5 October 2021

David Feeney
Executive General Manager, Transmission and Distribution Networks
Australian Energy Market Commission
Level 15, 60 Castlereagh Street
Sydney, NSW 2000
(via online submission)

Transmission Planning and Investment Review – Consultation Paper Submission

Dear Mr Feeney,

The Clean Energy Finance Corporation (**CEFC**) welcomes the opportunity to make a submission to the Australian Energy Market Commission's (**AEMC's**) Transmission Planning and Investment Review. We very much value the opportunity to engage in this process.

The CEFC is responsible for investing $10 billion in clean energy projects on behalf of the Australian Government and was established to facilitate increased flows of finance into the clean energy sector. The CEFC supports the development of a secure, reliable and affordable electricity system whilst lowering emissions through its investment activities, including large-scale renewable energy, energy storage and other initiatives in accordance with the 'grid firming' focus of our Investment Mandate. The CEFC considers the potential effects on reliability and security of supply when evaluating renewable generation investments and prioritises investments, including network solutions that will support reliability and security of electricity supply.

Given the CEFC's unique role in the Australian energy market, we are of the view that the most valuable perspective we can bring to policy makers is as an investor who invests in the public interest with commercial considerations in mind. The observations we make are from our perspective as a financial investor (albeit one with a specific policy objective to facilitate a low-carbon transition). The views and approach of the financial investment community are critical to Australia's ability to cost-effectively fund our energy transition.

We estimate that somewhere in the order of $100 billion will be needed to fund new solar, wind, transmission, storage and ancillary services over the coming two decades. The cost of capital will be a key determinant of end-consumer charges, given the high fixed cost/low operating cost nature of the investments to be made. There is ample domestic and international capital available if the risk and return settings are appropriate for financial investors. However, we note that large financial investors are generally risk averse. Given the complexity of the Australian energy market, any market redesign should consider how it might impact the investment community's perception of risk.

The CEFC has a strong focus on investing in essential grid expansion and augmentation as part of Australia's important renewable energy transition. The CEFC has committed market gap financing of $295 million to support the construction of Project EnergyConnect and $125 million to support the grid connection needs of Snowy 2.0.

Our submission focuses on issues that are most relevant to our role and experience as a clean energy investor, and notably, our recent experience in financing transmission projects.

With the accelerating pace of energy transition, it is essential that new grid infrastructure, that is critical to energy security and reliability, is both progressed in a manner commensurate with the pace of the transition but also, importantly, is beneficial to the community and consumers over the long term, including with respect to climate change and emissions imperatives.

Whilst there are a number of complex issues to consider, it is important that the review is prioritised to best address the timely and efficient delivery of transmission projects. We consider the focus of the review should be on finding solutions that best deliver a secure, reliable and lower emissions electricity system at least-cost to consumers in the long term. With renewable energy now the least cost technology for electricity generation it will have an important role to play in meeting the interests of consumers.

Australia's electricity system will need to rapidly decarbonise. The Intergovernmental Panel on Climate Change (**IPCC**) highlighted that meeting a 1.5 degree goal implies global emissions reaching net zero by 2050.[1] In the International Energy Agency's (**IEA**) modelling for their recent Net Zero by 2050 report, CO_2 emissions from electricity generation fall to zero in aggregate in advanced economies in the 2030s and fall to zero in emerging market and developing economies around 2040.[2]

Rapid decarbonisation implies transformational changes for the National Electricity Market (**NEM**) and its transmission infrastructure. The current regulatory framework was designed around incremental network growth, not the transformational changes needed to deliver the transition to net zero emissions, and new approaches need to be developed. For very large transformational projects it may be appropriate to consider new approval regimes that sit alongside the existing processes. For example, alternatives to cost benefit analysis modelling or broader approaches, greater emphasis on long-term planning and re-examination of the weighting of benefits that are becoming increasingly important, such as; emissions reductions; security of energy supply for a society more reliant on electricity; and climate resilience with increasing frequency and severity of climate-change related extreme weather events.

The urgency driven by the energy transition should also be considered in respect of the review process and implementation of any changes. A review that only implements changes in the late 2020's will be less effective and may not meet the timing of the current set of Integrated System Plan (**ISP**) projects (HumeLink, VNI West, Marinus Link (1st link)). Given this will form the foundation of the energy transition and the speed of transition, our view is that the AEMC prioritise regulatory changes required to deliver these early projects. If the current round of ISP projects is implemented, the planning and investment issues faced by the next round of projects may be quite different, requiring different solutions as the grid develops.

Other key points we have raised in the stakeholder submission template include:

- We support consideration of a broader range of benefits at a system-wide level e.g. economic, employment and environmental. Noting that there is consideration of carbon currently through the ISP and RIT-T scenarios, we would also support carbon emissions reduction being included as a benefit.

