. If more detailed cost estimates are required at the RIT stage, should this apply to all RIT projects, or only to larger projects? If so, which projects should be subject to this requirement?	If this requirement is to apply, ENA considers that it should only apply to major ISP projects above a substantive threshold, with a transparent process to determine that threshold on the basis of costs and benefits.		
46	. Do you have any other suggestions to address the issues raised in the rule change request?	ENA does not have any additional issues to raise.		

#### **OTHER COMMENTS**

47. Please provide any further comments on this	ENA does not have any additional comments.
chapter.	





# **Transmission contestability principles**

Report for Energy Networks Australia on criteria and principles for assessing whether contestability of transmission services is likely to benefit consumers

9 August 2021





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# **Executive Summary**

This report sets out criteria and principles for assessing whether contestability of electricity transmission projects is likely to promote the long term interests of electricity consumers. The aim of this report is not to make recommendations on whether contestability is appropriate. Instead, we have sought to develop criteria and principles that can be applied by policy makers to assist efficient and transparent decision making on this issue and to help inform submissions to any reviews of contestability policy.

Given the various different types of transmission projects and the range of functions involved in delivering those projects, the potential costs and benefits of contestability is likely to vary depending on the functions and projects involved. There are also a range of potential models for transmission contestability. Accordingly, the criteria and principles are designed to be used to assess:

- For particular types of transmission projects, would contestability of some or all of the functions involved in delivering those projects be likely to promote the long term interests of electricity consumers? If so, which functions and which types of projects, and why?
- If contestability is likely to benefit consumers, what model of contestability is likely to best promote consumer interests?

The report focusses on 'actionable ISP projects' under the Integrated System Plan (ISP) or Renewable Energy Zones (REZs) and other major transmission projects that are developed under state or territory government renewable energy policies.

## **CONTEXT AND PROBLEM DEFINITION**

Contestability of transmission services was considered extensively by the Australian Energy Market Commission (AEMC) and the Energy Security Board (ESB) as part of a series of reviews and rule changes between 2015 and 2020 on transmission connection and planning arrangements and actioning the ISP. Some of those new rules, such as the ISP arrangements, are still in the process of being applied for the first time.

However, contestability of transmission services has recently been raised again by the ESB in its Post 2025 Electricity Market Design options paper. The appropriate scope of contestability is also expected to be reconsidered by the AEMC in its upcoming transmission investment and planning review and by the NSW and Victorian governments in their work on REZs. The AER also suggested that there could be benefits in increased contestability in its recent review of large transmission projects and commissioned a report from HoustonKemp on potential contestability models.

Despite this recent renewed interest in contestability, the 'problem definition' that contestability is seeking to solve has not been well defined by many stakeholders advocating for increased transmission contestability.

There appear to be a range of views on the potential benefits of contestability and the reasons for considering the potential scope of increased contestability. Some stakeholders claim (generally without any evidence) that contestability could reduce costs and speed up investments. However, a significant amount of the support for contestability seems to be based on a more general lack of trust in TNSPs, a disillusionment with the current regulatory framework and a view that it will not support the level of investment required to transition to renewables. There is also concern from some stakeholders that under the current regime TNSPs have a sole right to undertake shared transmission network investments but



they cannot be compelled to invest, which could create uncertainty about the timely delivery of actionable ISP projects.

Drawing on comments by key stakeholders including the ESB, AEMC, AER, state governments and submissions from consumer groups and generators, we summarise stakeholders' main reasons for reviewing transmission contestability as:

The large size of proposed major transmission investments under the ISP and state government renewable energy policies justifies considering whether, compared with monopoly provision of prescribed transmission services by the Primary TNSP, contestability of certain transmission services could:

- reduce total system costs;
- speed up the delivery of major transmission projects;
- increase innovation, including addressing TNSPs' perceived bias towards network solutions;
- enable state governments to play a more active role in overseeing decisions on major transmission investment projects; and/or
- address the potential risk that TNSPs have a sole right to undertake shared transmission network investment under the current regulatory regime but cannot be required to do so, which could delay investments.

### **POTENTIAL CONTESTABILITY MODELS**

There are a range of potential models for contestability, which are discussed at a high level in this report.

In addition, whether contestability is in the long term in interests of consumers is unlikely to be a binary decision for all electricity transmission assets and services but could vary across different types of functions involved in the provision of transmission services and different types of assets.

We set out 10 functions involved in the provision of transmission services: defining the identified need, option selection, community engagement, functional specifications, other early works, detailed design, construction, ownership, operation, maintenance.

We recommend that an assessment of the suitability of contestability is made against each function, including an assessment of the risks and costs that could result from splitting accountability for different functions. We consider that some of these functions are more suitable for contestability than others and note that TNSPs already undertake contestable procurement for several of these functions.

The appropriate scope of contestability is also likely to vary for different types of transmission projects or assets. The key consideration is likely to be the extent to which the relevant assets are separable from the existing transmission network so that accountability for them can be separated from accountability for the rest of the network without creating risks for users of the shared network.

#### **COSTS AND BENEFITS OF CONTESTABILITY**

In many other markets, increased competition in the provision of services has the potential to deliver a range of benefits for consumers including:

- Short term cost reductions though improvements in productive efficiency if contestable providers are able to provide services more efficiently than the incumbent.
- Short term reductions in prices for consumers due to reduced profit margins of suppliers.



- Long term cost reductions through improvements in dynamic efficiency, for example from increased innovation.
- Faster delivery of services due to competition between suppliers, particularly if competition can be used as an alternative to administrative mechanisms that take longer to complete.
- Greater choice and improved service for customers.

Competition will almost always lead to lower prices and better outcomes for consumers than an unregulated monopoly. However, the relevant question when assessing the suitability of contestability for electricity transmission is whether these potential benefits will be realised when compared with the counterfactual of regulation as a prescribed transmission service.

There are a range of reasons why these benefits may not be realised for transmission services, or the materiality of benefits may not be sufficient to outweigh the costs, including:

- Regulated prices may be lower than prices under contestability, particularly given how regulated rates of return currently compare with competitive returns for other electricity investments. There is also a risk that competitive providers may expect a shorter period for the recovery of their capital compared with the current long depreciation periods applied to set prices for regulated investments.
- Regulated TNSPs already undertake competitive procurement for those functions that make up the largest elements of the costs of the provision of transmission services. These costs include construction costs and account for up to 80% of total costs of major projects. There may be very limited benefits in introducing contestability for other functions, or the benefits of doing so may not be great enough to outweigh the additional costs created by contestability.
- Contestability may not speed up investment processes and the delivery of services compared with regulation (except at the expense of reductions in transparency and consumer engagement). Experience shows that the current Victorian contestability arrangements can lead to delays compared with the regulated monopoly model in the rest of the NEM.
- Other than for connection assets funded by a generator, contestability of transmission services is unlikely to result in any changes in service quality or increased customer choice.

The potential costs of contestability for transmission services also include risks of:

- A detrimental impact on security, reliability or safety due to loss of clear singular accountability for the overall transmission system (unless overall accountability for contestable transmission assets is allocated to a party such as AEMO in the Victorian model or a Primary TNSP that contracts with all contestable providers).
- A potential adverse impact on the effectiveness of consultation with consumers, local communities and other stakeholders due to a loss of clear singular accountability for transmission planning.
- Inefficient incentives, including a risk that a contestable provider who is only responsible for certain parts of the network may have incentives to minimise the costs of those network elements at the expense of total system costs and long term security and reliability.
- Implementation costs and increased ongoing costs to manage coordination issues.
- Coordination challenges and associated contractual complexity.
- The loss of economies of scale and scope.
- Necessary rule or other regulatory changes not being made to properly manage these risks, particularly given that these reforms would be very complex and require changes to laws, rules, licences and other regulatory instruments by various national and state/territory bodies to protect consumers.

## **CRITERIA AND PRINCIPLES**

#### Approach to developing the criteria and principles

We have developed criteria and principles to guide decisions on contestability:

- **Contestability policy criteria**: Overarching criteria to be applied when assessing whether contestability of electricity transmission services is likely to promote the long term interests of electricity consumers compared to the counterfactual of a regulated service and, if so, what model of contestability is most appropriate.
- More detailed principles to guide decisions on the scope and form of contestability: These more detailed principles elaborate on the above criteria where necessary. These principles should be applied:
  - when deciding which specific electricity transmission services or projects should be subject to contestability; and
  - if some degree of contestability is adopted, when developing the arrangements for contestability and
    assessing various potential models of contestability so that contestability promotes the long term
    interests of consumers.

The important high-level considerations are set out in the criteria, and for some purposes the criteria may be all that is needed. The principles contain more detail to help decision makers understand and apply the criteria. We consider that the more detailed principles can act as a useful check-list for decision makers.

The main body of this report gives a fuller explanation of each of the relevant principles and whether they apply to the 'scope of contestability', the 'form of contestability' or both.

#### **Criteria and principles**

We have developed 6 overarching criteria for guiding contestability policy decisions, which are set out below.

Below each criterion we also set out the relevant principles that elaborate on their application when determining the appropriate scope or form of contestability.

- 1. Clear accountability | Provide for clear accountabilities, including accountability for maintaining the security, reliability and safety of the overall transmission network and its various elements.
  - **Overall accountability for security, reliability and safety:** To deliver outcomes that benefit consumers, there must be clear accountability for the overall security, reliability and safety of the transmission network.<sup>1</sup> There should be a single body with overall accountability for these matters in the relevant area and the ability to provide an end-to-end transmission service to connecting parties.
  - Separability: The appropriateness of contestability for major transmission projects will depend on the extent to which the relevant assets are separable from the remainder of the transmission system, i.e. can accountability for them be separated without creating disproportionate costs and risks for transmission providers and users of the rest of the shared network. This assessment should consider the potential future development of the network and not just the current design given AEMO's forecasts that significant network

<sup>&</sup>lt;sup>1</sup> This report focusses on the 'transmission network' as defined in the NER, which includes Identified User Shared Assets and Designated Network Assets but does not include 'connection assets'.



augmentation will be required over the coming years to connect renewables and meet increased demand from electrification of transport and other sectors.

