CLEAN ENERGY COUNCIL

19 October 2020

Ms Merryn York
Acting Chair
Australian Energy Market Commission

Lodged online: www.aemc.gov.au

Dear Ms York,

TRANSMISSION ACCESS REFORM – INTERIM REPORT (EPR0073)

The Clean Energy Council (CEC) is the peak body for the clean energy industry in Australia. We represent and work with hundreds of leading businesses operating in renewable energy and energy storage along with more than 7,000 solar and battery installers. We are committed to accelerating the transformation of Australia's energy system to one that is smarter and cleaner.

The CEC welcomes the opportunity to comment on the Australian Energy Market Commission's (AEMC's) Interim Report in relation to its transmission access reform proposal (more commonly referred to as the coordination of generation and transmission investment – or COGATI – proposal). For some time, the CEC has made clear its concerns with the AEMC's proposal to introduce locational marginal pricing (LMP) and financial transmission rights (FTRs). With the release of further design details in the Interim Report, we have reassessed the proposal given the more complete detailed design presented. This confirms the CEC's position that we still do not support the transmission access reform proposal. Our concern with the proposal can be simply summarised as being the wrong reform at the wrong time.

Wrong reform

The clean energy industry has long maintained that the fundamental issue that should be addressed through the COGATI process is a pressing need for increased transmission capacity. Given this, there was strong merit to the AEMC's original intent for an access reform proposal whereby generators could buy some form of access right and these rights could inform transmission planning and fund transmission investment. In this way, transmission costs would no longer be solely recovered from consumers. It was noted, however, that developing such a model could be challenging, particularly as there are no international precedents on which the AEMC could draw.

While we have always held concerns around an access model premised on LMP and FTRs, the CEC was particularly disappointed that the AEMC removed this fundamental link to transmission planning

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and investment in the revised model outlined in the October 2019 Discussion Paper.[1] With this removal, the reform's objectives were refocused around reducing generator risks, better locational signalling for investments and more efficient dispatch.

In the current market environment, generators and the debt and equity investors that finance these projects are keen to see market reform reduce the level of risk and uncertainty in the market. The CEC strongly believes that reducing risk is necessary to create an attractive investment environment in order to improve investor certainty. Only in this way can we facilitate efficient investment in new renewable energy generation and storage technologies that are needed in coming years. There are a number of different risks for generators and developers at present that could be addressed through market reform. Unfortunately, the transmission access reform proposal does little to improve the investment environment. In fact, it will have the opposite of its intended effect by introducing significantly more complexity, risk and uncertainty into the market, which will be both difficult and costly to manage.

The AEMC has clearly put substantial effort into revising design elements and settling outstanding design elements in the months leading up to this Interim Report. Nevertheless, the CEC considers the policy in itself as well as a number of design elements will not assist to improve investment certainty for new generators.

LMP studies

Currently, any potential new generation project must undertake a number of studies as part of the business case development process. These include a cost projection, Marginal Loss Factor (MLF) projection and congestion projection. With the introduction of LMPs, new projects will need to undertake an additional fourth projection study in relation to basis risk. This is not a straightforward task as it would require a projection of the project's own LMP as well as projections of every other LMP in the region in order to evaluate the potential volume weighted average price (VWAP). In addition, this study is not a costless exercise so will increase the overall cost of a new project.

FTR firmness

The AEMC considers the FTRs are likely to be firm as they will now be backed by the settlement residue and auction revenue. The CEC remains concerned that this high degree of confidence in the firmness of the FTRs has not been sufficient evaluated through stress test modelling to understand under what circumstances both the settlement residue and auction revenue are exhausted and subsequently, the FTRs would no longer be firm. As examples, significant amounts of curtailment have occurred as a result of system strength in South Australia, the West Murray Zone and North Queensland. No testing has been undertaken of the implications of these types of incidents on FTR