[1] IPCC 2018, Global warming of 1.5°C, Summary for Policymakers, para C.1.
[2] IEA 2021, Net Zero by 2050, p.114.

- We support the review of contestability and its ability or not to deliver future benefits across the various elements (i.e. financing; engineering, procurement, and construction (EPC); operation and maintenance etc) of grid development, though note that this must not be at the expense of a rapidly transforming grid.
- We support further streamlining of the ISP and RIT-T processes given the pace of the energy transition and greater urgency to build critical infrastructure.
- We are opposed to the rule change proposal for a trigger to reapply the RIT as this will increase uncertainty and undermine investment appetite in the grid. A point in time analysis is needed on whether or not to proceed with grid investment.

We very much value the opportunity that the AEMC has provided to enable the CEFC to provide input into this process. We look forward to the opportunity to engage further with the AEMC. Should you wish to discuss this submission further, please contact Owen Pascoe (Associate Director – Research) owen.pascoe@cefc.com.au.

Yours sincerely

Ian Learmonth
Chief Executive Officer

SUBMISSION TO THE CONSULTATION PAPER-TRANSMISSION PLANNING AND INVESTMENT REVIEW

STAKEHOLDER FEEDBACK TEMPLATE

The template below has been developed to enable stakeholders to provide their feedback on the questions posed in the consultation paper and any other issues that they would like to provide feedback on. The AEMC encourages stakeholders to use this template to provide feedback on issues raised. This template is not exhaustive and therefore stakeholders are encouraged to comment on any additional issues or suggest additional solutions. Stakeholders should not feel obliged to answer each question, but rather address those issues of particular interest or concern. Further context for the questions can be found in the consultation paper.

SUBMITTER DETAILS

ORGANISATION:	Clean Energy Finance Corporation
CONTACT NAME:	Owen Pascoe
EMAIL:	owen.pascoe@cefc.com.au
PHONE:	02 8039 0816
DATE	5 October 2021

PROJECT DETAILS

NAME OF RULE CHANGE:	Transmission Planning and Investment Review
PROJECT CODE:	EPR0087
PROPONENT:	AEMC
SUBMISSION DUE DATE:	30 September 2021

INTRODUCTION- ASSESSMENT CRITERIA

1. Do you agree with the Commission's proposed assessment framework for this Review?	No comment.
2. Are there any additional criteria the Commission should consider as a part of its assessment framework?	We note that assessing the effectiveness of incentives under regulatory arrangements will be important in determining if efficient investment is being promoted. We consider that incorporating real-world input from investors is important in assessing the effectiveness of the regulatory arrangements. The views and approach of the financial investment community are critical to Australia's ability to cost-effectively fund our energy transition.

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 with 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?	We agree with the factors identified. We also note that the increasing frequency and severity of climate-change related extreme weather events will affect critical infrastructure, including transmission. It will be important to consider whether the regulatory framework appropriately weights managing these uncertainties e.g.: - Energy security and reliability in an early thermal generator retirement scenario - Climate resilience with increasing frequency and severity of climate-change related extreme weather events - Security of energy supply with society moving increasingly towards heavier reliance on electricity e.g. for transportation and heating.
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?	There are opportunities to improve the regulatory approach to efficiently deliver network capacity in a timeframe that matches the speed of the energy transition. The current regulatory framework was designed around incremental network growth, not the transformational changes needed to deliver the transition to net zero emissions. New approaches should be developed to accommodate the build of transformative

	infrastructure. For example, consideration of new alternatives to cost benefit analysis modelling or broader approaches to cost benefit analysis, greater emphasis on long-term planning and re-examination of the weighting of benefits that are becoming increasingly important (emissions reducations, energy security for society more reliant on electricity, and climate resilience). In relation to the current ex-ante approach, investors need certainty at the time of their final investment decision, and mechanisms that require the base case investment to be reviewed at a later date can reduce investor confidence, harming timely delivery and ultimately increasing costs for consumers. Where major tramissions projects are of sufficient scale (i.e. greater than a certain dollar value) it may be appropriate to consider new approval regimes that sit alongside the existing processes. In considering whether this is feasible, analysis and market feedback would need to be undertaken to understand what impact an alternative approach would have on costs and whether this outweighs the additional cost of a new process.
5. Do you agree that the Review should take forward this issue as a priority issue? If not, why?	Yes, we agree that the implications of increased uncertainty need to be addressed, with a focus on developing a regulatory framework that can lead to investment decisions with greater clarity in the context of uncertainty. Options to reduce uncertainty for investors and accelerate the delivery of transmission assets should be examined (e.g. through legislative changes).
Economic assessment of major transmission projects	
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?	With the ISP already assessing the cost and benefits of actionable ISP projects, it is unclear if the RIT-T provides additional benefits for these projects, particularly given the significant additional time involved, and we welcome consideration of whether it should continue to apply for these projects.
7. Do you agree that the RIT-T has a clearer value-add in relation to non-ISP projects? If not, why?	Yes, however opportunities for streamlining should be considered.
8. Do you agree that the Review should take forward this issue as a priority issue? If not, why?	We agree streamlining economic assessment is a high priority given the speed of energy transition and higher urgency to build critical infrastructure. Options to accelerate the delivery of transmission assets should be examined (e.g. through legislative changes).