- Clear allocation of responsibilities and level playing field: To ensure service outcomes to consumers are not adversely affected, there should be a clear allocation of accountability for all relevant regulatory obligations for all relevant functions and assets. All providers of transmission services should be subject to the same licensing and registration requirements and other appropriate regulatory obligations to protect security, reliability, safety and other relevant matters.
- Allocation of roles: The allocation of roles should allocate risks to those who can best manage them, recognise the incentives of the relevant parties, and be supported by appropriate governance and resourcing of the relevant parties.
- 2. Cost | Minimise the cost to consumers, based on long term total system costs.
  - Clear identification of problem definition and comparison of competition vs regulation over the long term: An assessment of contestability should start with a clear identification of the problems that are sought to be addressed. The potential costs and benefits of competition in relation to each of those problems should be compared with the costs and benefits of a regulated service. This assessment should consider total system costs over the long term (i.e. at least the entire lifecycle of the assets).
  - Materiality of benefits: Contestability should focus on those services or assets where there is significant scope for competition and cost savings and where those potential savings are large enough to justify the costs of implementing contestability and any adverse impact on other principles.
  - **Depth of the market:** Contestability should focus on those functions and projects where there are likely to be lower barriers to entry and a higher prospect that competition will lead to lower costs, noting that all electricity transmission services require specialist skills and are likely to have relatively high barriers to entry.
  - **Competition in related markets:** Increased competition for transmission services should not come at the expense of competition in other markets (where that competition benefits consumers).
- 3. Timeliness | Facilitate timely transmission investment and connections processes.
  - Avoiding unnecessary complexity and coordination challenges: Minimising costs and delays while maintaining security, reliability and safety for consumers requires coordination between the respective parties. Contestability should focus on those services or assets where coordination challenges between multiple parties can be more easily avoided or resolved and unnecessary complexity can be avoided. Any new arrangements should not lead to the risk of disproportionate delays in investment or connection processes.
- 4. **Transparency** | Promote transparency and consumer and local community engagement in investment decision making and revenue recovery.
  - **Consumer and community engagement:** Contestability should not result in a reduction in opportunities for meaningful consumer and local community engagement in investment decisions, route selection and cost recovery. There should be clarity for local communities and consumer groups as to who they engage with on these matters, preferably through a single entity who is accountable for them.
  - **Transparency of investment decision making:** Contestability should not reduce the transparency of planning and investment decisions and the resulting cost impacts on



consumers. Investment decisions should be made on a transparent basis by an appropriately qualified and resourced independent body applying tests based on the long term interest of consumers.

- **Transparency of regulation and cost recovery:** There is a clear framework for how monopoly prescribed transmission services are regulated and how the costs are recovered. There should be similar clarity and transparency regarding how any contestably provided services will be regulated and how the costs will be recovered.
- 5. Incentives and risk allocation | Create incentives for efficient behaviour, innovation in network and non-network solutions and efficient allocation of risks, including aligning risks and rewards so that parties are appropriately remunerated for the risks they bear.
  - Incentives: Contestability decisions should recognise the relevant parties' incentives and ability to manage risk. A contestable provider who is only responsible for certain parts of the network may have incentives to minimise the costs of those network elements at the expense of matters such as total system costs, long term security and reliability or community engagement on route selection. For-profit TNSPs with financial incentives and the ability to take on certain risks may be more likely to make timely connection and investment decisions than non-profit government bodies that cannot take on risk. Conversely, TNSPs may have greater incentives to favour network solutions over non-network options, to the extent this risk cannot be readily mitigated by the RIT-T or other regulatory tools.
  - Aligning risks and rewards: Risks and rewards should be aligned so that parties are appropriately remunerated for the risks they bear. If the functions related to providing transmission services are separated and some roles are made contestable, the impact of this separation on the appropriate returns for services that remain regulated needs to be addressed.
  - Flexibility: While maintaining clear accountability, the arrangements should be sufficiently flexible and not overly prescriptive so that they can apply in a range of circumstances and jurisdictions.
  - **Subsidiarity and local knowledge:** Issues should be dealt with at the most local level that is consistent with their resolution.
- 6. Regulatory predictability | Regulatory arrangements should take account of the long-lived nature of major transmission investments and give investors, transmission businesses, market participants and consumers confidence in how those assets will be regulated over their life. This means any changes to regulatory arrangements should be predictable, subject to consultation and mindful of their potential impact on current and future investments.

# 1. Context and problem definition

## **1.1 WHAT IS 'CONTESTABILITY' IN THIS CONTEXT?**

Contestability for transmission services already exists to an extent in the NEM but several recent reports have raised the prospect of increased 'contestability'. However, those reports have generally not defined 'contestability' in this context. There are also many different forms of contestability that could be adopted.

'Contestability' in this context should refer to the right (but not the obligation) to use a competitive process to choose the supplier of a service. The definition of contestability should focus on the functioning of markets, without necessarily requiring a formal competitive process for every transaction or expecting that there will be 'perfect competition' with no barriers to entry. The risk that a customer may run a competitive process for the current transaction, or for future transactions, may be enough to promote many of the efficiency benefits of contestability provided there is an ability for other suppliers to enter the market.

One challenge in applying contestability to most transmission services is that it is not immediately clear who the 'customer' is and who should have the right to decide whether to undertake a competitive process. Because the transmission system is a complex, single interconnected system with open access and must provide high levels of reliability, security and safety, decisions on the scope of contestable transmission service provision generally need to be made by policy makers, not by market participants themselves. For most transmission services other than connection services, this is likely to require an independent party to undertake the competitive procurement process on behalf of consumers as a whole, or have a right to do so if not satisfied with the terms offered, or expected to be offered, by the incumbent TNSP.

Another challenge is that even where contestability applies, barriers to entry may remain given the high level of capability required to provide transmission services. When assessing the potential benefits of contestability in transmission services, the comparison needs to be with a regulated TNSP providing prescribed transmission services. This contrasts with some other sectors where economic regulation is not available as a viable alternative and competition will clearly deliver better outcomes than an unregulated monopoly. It is less clear whether contestability for particular functions or projects in a market with specialist skills, relatively high barriers to entry and considerable economies of scale and scope will result in better outcomes than regulation.

Contestability is common in other infrastructure sectors such as roads and has been adopted in other parts of the energy sector. A key difference between electricity and some other sectors where contestability has been adopted is that when contestability has been adopted in electricity (e.g. Victorian transmission, metering outside Victoria, retail electricity) the technically complex nature of these services has generally needed more prescriptive rules to try to manage coordination challenges and allocate accountabilities and risks. This appears to be partly due to the lack of a single counterparty who can take on risks in the same way that sponsoring customers or governments can in other sectors and partly due to the increased need for coordination and clear overall accountability for the operation of the integrated system.



## **1.2 CURRENT ARRANGEMENTS FOR TRANSMISSION CONTESTABILITY**

The appropriate scope of contestability has been considered in several reviews and rule changes over the past decade, as discussed in Appendix A. Contestability of transmission services was considered extensively by the AEMC between 2015 and 2018 as part of its rule change on Transmission connection and planning arrangements and its Coordination of Generation and Transmission Investment (COGATI) review. The ESB also considered a range of potential different planning and contestability models as part of its advice to governments and rules for actioning the ISP in 2020.

Contestability already exists in the NEM to a varying extent for different types of transmission services, for example:

- Certain types of discrete transmission assets are fully contestable and not economically regulated, e.g. connection assets and Market Network Services Providers (i.e. Basslink).
- Defined functions related to other transmission network assets are also contestable, e.g. design, construction and ownership of Identified User Shared Assets (IUSAs) and Designated Network Assets (DNAs).
- Transmission Network Service Providers (TNSPs) currently undertake competitive tenders for the construction of all major transmission projects, which accounts for a high proportion of costs.
- The Regulatory Investment Test for Transmission (RIT-T) requires TNSPs to assess the costs and benefits of all credible options including contestably procured non-network options.
- In Victoria, augmentations to the shared network are contestable if they are 'separable' and the estimated capital cost exceeds \$10 million. This contestability model is supported by detailed regulatory arrangements governing AEMO's Victorian transmission role, where AEMO has overall accountability for planning the Victorian declared transmission network and procuring augmentations from AusNet Services or other Declared Transmission System Operators (DTSOs).

Outside of these defined circumstances, other transmission services are generally provided by a single TNSP in the region – the Primary TNSP<sup>2</sup> – and there are restrictions under the National Electricity Rules (NER) on the ability of other parties to provide those services.

The key theme of the AEMC's various reviews and rule changes on transmission contestability that led to the current arrangements outside of Victoria is that to maintain clear accountability the Primary TNSP should have the exclusive right to operate and maintain the shared transmission network and develop the functional and technical specifications for any augmentations to it. The AEMC permitted contestability for various functions related to connections and for the construction and ownership of certain network augmentations to facilitate connections on the basis that doing so could reduce costs for connecting parties. However, it considered that contestability of other functions would undermine accountability for the reliability, security and safety of the transmission network.

# 1.3 WHAT PROBLEMS COULD CONTESTABILITY BE SEEKING TO ADDRESS?

The ESB's Post 2025 options paper, the AER's review of large transmission investments and HoustonKemp's report for the AER (discussed in Appendix A) have raised the possibility of extending transmission contestability for large transmission investments such as actionable ISP projects. Several stakeholders also supported increased contestability of transmission services in submissions to previous

<sup>&</sup>lt;sup>2</sup> In some jurisdictions there is more than one TNSP, e.g. TransGrid, Ausgrid and Directlink in NSW, but one TNSP is the Primary TNSP.



AEMC reviews and rule changes, submissions to the ESB's options paper and submissions to recent state government consultations such as the Victorian REZ Development Plan.

However, it appears to us that the 'problem definition' is not currently well defined and that several of the key bodies advocating for increased transmission contestability have not been clear (in public at least) what problem contestability is seeking to solve or how increased contestability may be affected by the specific context or a decision.