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[1] In the Discussion Paper, the AEMC listed the CEC as a stakeholder that considered it preferable that a model with LMPs and FTRs should not directly link to the transmission planning framework (p. 11). This is incorrect. Our August 2019 submission to the AEMC's Directions Paper stated that this link was important to the reform but that at that early point in the development of the model, we were unclear on how it could work. Notably, we stated that without this link, we felt there was limited benefit to a proposal for LMPs and FTRs. See: AEMC, Coordination Generation and Transmission Investment Implementation - Access and Charging, Directions Paper submission: CEC, 2 August 2019, p.2. https://www.aemc.gov.au/sites/default/files/2019-08/Clean%20Energy%20Council.PDF

firmness within a region and across the NEM more broadly. This lack of analysis does not give industry confidence that the FTRs will be as firm as anticipated by the AEMC.

Dynamic loss factors

In the Interim Report, the AEMC confirms that LMPs would reflect dynamic marginal losses but that the FTRs will not hedge price differences that arise due to these dynamic losses. This is a very concerning development for the clean energy industry. The year-on-year volatility in MLFs that has been experienced in recent years has been challenging for existing generators as well as investors and developers of new generation. Moving to a dynamic loss factor framework would result in even greater volatility in loss factors. However, under the transmission access reform proposal, there will be no product to allow generators to hedge these more volatile loss factors. In addition, developers and investors will need to undertake more complex studies to establish their project's dynamic marginal losses, which are likely to be more costly than the MLF study undertaken currently. The uncertainty and volatility inherent in dynamic marginal losses and the inability to hedge this will diminish investment certainty for new projects.

Advanced sale of FTRs in tranches

The Interim Report confirms the AEMC's intent that FTRs would start being available in small quantities up to ten years in advance, sold in three month tranches. This approach does not assist investment certainty as a project cannot be sure that it can attain sufficient FTRs to cover its full capacity nor the life of the asset, which is typically between 20 and 30 years.

The tranched approach to FTR auctions could result in developers progressing smaller, less efficient and therefore more costly on a MW basis projects at the expense of larger projects in an attempt to be able to secure sufficient FTRs. This is because the number of FTRs sought by a smaller project will be a smaller percentage of the total amount of FTRs available compared with the number sought by a larger project. Therefore, a smaller project will more likely be able to purchase the desired number of FTRs compared with the larger project. This issue is compounded if there are also pre-defined nodes for FTRs. Moving to a market that discourages scale efficiencies in project development is not an efficient market outcome as it will ultimately result in more costly generation.

This tranched approach also means FTRs are not a perfect hedge as generators will not have sufficient foresight to know with certainty what the future network will look like or how to value FTRs so far in advance. Again, this factor does not improve investment certainty for new generators.

Speculative market

The CEC is concerned that the proposed FTR design will result in a highly speculative market, particularly due to non-physical participants now being able to participate in the FTR auction and the lack of a reserve price for FTRs. While there is an academic reason to allow non-physical participants into the FTR auction, this justification focuses only on FTRs as a product from which to generate revenue and not any indirect implications. Allowing speculators that have no physical position in the market increases the uncertainty that investors must factor into their business cases.

A number of CEC members are active in different electricity markets globally. They have reported that in some markets with LMPs and FTRs, their businesses do not attempt to purchase FTRs or have even decided to not enter the market due to the difficulties in pricing the FTRs and the high degree of speculative activity that has driven up the prices of the FTRs. Reports of these experiences should not be ignored.

Resource availability

An additional issue that the AEMC has not considered in the Interim Report relates to the relationship between the locational signals from the transmission access reform proposal and resource availability. It is possible that in areas of good wind and solar resources, there will be strong competition for FTRs. As a result, developers may choose to locate elsewhere in the network where the resource is not as good, but they can access cheaper FTRs. The outcome of this is that these generators in areas with poorer resources will generate less energy although they have better grid access. Given reduced capacity factors, this will require more generators in these areas with poor resources but cheaper FTRs compared with the number required in areas with good resources but more expensive FTRs for the same aggregated nameplate capacity. That is not an efficient market outcome.