	The urgency driven by the pace of the energy transition should also be considered in respect of the review process and implementation of any changes. A review that only implements changes in the late 2020's will be less effective and may not meet the timing of the current set of ISP projects (HumeLink, VNI West, Marinus Link (1st link)). Given this will form the foundation of the energy transition and could represent around half the transmission capital expenditure to 2040, our view is that the AEMC should strongly consider options to bring forward regulatory changes.
Benefits 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?	We support consideration of a broader cost benefit test applying to ISP projects. This could take into account the benefits mentioned in the paper such as economic and employment opportunities, but also include other elements that are becoming increasingly important. For example, looking through a CEFC-specific lens we would suggest that emissions reductions should be explicitly costed into cost-benefit analysis rather than only through scenario development. Recognising that whether taxpayers are funding a project (with policy support mechanisms such as government grant funding and/or concessional financing) for broader policy objectives, or whether electricity consumers are paying for a project - both classes of payers are arguably fungible, and funds should be allocated to the projects with the most merit including those broad factors. In addition, having a broader assessment could assist with measuring the merits of competing transmission projects so that governments and government organisations (such as CEFC) can direct taxpayer funding to projects that best satisfy these criteria. Given the current pace of State Government investment in REZs within their own jurisdictions, we believe there is merit in expanding this broader assessment to all active REZs (even if on an intra-State basis to begin with) so the abovementioned policy support mechanisms can be directed in the most efficient manner on behalf of taxpayers. Timeliness would remain an important factor, and consideration should be given to whether a broader assessment is practical at a system-wide level (through the ISP or otherwise) versus a project level. Other classes of benefits that could be considered include: • Security of energy supply with society moving increasingly towards heavier reliance on electricity over other fuels e.g. for transportation and heating.

	• Energy security and reliability in an early thermal generator retirement scenario • Climate resilience with increasing frequency and severity of climate-change related extreme weather events.
10. Are major transmission projects failing to satisfy economic assessments because certain benefits (market or non-market) are not permitted to be quantified?	No comment.
11. Are changes warranted to the manner in which carbon emissions inform transmission planning and regulatory processes?	We support the consideration of carbon emissions through the ISP and RIT-T processes. As noted under (9) we would suggest that emissions reductions should be explicitly costed into cost-benefit analysis rather than only through scenario development given the central role of carbon emissions in determining the future development of the energy system.
12. Do you agree that the Review should take forward this issue as a priority issue? If not, why?	Yes. This is particularly a priority given the important role of emissions reductions in long-term planning.
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?	No comment.
14. Would guidance on hard to monetise benefits improve the timeliness at which projects proceed through the regulatory process?	No comment.
15. Do you agree that the Review should take forward this issue as a priority issue? If not, why?	No comment.
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?	No comment.
17. Do you agree that the Review should take forward this issue as a priority issue? If not, why?	We do not consider this a priority.

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?	There appear to be some barriers for non-network options. Incorporating the entire cost of the non-network solution (not just the portion that is paid for through opex of the NSP) seems to be overly punitive for non-network solutions e.g. Broken Hill RIT-T. Some emerging technologies may need scale to justify their economic proposition and having greater flexibility to apply a portion of these assets to the regulatory framework is encouraged.
19. Do you agree that the Review should take forward this issue as a priority issue? If not, why?	No comment.

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 the efficient and timely delivery of major transmission projects?	Our experience is that many infrastructure projects (e.g. public private partnerships, other private economic infrastructure such as coal export terminals) have been funded through competitive tender processes, with tenderers bidding a contracted service fee over the life of the asset. In this manner, it is similar to the contestable arrangements in Victoria. As such, we would encourage the AEMC to consider a comparative analysis of the NEM and Victorian transmission regulatory framework to determine whether that framework has resulted in better deliverability outcomes.
21. Should the delivery of transmission projects be made contestable? If not, why?	In relation to contestability of actionable ISP projects as a means to deliver lowest cost solutions in a timely manner, given significant further interconnection investment is required to ensure effective reliability and security of supply there is uncertainty as to whether incumbent Transmission Network Service Providers (**TNSP**s) will have access to capital that can accept the current revenue determination methodology. Whilst it is not absolutely clear that other investors can provide such capital (and where there are existing easements involving the incumbent TNSP this may add a degree of practical complexity) we believe there is merit in reviewing the contestability framework to ensure timely and efficient delivery of the actionable ISP projects. It is possible that there may be advantages of a contestable approach model in relation to transformational infrastructure through long term contracts with a fixed contract fee for service (subject to ability to deliver on contractual requirements) providing reduced risk compared to a regulated model. However, it is not