There appear to be a range of views on the potential benefits of contestability and the reasons for considering the potential scope of increased contestability. The main reasons given by key stakeholders for supporting increased contestability, or a review of contestability, are as follows:

• **ESB** | The ESB's Post 2025 Options Paper only discusses contestability extremely briefly. The ESB's problem definition appears to be based on a view that contestability could speed up the delivery of ISP projects and reduce their cost, but no evidence is given for that view:<sup>3</sup>

Challenges are emerging in getting the new transmission projects built, and the costs of investing too late can be substantial...

Recent actionable ISP Projects have seen a significant increase in costs (QNI, Project EnergyConnect) and additional funding options such as contestability may also need to be considered to deliver these projects at least-cost

• **AER** | The AER's letter to stakeholders commencing its review of large transmission projects stated the AER would consider potential reforms to introduce more competition for these large projects on the basis that:<sup>4</sup>

This could deliver greater productive efficiencies through more innovative solutions, and reduce the need for regulatory assessment of expenditure forecasts.

• HoustonKemp report for the AER | HoustonKemp's report for the AER's review contains a clear problem definition based on a view that TNSPs have a bias towards network solutions and competition could deliver more innovative solutions: <sup>5</sup>

One of the key benefits to the introduction of competition is the additional rigour that this provides in seeking innovative solutions, a process that is difficult to incentivise by administrative means...

TNSP-led solution selection and implementation gives rise to the risk that the preferred solution is not the most optimal, because of the intrinsic preference of TNSPs for network-focused as distinct from non-network options.

• **AEMC** | Previous AEMC reviews and rule changes that have increased contestability have been focused on transmission services and assets that are required to facilitate connections. The AEMC has consistently considered that there is a trade-off between the potential benefits of contestability and its risks to accountability for security, reliability and safety:<sup>6</sup>

<sup>&</sup>lt;sup>3</sup> Energy Security Board, Post 2025 Market Design Options - A paper for consultation, 30 April 2021, pp 11

<sup>&</sup>lt;sup>4</sup> AER, letter to stakeholders 'Re: AER work program to support efficient delivery of actionable ISP projects – stakeholder views sought', 17 November 2020, p11.

<sup>&</sup>lt;sup>5</sup> Houston Kemp, Regulatory treatment of large, discrete transmission investments, 19 August 2020.

<sup>&</sup>lt;sup>6</sup> AEMC, Transmission Connections and Planning Arrangements Rule 2017, final determination, p35.



While contestability for the provision of these services may improve the transparency, timeliness, cost and complexity of connections to the transmission network for the connecting party, such an approach blurs the incumbent TNSP's accountability for the operation of the shared network, potentially affecting end-use consumers. Inadequate provision of such services may have an impact on the safe, reliable and secure supply of electricity across the shared transmission network.

• **State governments** | The creation of new state government bodies (e.g. VicGrid, NSW Consumer Trustee) arguably lend themselves to increased contestability for investments in transmission service as part of a REZ (or the potential for changes to the current model of contestability in Victoria), particularly where state governments want to take a more active role in planning and overseeing the delivery of the transmission investments rather than leaving important decisions to AEMO or regulated TNSPs and the current ISP, RIT-T and AER processes. For example, the Victorian government's REZ Development Plan Directions Paper states:

The Government is establishing VicGrid to actively plan and develop Victoria's REZs, including planning and investing in REZ network infrastructure, identifying and applying appropriate procurement, cost recovery and co-funding approaches, facilitating renewable energy generation projects in Victorian REZs, and working with communities to plan REZs and ensure local benefits from REZ development.

- Submissions | Submissions to various processes show that some generators and consumer groups support contestability for a range of reasons. However, there appear to have been very few comments on this issue in submissions to the ESB's Options Paper and not strong support for changes. Most generators supported maintaining some degree of transmission contestability in submissions to the Victorian REZ Development Plan Directions Paper. Based on submissions to various processes and our discussions with stakeholders, the attraction to contestability from some generators and consumer groups seems to be based on a range of factors:
  - Some generators consider that contestability could reduce costs and speed up investments, e.g. the Clean Energy Investor Group is the leading generator advocate for the argument that contestability could reduce costs.
  - There is also a general lack of trust in TNSPs by some consumer groups and generators, who see contestability as a good way to test TNSPs' proposed solutions and costs given the large size and cost of proposed ISP projects.
  - The support for contestability from some stakeholders appears largely based on a general disillusionment with the current regulatory framework and a view that it will not support the level of investment required to transition to renewables. Concerns about whether the current regulatory settings will support the required level of investment also seem to be shared by some TNSPs and their owners who consider that the current AER rate of return and other aspects of the regulatory framework are insufficient to support financing of major transmission projects.
  - Related to the above point, some stakeholders appear drawn to contestability of asset ownership as a solution to the risk that regulated TNSPs with the sole right to undertake investment may refuse to invest or delay investments. This could lead to concerns that there is no certainty that actionable ISP projects that pass a RIT-T will be built or concerns that these investments may be delayed.
  - Some consumer groups appear supportive of some models for contestability, particularly if combined with alternative funding models where generators or governments fund transmission investments for REZs instead of consumers, but oppose any changes that would reduce transparency and consumer engagement (e.g. EUAA opposes substituting the RIT-T for a competitive procurement approach).



Drawing on the above views we summarise stakeholders' main reasons for reviewing transmission contestability as:

The large size of proposed major transmission investments under the ISP and state government renewable energy policies justifies considering whether, compared with monopoly provision of prescribed transmission services by the Primary TNSP, contestability of certain transmission services could:

- reduce total system costs;
- speed up the delivery of major transmission projects;
- increase innovation, including addressing TNSPs' perceived bias towards network solutions;
- enable state governments to play a more active role in overseeing decisions on major transmission investment projects; and/or
- address the potential risk that TNSPs have a sole right to undertake shared transmission network investment under the current regulatory regime but cannot be required to do so, which could delay investments.

However, we do not consider that any of the above reports actually demonstrate that these benefits are likely to be achieved. In addition, most of these reports are unclear about what specific circumstances or models for contestability are contemplated. In particular, none of them undertake a comparison of the potential costs and benefits of particular models of contestability compared with provision by a regulated TNSP as a prescribed transmission service in relation to costs, timeframes or any of the other perceived issues.<sup>7</sup>

We consider that there are potential solutions to all of these perceived issues under a regulated noncontestable model. If the main driver for contestability is actually a concern about perceived problems with aspects of the current regulatory framework, a more effective and proportionate solution may be to consider amendments to the current planning framework or to how prescribed transmission services are regulated to ensure timely and efficient delivery of major transmission projects.

There are also risks that contestability could lead to poorer outcomes than regulation. Many stakeholders, including several of those who support contestability, have been critical of the current Victorian transmission contestability arrangements and consider that they result in delays and higher costs compared with the arrangements in the rest of the NEM.

Any review of contestability will therefore need to undertake a thorough review of the potential costs and benefits of a range of potential contestability models within varying contexts. The criteria and principles in this report are intended to assist that process.

<sup>&</sup>lt;sup>7</sup> HoustonKemp's report for the AER does so at a very high-level, but does not consider whether protections in the current regulatory framework such as the RIT-T process address the innovation and network capex bias that is claimed to exist.

# 2. Potential contestability models

## 2.1 POTENTIAL MODELS FOR TRANSMISSION CONTESTABILITY

It is beyond the scope of this report to discuss the range of potential models for transmission contestability. However, it is important to note that there are many potential models of contestability that could be adopted.

The focus of any review of contestability is unlikely to simply be (and should not be) on whether to apply the current Victorian transmission contestability arrangements to the rest of the NEM. Rather a range of potential models should be assessed. The criteria and principles in this report are therefore designed to answer both (1) whether 'increased' contestability in a particular context is in the long term interests of consumers and (2) if so, what model of contestability is likely to best promote the interests of consumers in that context.

As noted in section 1.2, a variety of types of contestability have been adopted for certain transmission services/assets both in Victoria and in the rest of the NEM.

HoustonKemp's report for the AER also proposed three potential high-level models of competition as an alternative to the current NEM and Victorian models. Under these models, the various functions discussed in section 2.2 below were split in different ways between AEMO, the Primary TNSP and the successful tenderer. The 'sponsor' model has the greatest level of contestability, with the successful tenderer responsible for all functions except AEMO identifies needs and there is some form of shared responsibility between the tenderer and Primary TNSP for operation of the network. The 'bid' model would see competition for construction, ownership and operation of solutions chosen by AEMO, similar to the current Victorian transmission model. The 'implement' model would have a similar large role for AEMO but would only have competition for project management and construction, with the Primary TNSP owning and operating the assets once constructed.

The AEMC's 2018 COGATI review final report considered 5 options for the allocation of transmission planning and investment functions between AEMO and TNSPs, with some of the options having increased scope for contestability of investments. The AEMC's recommendations and subsequent work by the ESB led to the current ISP arrangements and allocation of transmission planning and investment functions.

Another option would be a 'Primary Jurisdictional TNSP model' where a jurisdictional body (e.g. VicGrid) coordinates and oversees REZ development plans, leads community engagement and potentially undertakes a contestable procurement process for certain types of strategic investments that have government support. Transmission projects other than certain strategic projects would be subject to the standard AER approval path instead of competitive procurement. If such a model was applied in Victoria, the Primary TNSP could take on some of AEMO's current Victorian functions to simplify planning arrangements and accountabilities.

## 2.2 THE SUITABILITY OF CONTESTABILITY WILL VARY FOR DIFFERENT TYPES OF FUNCTIONS AND ASSETS

A consistent message from the current Victorian transmission contestability arrangements and previous reports by bodies including the AEMC, ESB and the Houston Kemp report for the AER is that whether contestability is in the long term in interests of consumers is not a binary decision for all electricity



transmission assets and services but should vary according to the context – i.e. across different types of functions/services and assets/projects.