Sequencing of FTRs in new project development

The AEMC has paid no attention to how project development occurs and how FTRs would fit into this process. Currently, developments require a planning approval, equipment selection, connection agreement and often a power purchase agreement (PPA) in order to progress. Under the transmission access reform proposal, it is likely that board approval of a new development will require that FTRs are secured. Securing FTRs before progressing through the typical development steps listed above is an incredibly risky strategy. It is unlikely that a board with a standard risk appetite would be willing to take on the risk associated with a significant capital outlay for FTRs at the earliest stages of the development process and well in advance of construction commencing.

Theoretically, the argument could be made that if there are a lot of potential projects in a similar area and a developer's project does not go ahead, that developer may be able to sell the FTRs to another project. However, this is a risky strategy that is similar to the above example in that it is unlikely to be approved by a board with a standard risk appetite.

Even if a developer were to purchase FTRs at the earliest stages, this would significantly drawdown its available funding, resulting in limited available funding to pursue other projects.

The potential response to the above is that a developer could purchase FTRs after a planning approval, connection agreement, equipment selection and PPA are secured and construction commences. However, it is hard to imagine a board with a standard risk appetite would approve a development progressing on the hope that the project will be able to purchase FTRs at some later date in the secondary market. Given the ability for speculative investment in FTRs is permitted for physical and non-physical participants, a well progressed development would be at the mercy of FTR sellers in terms of the price of the FTRs.

This creates a development stalemate for a developer with a standard risk appetite and makes it extra difficult for developers that do not have significant amounts of surplus cash available upfront. The result may be that only extremely well-funded developers with a very high risk appetite may be willing to develop projects. The CEC questions whether this is the type of behaviour we should be incentivising in the NEM.

Pre-defined nodes

The Interim Report discusses reducing the combination of FTRs available to a relatively small number of pre-defined nodes, at least in the early phase of access reform. While this may appear to introduce simplicity into the model and promote liquidity, the CEC does not agree. Pre-defined nodes introduce more complexity for generators, namely as it creates basis risk between the connection point and the pre-defined node with no means to hedge this risk. In addition, it would be difficult to establish the pre-defined nodes. While New Zealand was able to do so with the initial introduction of two nodes based on its geography, this is not possible in the Australian context. The possible idea of initially creating a single node for each of the NEM jurisdictions is nonsensical. Finally, it is hard to see how such an approach could lead to improved FTR liquidity.

Implementation and transitional arrangements

The Interim Report confirms the intended transitional FTR arrangements. As was clear during the Optional Firm Access work, there is likely to be much disagreement on the duration and number of transitional FTRs. The CEC, however, would like to comment on other elements of the transitional arrangements that we consider will impact investment in new generation more so than the duration and number of transitional FTRs.

The AEMC suggests that new physical entities during the implementation period (i.e. between the final rule being made and the rules commencing) and/or during the initial period should not be eligible for transitional FTRs. This approach will stall new generation investment as no new developments will occur until FTRs are available to these projects. There will likely be no new generation investments in the four year implementation period as a minimum. Depending on the number of FTRs that will be available during the initial period as a residual once transitional FTRs are allocated, there may not be new generation investments for some time in the initial period, particular if investors also choose to hold back investments in order to better understand how the new framework works and observe the pricing outcomes of auctions. It is critical that a new generation investment freeze is avoided at this critical time in the energy market transition.

In the Interim Report, the AEMC contemplates what type of new entrant project would qualify as an existing physical participant and therefore could receive transitional FTRs. Three options are listed: financially committed but not commenced construction, financially committed and have commenced construction, or completed construction. The fact this is even being considered is worrying and shows a lack of appreciation for how developments progress. The only option would be that transitional FTRs are allocated to financially committed projects irrespective of their construction status. There is no logical reason why it would be otherwise.