	clear that introducing contestability would effectively address issues around uncertainty for transmission projects and timely and efficient delivery. For example, introducing contestability would not solve the underlying issue with the framework if uncertainty is associated with costs that have a high level of uncertainty (e.g. biodiversity offsets) at different stages of the regulatory process. Consideration should also be given to the impact of introducing a new contestability framework on the development activities of current projects and the impacts these changes will have on the ultimate delivery of these projects. The pros and cons of different models for contestability would need to be carefully considered and we note the early work of HoustonKemp in this regard.
22. What options, other than changes to the right of TNSPs to provide regulated transmission assets, could be considered to ensure timely investment and delivery of major transmission projects?	No comment.
23. Do you agree that the Review should take forward this issue as a priority issue? If not, why?	Yes.
Treatment of of 'early works'	
24. Do stakeholders seek further clarity on the meaning of preparatory activities and early works?	No comment.
25. Should the Commission consider how the costs of early works can be recovered?	The materiality of early works for large scale projects are constraining TNSPs. From our experience, delivery of projects is delayed until the risk is underwritten by Governments. The framework for delivery should not be delayed and reliant on Government intervention. The framework should provide proponents the ability to recover development expenses. There is also a higher degree of risk with these development costs and the return that investors need to support this activity should be commensurate with the risks taken.
26. Do you agree that the Review should take forward this issue as a priority issue? If not, why?	Yes.
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?	No comment.

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?	No comment.
29. Do you agree that the Review should take forward this issue as a priority issue? If not, why?	No comment.

OTHER COMMENTS

30. Please provide any further comment relating to issues discussed in the chapters 1-4 of the consultation paper.	We consider that the approach to discounting used in cost benefit analysis under the ISP and RIT-T may warrant further consideration. For example, is a CBA based on 'private investment in the electricity sector across the NEM' the right approach given the ISP is driven by a society wide objective? Should discount rates be lower for transformational infrastructure? If private investment is the right benchmark, do discounts rates reflect current market rates and the different risk levels between generation and transmission projects?
31. Please discuss any further issues the Commission should take forward in this review in relation to topics covered in chapters 1-4 of the consultation paper.	No comment.

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 whether the RIT-T must be reapplied?	
32. Should this decision remain the responsibility of the proponent or should it be a matter for the AER? Why?	No comment.
33. If the decision remains with the proponent, should the AER have the right to test that opinion?	No comment.
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?	No. Investors need to make a decision at a point in time based on the best available information. Investors need certainty at the time of their final investment decision, and new mechanisms to reapply the RIT and reduce the base case investment at a later date will reduce investor confidence and increase risk. This would harm timely delivery and ultimately increasing costs for consumers.
35. Do you consider this requirement should apply to all RIT projects or only those above a particular cost threshold/s? If so, do you have a view as to what the threshold/s should be?	No comment.
36. Do you have any views regarding the suggested alternative "decision rule" approach?	No comment.
37. Should updated project cost data be provided to AEMO to help improve the accuracy of the ISP?	No comment.
38. Do you have any other suggestions regarding alternative ways to manage cost increases?	No comment.
Requirements when reapplying the RIT	
39. Should the requirement to reapply the RIT be more targeted?	Yes, if put in place should be prescriptive on what elements are repeated to avoid uncertainty.
40. Should any additional analysis and modelling that is required to be undertaken be published and subject to public consultation?	No comment.

Trigger to reapply the RIT	
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?	No comment.
42. Should there be a cut-off point (e.g. once the AER approves the CPA, or once construction commences) beyond which any requirement to update analysis cannot be triggered? If so, what would be an appropriate cut-off point?	Yes. There should be a clear cut-off point e.g. once the AER approves the CPA.
43. Should there be a limit on how many times RIT analysis must be updated?	Updating the RIT should be avoided. The more time it takes the less timely the potential delivery of these projects.
Should 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?	We consider the current level of rigour is appropriate. It would be difficult to increase the level of rigour at the RIT-T stage without going to market to seek detailed cost estimates.
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?	No comment.
46. Do you have any other suggestions to address the issues raised in the rule change request?	No comment.

OTHER COMMENTS

47. Please provide any further comments on this chapter.	No comment.