#### **Functions**

The current NER provisions on transmission contestability define the permitted scope of contestability by various elements of the transmission service, e.g. functional specification, detailed design, construction, ownership, operation, maintenance.

A similar framework was applied by the AEMC and ESB in developing recommendations for the ISP rules, where the various stages of the investment process were considered and decisions taken on which aspects should be undertaken by AEMO and which should be undertaken by the Primary TNSP. HoustonKemp adapts that framework in its report for the AER, where it assesses models for different levels of contestability where a range of functions are assigned to either AEMO, the primary TNSP or the successful bidder, e.g. identify need, develop candidate options, select preferred solution, early works, procure and build, own and finance, operate.<sup>8</sup>

We recommend that decisions in relation to whether, to what extent, and in what form, transmission contestability should be adopted should be considered against each of the following functions that are involved in the provision of a major transmission project:<sup>9</sup>

- 1. **Defining the identified need** | Currently undertaken as part of the ISP and/or jurisdictional policies for major transmission projects.
- 2. Option selection, including evaluation of non-network options | Currently partly undertaken by AEMO in the ISP and partly by TNSPs in the RIT-T, plus proposals for state bodies such as VicGrid and the NSW Consumer Trustee to have significant future roles.
- **3. Community engagement** | Currently largely undertaken by the Primary TNSP, but with proposals for state bodies such as VicGrid to take a leading role in this area in future.
- 4. Functional specifications | Even for contestable assets, the NER currently requires that the Primary TNSP is responsible for developing functional specifications that the assets must comply with. This includes matters such as technical parameters for the asset's design, construction, operation, maintenance and interface with the shared network. AEMO has a similar role for contestable augmentations in Victoria, where it specifies detailed Primary Functional Requirements and Protection and Control Requirements for each augmentation to the shared network.
- 5. Other early works | In addition to investigating options and developing the functional specification, there are usually benefits in undertaking other early works to facilitate the project.<sup>10</sup>
- 6. Detailed design | Where assets are contestable under the NER, a contestable provider can develop the detailed layout and configuration of the assets to meet the functional specification. In practice, TNSPs also procure detailed design services from contestable providers for major transmission projects that are not contestable.

<sup>&</sup>lt;sup>8</sup> HoustonKemp, p62.

<sup>&</sup>lt;sup>9</sup> We have used the term 'functions', but 'services' could also be used. We have avoided using 'services' given its current meaning under the NER where many of these functions are currently part of the same prescribed transmission service. Depending on the desired level of contestability, it may be possible to separate out some of these functions and classify various separate prescribed, negotiated or unregulated services.

<sup>&</sup>lt;sup>10</sup> The 'sponsor' model in HoustonKemp's report for the AER appears to combine functions 3 to 6 into 'early works'.



- 7. Construction | In practice, TNSPs contestably tender the construction of all major transmission projects, which account for a high proportion of the costs.
- 8. Ownership and financing | In theory, ownership of a transmission asset can be separated from responsibility for its operation and maintenance. This is currently possible for IUSAs and DNAs, as well as under the Victorian transmission arrangements. However, this separation is relatively rare in practice and could create significant risks for both the Primary TNSP and the contestable asset owner that need require complex contractual arrangements to manage.
- **9. Operation and control** | Currently the Primary TNSP is responsible for operation and control of the shared transmission network, including compliance with regulatory requirements regarding system security and reliability. In Victoria, AEMO has primary responsibility and contracts with the relevant DTSOs. Outside of Victoria, only connection assets can be contestably operated.
- **10. Maintenance** | We are not aware of any examples where maintenance of transmission assets has been separated from their operation. In the 2017 transmission connections and planning arrangements rule change determination the AEMC considered that there would be little benefit in such a separation but considerable potential risks.

The costs and benefits of contestability are likely to vary significantly across different functions.

In particular, functions 1 to 5 are less likely to be suitable for contestability and there are likely to be better outcomes for consumers (including lower costs, more timely investment and improved community engagement) if they are performed by the Primary TNSP, AEMO or a suitably resourced and skilled jurisdictional body.<sup>11, 12</sup> Our 'contestability policy criteria' and 'scope of contestability principles can be applied to test this view. The contestability policy criteria and the 'form of contestability' principles in section 6 can help determine which of those bodies is best placed to perform those functions.

An assessment of increasing the scope of contestability should therefore focus on functions 6 to 10 above. However, given TNSPs contestably tender the design and construction of all major transmission projects (functions 6 and 7), the opportunities for increasing contestability are likely in practice to focus on functions 8 to 10.

If increased contestability is introduced, then there will also need to be an additional function of undertaking the contestable procurement process. There is also likely to need to be another function of a single entity that is responsible for contracting with all contestable transmission providers and connecting parties, as AEMO does in Victoria.

<sup>&</sup>lt;sup>11</sup> The HoustonKemp report for the AER included a 'sponsor' based model of competition where functions 2 to 5 are contestable. In this model, which is based on United States transmission precedents, developers compete to build innovative solutions to needs identified by the independent system planner. HoustonKemp notes that such a model 'would represent a significant departure from the existing framework in the NEM and, as such, would most likely involve a lengthy and complex implementation process' including new legislation in each jurisdiction. We consider that such a model would involve large implementation costs, a very long implementation period and significant risks to security and reliability. This model would also be inconsistent with fundamental features of the ISP

framework, the legislative framework for the NSW Electricity Roadmap and the Victorian government's REZ Development Plan. Given that the focus of this report is on actionable ISP projects or other projects that are developed in accordance with these state policies, this model would not be suitable for those projects. If this model was considered further, our proposed criteria and principles could be applied to it to assess its suitability.

<sup>&</sup>lt;sup>12</sup> Community engagement and early works (functions 3 and 5) could be potentially undertaken by the competitive provider, but that is likely to have significant downsides. Not commencing work on those activities until after the successful provider is selected is likely to lead to significant delays or risk selecting an option or route that turns out to be less desirable than expected. Allocating responsibility for community engagement to tenderers who may vary for each project and do not have a history of engagement with the local community risks poorer engagement outcomes.



### Assets/projects

This report focusses on 'actionable ISP projects' under the ISP and other major transmission projects that are developed under state or territory policies. As a result, the main projects are likely to be REZs, interconnectors or major intra-regional transmission upgrades (e.g. HumeLink). However, some smaller transmission upgrades and system security projects are also likely to be actionable ISP projects and/or funded under state policies.

We have not considered connection assets (which are already contestable under the NER) or the operation, maintenance or replacement of the existing shared network (which is not likely to be suitable to contestability due to the additional costs and risks involved in splitting accountability for those assets).

Even within this limited scope, there will still be benefits in assessing how the appropriate scope of contestability varies for different types of transmission projects or assets. The key consideration is likely to be the extent to which the relevant assets are separable from the existing transmission network so that accountability for them can be separated from accountability for the rest of the network.

This separability test is likely to require different treatment of new assets compared with the ownership, operation, maintenance or replacement of the current network. It is also likely to require a distinction between separable assets that could be contestable and non-contestable 'cut-in works' to connect to the existing network, which is consistent with the current Victorian transmission contestability arrangements and the AEMC's new DNA arrangements.

For example, Ofgem's criteria for competition for onshore electricity transmission projects provide that competition should only apply to assets that are:<sup>13</sup>

- **new**, which means 'a completely new transmission asset or a complete replacement of an existing transmission asset';
- **separable**, which requires the boundaries of ownership between these assets and other assets to be clearly delineated; and
- high value, which requires the expected capital expenditure to exceed  $\pounds 100$  million.

This separability consideration is included in our 'scope of contestability' principles in section 5.

# 3. Potential costs and benefits of transmission contestability

## 3.1 POTENTIAL BENEFITS OF CONTESTABILITY

Stakeholders' views on the potential benefits of contestability are reflected in the problem definition in section 1.3 above.

In many other markets, increased competition in the provision of services has the potential to deliver a range of benefits for consumers including:

• Short term cost reductions though improvements in productive efficiency if contestable providers are able to provide services more efficiently than the incumbent.

<sup>&</sup>lt;sup>13</sup> Ofgem, *Guidance on the criteria for competition*, 12 February 2019.

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- Short term reductions in prices for consumers due to reduced profit margins of suppliers (noting that wealth transfers from suppliers to consumers are not counted as a benefit under the national electricity objective).
- Long term cost reductions through improvements in dynamic efficiency if the competitive process improves efficiency over time, for example by incentivising greater innovation in the types of network or non-network solutions that are adopted and how they are delivered.
- Faster delivery of services due to competition between suppliers, particularly if competition can be used as an alternative to administrative mechanisms that take longer to complete.
- Greater choice and improved service for customers.

Competition will almost always lead to lower prices and better outcomes for consumers than an unregulated monopoly. However, that is not the appropriate comparison when assessing the potential benefits of contestability for transmission services. Instead, the relevant question is whether the potential benefits of competition discussed above will be realised when compared with the counterfactual of regulation as a prescribed transmission service.

There are a range of reasons why these benefits may not be realised for transmission services, or the materiality of benefits may not be sufficient to outweigh the costs, including:

- The revenue that can be earned by TNSPs for prescribed services is regulated by the AER with the outcomes of the regulatory process intended to replicate competitive outcomes. The prices for prescribed transmission services may be lower than prices under contestability due to the AER revenue regulation process, particularly given the AER's current approach to setting the rate of return and how regulated rates of return compare with competitive returns for other electricity investments. There is also a risk that competitive providers may expect a shorter period for the recovery of their capital compared with the current long depreciation periods applied when determining prices for regulated investments. Appendix B discusses these issues in more detail, including considering the potential impact on rates of return from separating ownership from other functions.
- Regulated TNSPs already undertake competitive procurement for several of the functions involved in the provision of transmission services. This includes construction, which as discussed below is the largest element of the costs of major transmission projects. Any cost benefits from contestability for other functions that make up a much smaller percentage of total project costs may not be great enough to outweigh additional costs created by contestability. Given the nature of these functions, there may not be any cost savings from making them contestable, e.g. if they relate to costs such as land acquisition or environmental offset costs that are unlikely to vary under contestability.
- Contestability may not speed up investment processes and the delivery of services compared with regulation (except at the expense of reductions in transparency and consumer engagement, e.g. if existing regulatory processes such as the RIT-T are removed and replaced by a less transparent contestable procurement process). The AER's recent guidance note on the regulation of large transmission projects sought to give TNSPs greater confidence in how the AER will assess the costs of major transmission projects and reduce the risk that the regulatory framework could lead to delays in those projects.<sup>14</sup> As discussed below, experience shows that transmission investments can take materially longer to deliver under the current Victorian contestability arrangements than under the regulated monopoly model in the rest of the NEM. Similarly, the introduction of contestability in electricity metering services initially led to significant increases in meter installation timeframes compared with regulated metering services due to coordination challenges.