Finally, the CEC is concerned that transitional FTRs will hinder the efficient transition to a system with higher penetrations of lower-cost renewables as transitional arrangements generally favour incumbents, especially those that are approaching the end of their technical and economic life. Allowing generators that are likely to close during the initial period to sell any transitional FTRs they might hold once they close would deliver them revenue that they would not otherwise have received in the current open access framework.

Contract market impacts

The transmission access reform proposal will necessitate a reopening of existing contracts in the market. The AEMC's estimate of an average cost of reopening PPAs of between $5,000 and $20,000 per PPA is well under what could reasonably be anticipated. The actual cost is likely to be many magnitudes more but additionally, the AEMC has failed to acknowledge what a reopening of PPAs will mean for those PPAs that are currently out of the money. Counterparties with these contracts will take the opportunity to renegotiate to reset the contract to today's conditions, which could undermine the viability of these projects.

Wrong time

The NEM is at a critical point in its transition. The Australian Energy Market Operator (AEMO) has identified that 26-50GW of new renewable energy will be developed before 2040, supported by 6-19GW of new dispatchable resources, principally batteries and pumped hydro.[2] This need for new investment has been complicated by COVID-19, which has led to wide-scale economic contraction such that Australia has entered its first recession in nearly 30 years.[3]

At this time, attracting new investment is vital to deliver a seamless transition and to stimulate economic activity by bringing forward jobs and regional development associated with renewable energy construction and operation. Given this, it is simply the wrong time to implement a reform such as the transmission access reform proposal as it will increase the cost of new projects and potentially stifle new investment.

Integrated System Plan and Renewable Energy Zone development

The CEC reflects back to the original overarching problem that needs addressing, namely to ensure sufficient network capacity. The Integrated System Plan (ISP) outlines a pathway for future transmission network development. Delivering the ISP through the recent actioning the ISP rule change will go some way to addressing current congestion issues and delivering the new transmission needed in the NEM. Similarly, the Energy Security Board's (ESB's) and jurisdictional governments' work on Renewable Energy Zone (REZ) development will assist this. Importantly, delivering the ISP and REZs also improve locational signals in the NEM, which is a key objective of the AEMC's transmission access reform proposal.

The CEC strongly believes that we should allow the actioning of the ISP and REZ developments to mature before progressing broader access reform. In this way, we can better understand the extent to which the ISP and REZs alleviate congestion and provide stronger locational signals, and therefore the residual market issues that may still persist. This will also allow us to better evaluate the degree of reform that may be warranted to the access framework.

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[2] AEMO, 2020 Integrated System Plan, 30 July 2020, p. 50. https://aemo.com.au/-/media/files/major-publications/isp/2020/final-2020-integrated-system-plan.pdf?la=en&hash=6BCC72F9535B8E5715216F8ECDB4451C

[3] The Hon. Josh Frydenberg MP, National Accounts June Quarter Statement, 2 September 2020. https://ministers.treasury.gov.au/ministers/josh-frydenberg-2018/speeches/national-accounts-june-quarter-statement

Specifically in relation to REZs, the CEC reiterates our support for REZ development as a means to deliver coordinated and scale efficient network augmentations for new renewable energy generators.[4] The ESB's second step of the REZ framework development work will consider issues relating to REZ implementation, including whether there is a need for a different way to allocate costs and measures to ensure that generators that participate in the REZ are not adversely affected by subsequent connections.[5] This will likely involve some form of access right for generators connecting within the REZ. We believe it is important that the market framework is set in a way that does not erode the attractiveness of REZs. The CEC cautions that FTRs for one part of the network alongside another form of longer-term REZ access right for another, potentially overlapping, part of the network is a very complicated framework in which new generators would have to make decisions and therefore, does not improve certainty for new developments and could be detrimental to the development of REZs.