<sup>&</sup>lt;sup>14</sup> AER, Final guidance note – regulation of large transmission projects, March 2021.



• Other than for connection assets serving an individual generator and funded by that generator, contestability of transmission services is unlikely to result in any changes in service quality or any increase in choice for customers. Shared transmission services will continue to be subject to the same regulated security, reliability, safety and quality requirements. Individual customers cannot choose to have different standards apply to parts of the shared network that supply and are funded by all consumers. Contestability could even result in poorer outcomes for customers of the shared network if contestable providers focus on reducing short term costs rather than longer term asset performance and resilience.

As noted above, TNSPs already undertake contestable procurement for construction of all major transmission projects. In its 2017 Transmission connection and planning arrangements rule change final determination, the AEMC assessed the potential benefits of introducing competition for identified user shared assets and conducted a survey of generators and renewable energy developers. Based on the results shown in Figure 3.1 below, the AEMC concluded that 'construction costs are the most significant contributor to total connection costs, and that there is the greatest scope for them to be provided contestably'.<sup>15</sup>





The AEMC reiterated this view in its July 2021 final determination on the Connection to dedicated connection assets rule change, where it stated:<sup>16</sup>

# The Commission considers the greatest benefits from allowing for competition in the provision of transmission network services are likely to arise during construction, which remains contestable.

We note that both of these comments by the AEMC were only in the context of transmission investments to facilitate generator connections.

<sup>&</sup>lt;sup>15</sup> AEMC, Transmission Connections and Planning Arrangements Rule 2017, final determination, p146-147.

<sup>&</sup>lt;sup>16</sup> AEMC, Connection to dedicated connection assets rule 2021, final determination, p v.



In the context of large ISP projects, TransGrid's submission to the ESB's Post 2025 Options Paper similarly states:<sup>17</sup>

TransGrid undertakes leading market competitive tender processes for all professional services, construction, equipment and materials provision for these ISP projects. For example on PEC, approximately 80% of the total cost of the project has been procured under a competitive market process. The remainder of the costs are made up of property, environmental and TransGrid internal costs. In the current regulatory framework, the regulator assesses whether the total costs submitted by TransGrid for the project are prudent and efficient.

This suggests that non-construction costs as a proportion of total cost for major transmission projects may only be in the order of 20%, and the functions that are not currently contestable may not be suitable for contestability or may be of type that means the costs are unlikely to be lower under contestability.

## 3.2 POTENTIAL COSTS OF CONTESTABILITY

In addition to the potential cost and timing risks noted above, the potential costs of contestability for transmission services include risks of:

- A detrimental impact on security, reliability or safety due to loss of clear singular accountability for the overall transmission system (unless that accountability is allocated to a party such as AEMO in the Victorian model or a Primary TNSP that contracts with all contestable providers).
- Depending on the size and risks of a transmission project and the type of contestability model selected, the costs for bidders of participating in a competitive process might be substantial. In other infrastructure sectors, bid costs can be so substantial that the sponsor government may subsidise bid costs to attract quality bidders.<sup>18</sup>
- A potential impact on the effectiveness of consultation with consumers, local communities and other stakeholders due to this loss of clear singular accountability through the planning process.
- Inefficient incentives, for example:
  - Will a contestable provider who is only responsible just certain parts of the network have incentives to minimise the costs of those network elements at the expense of total system costs or long term security and reliability?
  - Will a not-for-profit planner separated from underlying asset ownership have more limited incentives to deliver investment that meets the needs of connecting parties compared with an asset owner that is exposed to financial rewards and penalties?
- Implementation costs, including the potential need for significant reforms to the rules to allocate responsibility for security and reliability issues. This risk is discussed by the AEMC in its previous reviews see Appendix A. The introduction of contestability in other parts of the energy sector such as retail electricity and electricity metering outside of Victoria involved significant implementation costs, extensive changes to the regulatory regime and lengthy implementation periods.
- Coordination challenges, which could lead to increased costs, delays or poorer service outcomes. The introduction of competition for electricity metering services outside Victoria shows the challenges that can arise coordinating the various regulated and unregulated services that are required to provide an

<sup>&</sup>lt;sup>17</sup> TransGrid, Submission to the Energy Security Board's post 2025 market design options paper, 9 June 2021, pp4-5.

<sup>&</sup>lt;sup>18</sup> Victoria's Bid Cost Reimbursement policy sets out the criteria when partial bid cost reimbursement may be considered for on Public Private Partnerships, Alliances and High Value High Risk Projects as identified by Victoria's High Value High Risk Projects framework. See <u>https://www.dtf.vic.gov.au/infrastructure-investment/bid-cost-reimbursementmajor-construction-projects</u>.



end-to-end service to consumers and the importance of clear rules and responsibilities and coordination arrangements.

• The loss of economies of scale and scope. The benefits of economies of scale and scope were a reason why the AEMC recently decided in its draft determination on the Efficient Management of system strength on the power system rule change to move from the current contestable model for the provision of system strength to a regulated model where system strength services are provided by TNSPs as a prescribed transmission service.

AusNet Services notes that the current Victorian transmission contestability arrangements and division of functions between AEMO as independent planner and DTSOs as asset owners create a range of difficulties for the performance of the Victorian transmission system, including:

- Coordination between the planning and operation of the network: Planning decisions can affect efficient network operation. A planner separated from underlying asset ownership may be insensitive to the potential financial rewards and penalties that the asset owner is under to maximise service to customers, and matters of technical detail in asset augmentations directed by the planner may adversely impact assets already managed by the owner.
- **Contractual complexity:** The relationship between planning and operation of the network must be handled through a Network Services Agreement between the two parties, rather than through intrafirm processes. The split between the planner's responsibility for new connections and the DTSOs' ownership of network assets means connection applicants face greater complexity and are required to negotiate and conclude a larger number of agreements than in other states.
- **Duplication of processes:** There are duplicated decisions and processes across the planner and DTSOs, as well as for connecting parties. This increases cost and the time to progress connection applications.
- Ability to manage risk: An independent planner that is established as a not-for-profit entity will have little capacity to assume financial risk. Given this, it can assume only minimal liability under agreements and must pass contractual risks to asset owners or connecting parties. This position is perceived as a risk by investors and financiers and there is a strong market perception that these arrangements delay, and in some cases defer, new connections to the Victorian transmission network.

AusNet Services also noted in its submission to the AEMC's recent system strength rule change draft determination that 'AusNet's experience is that this functional split in the Victorian framework can contribute to delays, costs and complexity in relation to some transmission activity'.<sup>19</sup>

The Clean Energy Council made similar comments in its submission on the Victorian REZ Development Plan Directions Paper, where it stated:<sup>20</sup>

The arrangements in Victoria create a complicated environment for connecting generators as they are required to negotiate and execute multiple arrangements with AEMO (given its responsibility for new generation connections) and AusNet (given its ownership of shared network assets) in order to connect. This results in greater costs and delays in the connection process in Victoria compared with the other NEM jurisdictions...

The CEC recommends that Victorian transmission planning and connection arrangements should be transferred from AEMO to AusNet. AEMO should, however, retain its national

<sup>&</sup>lt;sup>19</sup> AusNet Services, Submission – Draft Determination: Efficient Management of system strength on the power system, 17 June 2021, pp2 and 6-7.

<sup>&</sup>lt;sup>20</sup> Clean Energy Council, submission to Victorian Renewable Energy Zones Development Plan – Directions Paper, 31 March 2021, pp6-7.



planning responsibilities. A single point of accountability with respect to the planning of the network is essential for the efficient design of the network and avoiding unintended reliability and security concerns due to reduced complexity. This will also bring the Victorian arrangements into alignment with the other NEM jurisdictions. As AusNet is the owner of the shared network assets and has commercial drivers, this should also help deliver more timely delivery of REZ infrastructure and generator connections.

The AEMC has also made comments about the contractual complexity of the Victorian arrangements in its previous decisions. In its 2017 transmission connections and planning arrangements rule final determination, the AEMC noted that in jurisdictions other than Victoria only one connection agreement is likely to be required (i.e. between the connection applicant and the TNSP) but the split in functions in Victoria means that more contracts are required and there are more parties to the contract.<sup>21</sup> The AEMC referred to contractual structure diagrams from AEMO's website that show that at least 6 contracts are often required for contestable connections, and we understand that in practice even more contracts are sometimes required.

Many of the above challenges arising from a split of accountabilities between an independent body responsible for certain planning and procurement matters and contestable transmission asset owners and operators could also exist under the new arrangements that are currently being implemented in NSW. Under those arrangements, the Energy Corporation of NSW and the Consumer Trustee will both have various functions related to the planning and procurement of transmission investments to deliver the NSW Infrastructure Roadmap.

# 4. Overarching criteria for contestability policy decisions

## 4.1 APPROACH TO DEVELOPING CRITERIA AND PRINCIPLES

We have developed criteria and principles to guide proposals to increase contestability and inform decision making and submissions for any reviews of contestability:

- **Overarching contestability policy criteria**: Overarching criteria to be applied when assessing whether contestability of electricity transmission services is likely to promote the long term interests of electricity consumers and, if so, what model of contestability is most appropriate set out in this section 4.
- More detailed principles to inform decisions on the scope and form of contestability: These principles elaborate on the above criteria where necessary. These principles should be applied:
  - When deciding which specific electricity transmission services or projects should be subject to contestability. These 'scope of contestability principles' are set out in section 5.
  - When developing the arrangements for contestability and assessing various potential models of contestability so that contestability promotes the long term interests of electricity consumers. These 'form of contestability principles' are set out in section 6.

In the executive summary, we have combined these criteria and principles into a single list with the 6 criteria and the relevant principles that elaborate on the application of each criterion. To create this single combined list, we merged some of the 'form' and 'scope' principles where they related to similar issues.

<sup>&</sup>lt;sup>21</sup> Transmission connections and planning arrangements rule final determination, pp78.79.



The important high-level considerations are set out in the criteria, and for some purposes the criteria may be all that is needed. The principles contain more detail to help decision makers understand and apply the criteria. We consider that the more detailed principles can act as a useful check-list for decision makers.

Our principles and criteria have been developed having regard to:

- the national electricity objective;
- the problem definition and views of key stakeholders set out in section 1.3;
- previous reports on contestability of transmission and other energy services by the AEMC, ESB, AER, HoustonKemp and other bodies;
- experience of contestability in transmission and other energy services, including the current Victorian transmission contestability arrangements, contestability of transmission connections and contestability for other energy services such as metering outside of Victoria and retail electricity.

### 4.2 CONTESTABILITY POLICY CRITERIA

Our overarching criteria for guiding contestability policy decisions are:

- **Clear accountability** | Provide for clear accountabilities, including accountability for maintaining the security, reliability and safety of the overall transmission system and its various elements.
- Cost | Minimise the cost to consumers, based on long term total system costs.
- Timeliness | Facilitate timely transmission investment and connections processes.
- Transparency | Promote transparency and consumer and local community engagement in investment decision making.
- Incentives and risk allocation | Create incentives for efficient behaviour, innovation in network and non-network solutions and efficient allocation of risks, including aligning risks and rewards so that parties are appropriately remunerated for the risks they bear.
- **Regulatory predictability** | Regulatory arrangements should take account of the long-lived nature of major transmission investments and give investors, transmission businesses, market participants and consumers confidence in how those assets will be regulated over their life. This means any changes to regulatory arrangements should be predictable, subject to consultation and mindful of their potential their impact on current and future investments.

# 5. Scope of contestability principles

The 'scope of contestability' principles set out in this section would be applied alongside the criteria above, as shown in the executive summary. They provide more detailed principles that policy makers should have regard to when deciding whether contestability of electricity transmission services is likely to promote the long term interests of electricity consumers and which specific functions, services or projects should be subject to contestability.

These principles should be applied to the various functions and assets discussed in section 2.2 as the costs and benefits of contestability will vary according to the context for different functions and assets. Consistent with the scope of this report, these principles have been designed to apply to actionable ISP projects under the ISP or REZs and other major transmission projects that are developed under state or territory renewable energy policies.



#### **Clear accountability:**

- Overall accountability for security, reliability and safety | To deliver service outcomes that benefit consumers, there must be clear accountability for the overall security, reliability and safety of the interconnected transmission network. The relative costs and benefits of contestability and regulation should be assessed in terms of the extent to which they deliver clear accountability for these matters. Contestability should focus on those functions or projects that can be provided by separate parties while preserving clear accountability for the overall transmission network.
- **Separability** | To deliver clear accountability, the appropriateness of contestability for specific assets will depend on the extent to which they are separable from the remainder of the shared transmission system, i.e. the extent to which accountability for them can be clearly separated without creating disproportionate costs and risks for transmission providers and users of the rest of the network. An assessment of separability should consider the potential future development of the network and not just the current design given AEMO's forecasts that significant network augmentation will be required over the coming years to connect renewables and meet increased demand from electrification of transport and other sectors.

#### **Cost:**

- Clear identification of problem definition and comparison of competition vs regulation | Any assessment of contestability should start with a clear identification of the problems that are sought to be addressed in terms of the long term interests of electricity consumers. The potential costs and benefits of competition in relation to each of those problems should be compared with the costs and benefits of a regulated service, including the protections of AER revenue regulation, the RIT-T and other regulatory measures could be implemented to address the perceived problems. This assessment should consider total system costs and overall outcomes for consumers, not just transmission costs. It should be a long term assessment covering the entire lifecycle of the relevant assets.
- Materiality of benefits | Contestability should focus on those services or assets where there is significant scope for competition and cost savings and where those potential savings are large enough to justify the costs of implementing contestability and any adverse impact on other principles.
- Depth of the market | An assessment of the potential costs and benefits of contestability should consider the likely level of competition for the relevant functions and projects, including the potential for barriers to entry. Contestability should focus on those functions and projects where there are likely to be lower barriers to entry and a higher prospect that competition will lead to lower costs. This assessment may vary by jurisdiction, noting that all electricity transmission services require specialist skills and are likely to have relatively high barriers to entry.

#### **Timeliness:**

- Impact on investment timeframes | Contestability should not lead to the risk of disproportionate delays in investment or connection processes that would increase total system costs for consumers or adversely affect reliability, security or safety.
- Avoiding unnecessary complexity and coordination challenges | Minimising costs and delays while maintaining security, reliability and safety for consumers requires coordination between the respective parties. Contestability should focus on those services or assets where coordination challenges between multiple parties can be more easily avoided or resolved. Unnecessary complexity should be avoided.

#### **Transparency:**

• Transparency and engagement | Contestability should not result in a reduction in opportunities for consumer and local community engagement in investment decisions or the transparency of those



decisions and the resulting cost impacts on consumers. Any increase in contestability should result in at least the same level of transparency and opportunities for engagement as are currently provided by the RIT-T and AER revenue determination processes.

#### Incentives and risk allocation:

• Incentives | Contestability decisions should recognise the relevant parties' incentives and ability to manage risk. A contestable provider who is only responsible for certain parts of the network may have incentives to minimise the costs of those network elements at the expense of matters such as total system costs, long term security and reliability or community engagement on route selection. For-profit TNSPs with financial incentives and the ability to take on certain risks may be more likely to make timely connection and investment decisions than non-profit government bodies that cannot take on risk. Conversely, TNSPs may have greater incentives to favour network solutions over non-network options, to the extent this risk cannot be readily mitigated by the RIT-T or other regulatory tools.

# 6. Form of contestability principles

The 'form of contestability' principles set out in this section would be applied alongside the criteria in section 4.2, as shown in the executive summary. They elaborate on principles to apply when developing the arrangements for contestability and assessing various potential models of contestability so that contestability promotes the long term interests of electricity consumers.

#### **Clear accountability:**

- **Single overall accountability** | There should be a single body with overall accountability for the security, reliability and safety of the transmission network in the relevant area/jurisdiction and the ability to provide an end-to-end transmission service to connecting parties. If contestability is introduced, maintaining overall accountability is likely to require a single party that contracts with all contestable transmission providers, which would require complex contractual arrangements that are likely to require appropriate regulatory oversight and a clear allocation of accountabilities.
- Clear allocation of responsibilities | There should be clear delineation between those functions or assets that are not subject to contestability and those that are contestable. To ensure service outcomes to consumers are not adversely affected, there should be a clear allocation of accountability for all relevant regulatory obligations for all of the relevant functions and assets.
- Level playing field | All providers of transmission services should be subject to the same national and jurisdictional licensing and registration requirements and other appropriate regulatory obligations to protect security, reliability, safety and other relevant matters (e.g. investment approvals and cyber security).
- Allocation of roles | The allocation of roles should allocate risks to those who can best manage them, recognise the incentives of the relevant parties, and be supported by appropriate governance and resourcing of the relevant parties.

#### **Cost:**

• **Competition in related markets** | Increased competition for transmission services should not come at the expense of competition in other markets (where that competition benefits consumers). Appropriate ring-fencing rules should prevent generators providing transmission services where there is a risk of them favouring themselves. Ring-fencing rules should not unduly restrict the ability of TNSPs or their related businesses to compete for contestable transmission services.



#### **Timeliness:**

• **Timeliness of investment processes** | Any new arrangements should not lead to delays in investment or connection processes. If additional processes are required due to contestability, existing steps may need to be removed so overall timeframes are not extended (without reducing accountability, transparency or engagement).

#### Transparency:

- **Consumer and community engagement** | There should be adequate opportunities for community and consumer engagement in investment decisions, route selection and cost recovery. There should be clarity for local communities and consumer groups as to who they engage with on these matters, preferably though a single entity who is accountable for them.
- **Transparency of investment decision making** | Investment decisions should be made on a transparent basis by an appropriately qualified and resourced independent body applying tests based on the long term interest of electricity consumers.
- **Transparency of regulation and cost recovery** | There is a clear framework for how monopoly prescribed transmission services are regulated and how the costs are recovered. There should be similar clarity and transparency regarding how any contestably provided services will be regulated and how the costs will be recovered.

#### Incentives and risk allocation:

- Aligning risks and rewards | Risks and rewards should be aligned so that parties are appropriately remunerated for the risks they bear. If the functions related to providing transmission services are separated and some roles are made contestable, the impact of this separation on the appropriate returns for services that remain regulated needs to be considered, e.g. increased risks associated with requiring the Primary TNSP to operate and maintain assets that are designed and constructed by other parties.<sup>22</sup>
- Flexibility | While maintaining clear accountability, the arrangements should be sufficiently flexible and not overly prescriptive so that they can apply in a range of circumstances and jurisdictions.
- Subsidiarity and local knowledge | Issues should be dealt with at the most local level that is consistent with their resolution. Functions requiring detailed knowledge of the network should be allocated to the Primary TNSP. Functions requiring community engagement or knowledge of local generation and consumption needs should be allocated to the Primary TNSP or an appropriately resourced jurisdictional body rather than a national body.

<sup>&</sup>lt;sup>22</sup> The requirement in the National Electricity Law that the rate of return instrument must specify a single rate of return that applies to all regulated network service providers (section 18J) may limit the AER's ability to give effect to this principle and ensure that the impact of increased risks from contestability are taken into account when setting the efficient return for the Primary TNSPs.