The clean energy industry supports further developments in terms of either physical or financial access rights in relation to REZs in preference to continued development of the AEMC's whole of system transmission access reform proposal. Consideration should also be given to alternative options such as deep connection charging. With REZ development, there is always a concern that a generator may locate just outside a REZ in order to reap the benefits of the REZ but without contributing to the cost of the REZ. To avoid this and to further improve locational signalling in a REZ framework, connection charges could increase depending on the distance of a generator's potential location from the REZ. It is possible that this cost framework could work such that the connection charge would increase until some point where it would reduce to nil at a strong part of the shared network. It should be noted that as a principle, new generators prefer that any potential connection charge is predictable, simple to understand and known early in the process to avoid adding investment risk.

Other reforms

We should not forget that there have been and will likely be other reforms that further improve locational signals in the NEM. The transparency of new projects rule change that was finalised in October 2019 improves publicly available information about new grid-scale generation connection enquiries and applications.[6] AEMO's Interactive Map contains various layers of system information, including overlays in relation to the ISP, Electricity Statement of Opportunities (ESOO) and Victorian Annual Planning Report.[7] Finally, the AEMC's investigation into system strength frameworks in the NEM and the related system strength rule change proposal from TransGrid could further improve locational signals around system strength given the AEMC is considering a nodal approach to system

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[4] ESB, Renewable Energy Zones Planning, Consultation Paper submission: CEC, 8 September 2020. https://www.aemc.gov.au/sites/default/files/2019-08/Clean%20Energy%20Council.PDF

[5] ESB, Renewable Energy Zones Planning, Consultation Paper, August 2020. https://prod-energycouncil.energy.slicedtech.com.au/sites/prod.energycouncil/files/ESB%20REZ%20Planning%20Rules%20consultation%20paper.pdf

[6] AEMC, Transparency of New Projects, Final Determination, 24 October 2019. https://www.aemc.gov.au/sites/default/files/2019-10/ERC0257%20-%20Final%20Determination%20-%20For%20publication.pdf

[7] https://www.aemo.com.au/aemo/apps/visualisations/map.html

strength for which a generator charge will be applied depending on the distance from a system strength node.[8]

Next steps

Significant AEMC and industry resources have been directed to the transmission access reform proposal since its inception. While the CEC has sympathy for the fact that considerable effort has been undertaken by the AEMC to develop the proposal to this point which likely means a strong level of attachment to the model, we do not think this should prevent the AEMC or ESB as part of its post-2025 market review process from ceasing efforts on transmission access reform at this point. Valuable AEMC and industry resources should be redirected to other more pertinent issues on which the current energy transition depends, such as grid connection challenges, improving the system strength framework, the development of REZs and other elements of the post-2025 market review.

We appreciate that allowing the ISP, REZs and other reforms to be implemented may lead to a concern that congestion will eventually arise in the shared network. As such, investigating access reform, including appropriate alternative options that are not premised on changes to the wholesale market pricing arrangements, at a later date is still appropriate. We do not consider this approach to be inconsistent with the original terms of reference provided by then Chair of the COAG Energy Council, the Hon Josh Frydenberg MP, for a biennial COGATI reporting regime.[9] Of note in the terms of reference, the AEMC was provided flexibility to consider the implications of prevailing NEM conditions for potential reform. The CEC considers that ceasing efforts with the current transmission access reform proposal is allowed under the terms of reference as it is a recognition of the need for investment certainty in the NEM to support new generation build for both a smooth energy sector transition and in response to COVID-19.

Cost of capital implications

The AEMC argues that the proposed access reform should improve investment certainty and risk management for generators and therefore reduce the cost of capital. To support this, in its benchmarking report NERA suggests the reform could reduce the Weighed Average Cost of Capital (WACC) as they do not expect any material impact on the cost of equity and reductions in the cost of debt (if the proposed reform is highly successful and the generator's credit rating improves by two notches).[10] The CEC strongly disagrees with this assessment. Instead, we argue that the reform would increase complexity, uncertainty and risk, therefore increasing the cost of capital.