# Appendix A Previous reviews of transmission contestability

# A.1 AEMC TRANSMISSION CONNECTION AND PLANNING ARRANGEMENTS RULE CHANGE

Most of the current NER transmission contestability arrangements outside of Victoria were introduced by the AEMC in the Transmission Connections and Planning Arrangements Rule 2017.<sup>23</sup> This rule change followed extensive consideration and consultation on the issue as part of the Transmission Frameworks Review from 2010-2013.

The new rules clarified the level of contestability for various functions and assets related to connections. The AEMC clarified that all functions related to connection assets are contestable. It also determined that certain defined functions related to new shared transmission assets required to facilitate a connection (IUSAs) could be contestable, including detailed design, construction and ownership.

However, the AEMC determined that only the Primary TNSP could be responsible for the operation, maintenance and control of the shared network (including IUSAs) due to the need to maintain clear, singular accountability for the operation of the shared network and maintain the safe, reliable and secure supply of electricity across the shared network.

The AEMC stated that contestability for operation of the shared network would mean that 'the entirety of the current regulatory framework would need to be reviewed to consider whether the abovementioned outcome – a safe, reliable and secure shared transmission network – could still be achieved. Inevitably, given the current framework was not designed to accommodate multiple parties being accountable for a single shared transmission system, there would be regulatory gaps that would need to be addressed.' The AEMC considered that these gaps would include:

- TNSPs' obligations under chapters 4 and 5 of the NER regarding power system security, planning and connections
- the planning, design and operating standards set out in the schedules to chapter 5 of the NER
- planning obligations imposed on incumbent TNSPs assume that the TNSP is responsible for all parts of its network
- jurisdictional reliability standards.

The AEMC noted that these issues are addressed in the Victorian arrangements by allocating overall responsibility for the shared network to AEMO, who then contracts with all DTSOs and connecting parties.

The AEMC considered whether these issues could be managed through contracts, but:

The Commission considered that allowing parties to allocate accountability through contracts would create regulatory uncertainty and possibly leave regulatory gaps, which it considered unacceptable in the context of the safety, security and reliability of electricity supply to consumers. If this accountability were to be set out explicitly in the NER, rather

<sup>&</sup>lt;sup>23</sup> The focus of this rule change was on the connections process and new transmission assets required for connections, including new shared network assets. It did not consider other transmission assets such as interconnectors. Some of the new arrangements introduced in this rule change were subsequently amended in the 2021 DCA rule change discussed below, which reduced the level of contestability for DCAs compared with the 2017 rules.



than through contracts, the rules would necessarily need to be quite prescriptive in order to have a clear, predictable and transparent connections framework. However, while the Commission has the power to amend the NER, it does not have the ability to force changes to the NEL or state-based regulatory instruments that may need to be amended to support such an approach.

As discussed in section 3.1, the AEMC undertook a survey of connecting parties to assess the relative costs and potential benefits of contestability of various aspects of transmission services related to connections and concluded that 'construction costs are the most significant contributor to total connection costs, and that there is the greatest scope for this service to be provided contestably.'<sup>24</sup>

## A.2 AEMC 2018 COGATI REVIEW

The AEMC's 2018 Coordination of Transmission and Investment review assessed 5 options for the allocation of transmission planning and investment functions between AEMO and TNSPs. The AEMC's recommendations together with subsequent work by the ESB led to the current ISP arrangements and allocation of transmission planning and investment functions outside of Victoria.

As shown in the diagram below, some of the options considered by the AEMC had increased scope for contestability of investments and several stakeholders advocated for increased contestability. Two of the options also had the power for AEMO to direct a TNSP to undertake investments, which was partly included as a means for addressing the risk that a TNSP may decide not to invest in a project that is included in the ISP and passes a RIT-T.

	STAGE IN INVESTMENT PROCESS	RESPONSIBILIT				
		1. TNSPs must consider ISP- identified needs in their TAPRs	2. TNSPs must conduct RIT-T on ISP-identified needs and options	3: AEMO determines "best" option	4: AEMO directs TNSP to proceed with the "best" option	5: AEMO directs TNSP to implement the investment
1	Identify need	AEMO	AEMO	AEMO	AEMO	AEMO
2	Identify credible options that address the need	TNSP	AEMO	AEMO	AEMO	AEMO
3	Assess costs and benefits of credible options	TNSP	TNSP	AEMO	AEMO	AEMO
4	Determine "best" option	TNSP	TNSP	AEMO	AEMO	AEMO
5	Make decision to implement "best" option	TNSP	TNSP	TNSP	AEMO directs TNSP to do so	AEMO
6	Undertake detailed costing and planning for the investment	TNSP	TNSP	TNSP	TNSP	AEMO
7	Implement the investment	TNSP	TNSP	TNSP	TNSP	AEMO directs TNSP to do so
TNSP control over investment		Higher degree of control				Lower degree of control

#### Figure A.1: COGATI options for transmission investment and planning

In response to proposals to increase contestability, the Commission stated:<sup>25</sup>

Introducing broader contestability would blur the incumbent TNSP's accountability for the operation of the shared network, potentially affecting end-user consumers. Given the criticality of system safety, reliability and security, accountability for outcomes on the

<sup>&</sup>lt;sup>24</sup> AEMC, Transmission Connections and Planning Arrangements Rule 2017, final determination, p147.

<sup>&</sup>lt;sup>25</sup> AEMC, Coordination of Generation and Transmission Investment, Final Report, 21 December 2018, p34.



shared transmission network should be clearly defined - clear, singular accountability means that there is no question as to who:

- is ultimately responsible for the safety, reliability and security of the shared transmission network, including who is responsible for resolving any issues
- to contact in the event that there is an issue identified with certain assets, including who AEMO should direct if it needs to do so to support power system security
- is responsible for mitigating particular risks, for example, performance risks and any incentives or penalties that are applied through regulation or contracts.

The Commission determined a power to direct investments would not be in the long term interests of consumers 'as it would decrease capital and operational efficiency by further separating transmission system planning from ownership and operations' and 'would be inconsistent with the incentive based regulation framework and increase the risk that consumers would be required to pay for inefficient investments'.<sup>26</sup>

## A.3 AEMC DEDICATED CONNECTION ASSETS RULE CHANGE

The AEMC recently amended some aspects of the rules from the Transmission Connections and Planning Arrangements Rule 2017 in its 8 July 2021 rule change determination on dedicated connection assets (DCAs).<sup>27</sup>

The AEMC replaced the concept of DCAs with the new category of Designated Network Assets (DNAs) to address a range of issues that arise if multiple parties connect to a DCA/DNA (i.e. if those assets act like a type of REZ). It determined that DNAs should be treated as part of the 'transmission network' rather than as 'connection assets' and that only the Primary TNSP can develop the functional specification, operate and maintain DNAs. However, the detailed design, construction and ownership of DNAs is contestable, similar to the contestability arrangements for IUSAs.<sup>28</sup>

The AEMC noted that this resulted in a reduction in contestability, but considered this change was necessary as it 'provides a single point of accountability for power system security and ensures the Primary TNSP has visibility of all material additions to the network for planning and operation purposes.'

The AEMC stated that it 'considers the greatest benefits from allowing for competition in the provision of transmission network services are likely to arise during construction, which remains contestable.'<sup>29</sup>

This split between contestable and non-contestable functions for DNAs requires the Primary TNSP and the DNA owner to negotiate a Network Operating Agreement, including charges and contractual terms for the Primary TNSP to provide the functional specifications, operation and maintenance of the DNA as negotiated transmission services.

<sup>&</sup>lt;sup>26</sup> AEMC 2018 COGATI final report, p32.

<sup>&</sup>lt;sup>27</sup> Connection to dedicated connection assets Rule 2021.

<sup>&</sup>lt;sup>28</sup> The main difference between DNAs and 'shared' transmission network assets including IUSAs is that DNAs are subject to a more limited access regime rather than the open access regime that applies to the shared transmission network.

<sup>&</sup>lt;sup>29</sup> AEMC, Transmission Connections and Planning Arrangements Rule 2017, final determination, p v.

## A.4 AER REVIEW OF LARGE TRANSMISSION PROJECTS AND HOUSTONKEMP REPORT FOR THE AER

In 2020-21, the AER undertook a review of large transmission projects. The scope of this review was initially very broad, although the scope was later reduced when the AEMC announced it would undertake its own transmission review.

In its letter commencing the review, the AER stated that the scope included 'exploring whether there are opportunities to amend the regulatory framework to further improve the assessment or delivery of these projects in the medium to longer term, such as improving the assessment process for actionable ISP projects and increasing competitive tension in the procurement and delivery of actionable ISP projects'.<sup>30</sup>

To inform the review, the AER commissioned Houston Kemp to provide a report.<sup>31</sup>

The AER noted 'Introducing more competition through sponsor-based competitive tendering, as outlined in HoustonKemp's report... could deliver greater productive efficiencies through more innovative solutions, and reduce the need for regulatory assessment of expenditure forecasts. This would be a substantial reform that may be costly and time consuming to implement, and we are cognisant of the many other reforms underway'.

The Houston Kemp report considered the potential benefits of increased transmission contestability and various potential models for contestability. HoustonKemp considered that '[o]ne of the key benefits to the introduction of competition is the additional rigour that this provides in seeking innovative solutions, a process that is difficult to incentivise by administrative means'. HoustonKemp considered that:

TNSP-led solution selection and implementation gives rise to the risk that the preferred solution is not the most optimal, because of the intrinsic preference of TNSPs for network-focused as distinct from non-network options. There are two potential causes of this risk:

- TNSPs have an institutional preference for network solutions over non-network solutions, since their essential reason for being is to own and operate the transmission network; and
- the essential structure of the regulatory arrangements for the remuneration of transmission, and particularly its focus on profit-based compensation for additional capex but not opex, is likely to encourage TNSPs to give preference to capex over opex focused solutions we refer to this as an intrinsic, capital expenditure preference.

Houston Kemp concluded that the extent to which competitive procurement can assist in the delivery of large transmission investments depends on:

- the extent to which potential gains from innovation are available, which is also linked to the degree of information asymmetry between the TNSP and the service provider;
- the extent to which existing decision-makers (such as the TNSP and AEMO) are capable of innovation that would achieve efficient outcomes over the long run, or whether these bodies can be presumed to be risk averse and so prefer more conventional means of meeting power system needs; and

<sup>&</sup>lt;sup>30</sup> AER, letter to stakeholders 'Re: AER work program to support efficient delivery of actionable ISP projects – stakeholder views sought', 17 November 2020.

<sup>&</sup>lt;sup>31</sup> Houston Kemp, Regulatory treatment of large, discrete transmission investments, 19 August 2020.



- the extent to which there is the prospect of a workable degree of competition that would allow functions requiring innovation to be sourced externally, which turns on:
  - the economies of scale and scope available to the incumbent;
  - the degree of investment separability from the incumbent's network;
  - the extent of cooperation required from the incumbent; and
  - whether there is a sufficient scale of investment to encourage wide participation.

HoustonKemp considered three potential models for contestability, which are summarised below.



Figure A.2: HoustonKemp models for transmission competition

The AER ultimately did not make any recommendations on contestability and decided not to progress this part of its review on the basis that the AEMC intended to undertake a review of transmission investment.

## A.5 ESB POST 2025 MARKET DESIGN OPTION PAPER

In April 2021, the ESB published an options paper for its Post 2025 Market Design project.

This paper proposed that increased contestability of transmission projects may have benefits. However, it only considered this issue very briefly and did not give details of what problem contestability was seeking to resolve or what costs and benefits may arise from contestability. The only relevant comments were:<sup>32</sup>

Challenges are emerging in getting the new transmission projects built, and the costs of investing too late can be substantial. The current regulatory test may not capture wider economic benefits that could be captured in a broader cost-benefit test for actionable ISP projects and additional funding options such as contestability may also need to be considered to deliver these projects at least-cost.

<sup>&</sup>lt;sup>32</sup> Energy Security Board, Post 2025 Market Design Options - A paper for consultation, 30 April 2021, pp 11 and 75.



Recent actionable ISP Projects have seen a significant increase in costs (QNI, Project EnergyConnect) and additional funding options such as contestability may also need to be considered to deliver these projects at least-cost.

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# Appendix B Potential impact of contestability on rates of return

Contestability for ownership of asset(s) involves a range of different decisions that can be made by prospective owners. A key ownership decision is financing, which we discuss in this Appendix.

Determining the rate of return as part of financing decision is controversial for a number of reasons:

- it is material in determining costs and prices;
- the efficient cost of capital (i.e. the most favourable rate of return for capital that debt and equity suppliers are willing to offer) is not easily observable;
- rates of return that capital suppliers require are dynamic they change through time for various reasons;
- there are many choices about how to structure rates of return for long-lived assets (e.g. choice of debt, equity and other mezzanine instruments; tenor for resets; treatment of inflation; tax; depreciation periods, etc);
- as noted above, the Primary TNSP currently cannot be directed to undertake an investment if they consider returns are inadequate (the 'investment holdup' problem).

Potential advantages from increasing contestability for ownership which may lead to more favourable financing outcomes include:

- **Two stage process** | Contestability could be implemented by way of a two stage process involving: first, identification of needs and initial market testing of options; followed by a decision on whether or not to proceed with a second stage, being a formal competitive process for awarding ownership.
- **Objectivity** | If there is a competitive process it could:
  - be an objective way of determining the most favourable cost of capital for the long term interests of consumers;
  - avoid the difficulties and controversy associated with setting a regulated return;
  - address the 'investment holdup' problem.
- Better information | Contestability through market testing and, if implemented a competitive process for ownership could provide better information to inform setting of regulated rates of return that are appropriate for the risks involved in the specific investment. In contrast, the AER is currently required by the NEL to set a single regulated rate of return that applies to all regulated services provided by all regulated electricity network service providers.
- Flexibility and innovation | Contestability could enable financing to be detached from the AER Rate of Return instrument. This could provide greater flexibility and allow for innovation in determining the structure of rate of return, and take advantage of market opportunities in a way that could best balance the needs of capital suppliers with the interests of customers (as compared to the counterfactual of applying the inflexible AER Rate of Return instrument).

Disadvantages from increasing contestability for ownership to be considered include:

• **Process credibility** | It may be difficult to design a contestable process that attracts genuine competitive interest given barriers to entry including the actual and perceived advantages of incumbent TNSPs.



- **Costs of the competitive tender process** | The costs for administering a competitive process and the costs for potential competitors to participate in competitive process are likely to be significant. There may be a need for example to subsidise competitive bids as occurs in other major competitive infrastructure.
- Costs arising from separating ownership from operation and maintenance | The separation of these traditionally integrated functions could also result in additional costs. Under the current regulated model, O&M opex is essentially recovered as a pass through by TNSPs with no profit margin. Where O&M is unbundled from ownership and provided by TNSPs as a negotiated service as in the AEMC's rules for contestable ownership of IUSAs and DCAs, it is reasonable to expect that O&M charges will include an appropriate profit margin including a risk allowance due to the increased complexity and administrative costs as well as the additional risks of operating and maintaining assets that are owned, designed and constructed by another party not under the oversight of the TNSP.
- Delay | Undertaking a full competitive process would take longer than a non-competitive process.
- **Complexity** | A competitive tender process that resulted in a separation of ownership from other functions could add considerable complexity as it would need:
  - coordination with other key decisions (eg technical specification, route selection etc)
  - development, implementation and administration of complex new contractual structures and allocation and pricing of a range of risks.
- **Implementation risk** | implementation would require a high level of skills and capabilities within the relevant government entity (such as AEMO or a state entity) and as a result there could be a significant risk of implementation failures.

There is very little publicly available information on the relative rates of return for comparable contestable and regulated investments. As noted above, rates of return will also vary over time, making comparisons challenging. Recognising these limitations, we note that:

- The current AER rate of return in recent determinations averages around 3.9% on a post-tax nominal vanilla basis, which is equivalent to around 2.2% on a pre-tax real basis. In comparison, we note that:
- AEMO proposes to use a central discount rate of 5.5% (pre-tax real) for its 2022 ISP, and undertake sensitivity testing against a lower bound of 2.0%, an upper bound of 7.5% and an additional sensitivity of 10%. AEMO's estimates were based on a report by Synergies Economic Consulting, with relevant inputs based on publicly available data regarding comparable energy businesses in Australia and overseas.<sup>33</sup> As required by the AER's CBA Guideline, the central discount rate and upper bound are based on an assessment of the rate of return required for 'private investment in the electricity sector in the NEM'. The lower bound is based on an average of recent AER decisions for regulated transmission businesses. This indicates that the expected return for commercial investment in the electricity sector is significantly higher than the current regulated WACC (noting that this will be at least partly due to regulated transmission investments having a lower risk profile than commercial investments in other electricity assets including electricity generation).
- In its submission to the Victorian REZ Development Plan Directions Paper, the Clean Energy Council states:<sup>34</sup>

# Whilst generators are not opposed to funding network developments, we caution that this will not necessarily result in lower cost outcomes to consumers. A generator's internal rate

AEMO, 2021 Inputs, Assumptions and Scenarios Report, 30 July 2021, p103. Synergies Economic Consulting, Discount rates for use in cost benefit analysis of AEMO's 2022 Integrated System Plan, July 2021.

<sup>&</sup>lt;sup>34</sup> Clean Energy Council, *submission to Victorian Renewable Energy Zones Development Plan – Directions Paper*, 31 March 2021, p4.



of return will be higher than a network service provider's (NSP's) regulated weighted average cost of capital. As such, any generator funding of network developments will likely flow through to higher wholesale electricity prices. Given this, where a RIT-T can be satisfied or a positive net benefits test is achieved for potential NEVA projects, the preferred approach should be for the network project to form part of the NSP's regulated asset basis [sic].

• In its submission to the ESB's Post 2025 Options Paper, Spark Infrastructure notes that the offshore transmission regime in the UK illustrates that contestable procurement models can result in significantly higher costs to consumers than under the AER's current regulatory settings. Spark notes that in the 2014 offshore transmission procurement process, tenderers' rates of return on equity were around 10% (post-tax nominal), which compares with the AER's average regulated return on equity of around 4.5% to 5.7% (post-tax nominal). Spark also notes that the UK offshore transmission regime also allows contestable providers to recover their costs over 20 years, as opposed to 40+ years under AER regulation.<sup>35</sup> We note that offshore transmission in the UK market may have a different risk profile to actionable ISP projects or REZs in Australia.

A full assessment of the balance of advantage and disadvantages of increasing contestability for ownership is complex and beyond the scope of this report. However, we make some observations below.

First the balance of advantage and disadvantage would be critically determined by the size and sign of any difference between rates of return that could be achieved, at a point in time, through a successful competitive process and the returns determined through application of the AER rate of return instrument. There is no reason to think this will be stable through time, but rather will change reflecting dynamic changes in capital markets.

Second the AEMC survey in the context of connections showed that ownership was the second most important area of perceived benefit from contestability after construction costs. However, it is not clear how applicable this finding is when applied to the much larger ISP projects, which in principle - given their size - could be attractive for a broader range of investors.

On balance we suspect that in the current environment that government policy makers may conclude the disadvantages would outweigh the advantages, given the priority on objectives for:

- timely roll out of large volumes of transmission infrastructure to support integration of renewables and effectively manage the expected closure of thermal plant; and
- effective management of community and social licence considerations.

It is possible though that in future priorities could change (for example if investment holdup is seen as a bigger problem) and increased ownership contestability could perhaps be considered at that time.

<sup>&</sup>lt;sup>35</sup> Spark Infrastructure, Response to Consultation on Post 2025 Market Design, 9 June 2021, p3.