Last year, the AEMC undertook a survey of investors to gauge their perspectives on the impact that the COGATI reform would have on the cost of capital. This survey confirmed investors' sentiment that the reform would lead to an increase in the cost of capital. Given the results of that survey were in

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[8] AEMC, Investigation into System Strength Frameworks in the NEM, Final Report, 15 October 2020. https://www.aemc.gov.au/sites/default/files/2020-10/System%20strength%20investigation%20-%20final%20report%20-%20for%20publication.pdf

[9] The Hon Josh Frydenberg MP, Transmission Frameworks – Detailed Design and Testing of an Optional Firm Access Framework, 29 February 2016. https://www.aemc.gov.au/sites/default/files/content/97164a7b-09bf-49fb-9f2e-f6b996f5a96b/Reporting-on-drivers-of-change-Terms-of-Reference.PDF

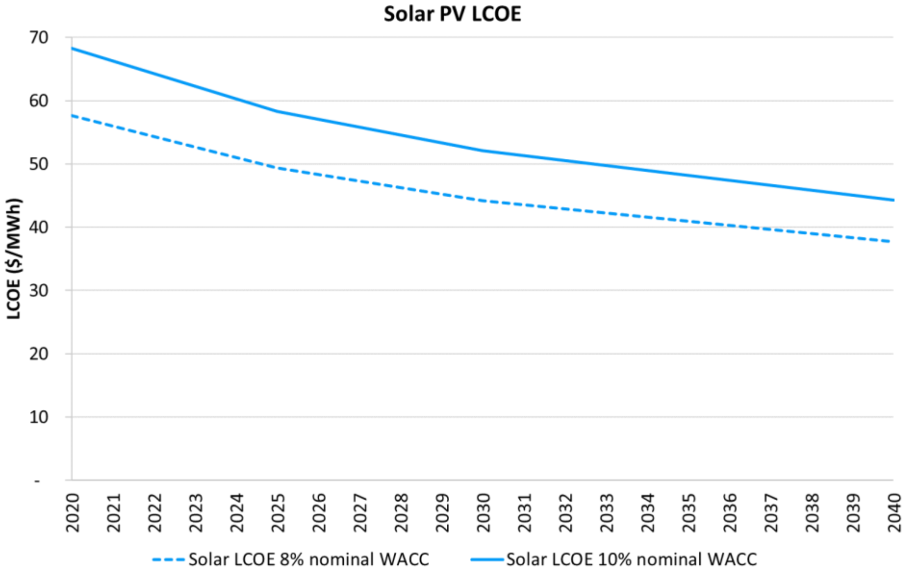
[10] NERA, Cost Benefit Analysis of Access Reform: Modelling Report, 7 September 2020, pp. vii – viii. https://www.aemc.gov.au/sites/default/files/documents/nera_benchmarking_consultant_report_-_aemc_transmission_access_reform_-_march_update.pdf

relation to a previous iteration of the transmission access reform design, the CEC asked the same survey question of our members in relation to the current design. The responses[11] suggested that the current iteration of the transmission access reform proposal would increase the WACC by between 30 and 250 basis points, with an average response of a 137 basis points increase.[12] Notably, respondents indicated a high degree of understanding of the model design, which suggests that the increased risk premium relates to the model design itself and not uncertainty or a lack of understanding of the design elements.[13]

It is worth noting that these increased cost of capital concerns are also applicable to existing generators as they seek to refinance their projects. An estimated $18 billion of existing project debt will need to be refinanced between 2020 and 2025 as the reform is implemented.[14]

While these findings are anecdotal, they cannot be dismissed. A higher cost of capital results in a higher levelized cost of energy (LCOE). This is illustrated in the solar PV and onshore wind projections in figures 1 and 2 below, which show the LCOE impact over time of a two per cent change in WACC.[15] Higher LCOEs would lead to higher wholesale electricity prices and ultimately, higher end-use consumer prices.

Figure 1: Indicative LCOE for utility-scale solar PV in the NEM, with and without a 2% WACC increase



Source: Baringa Partners

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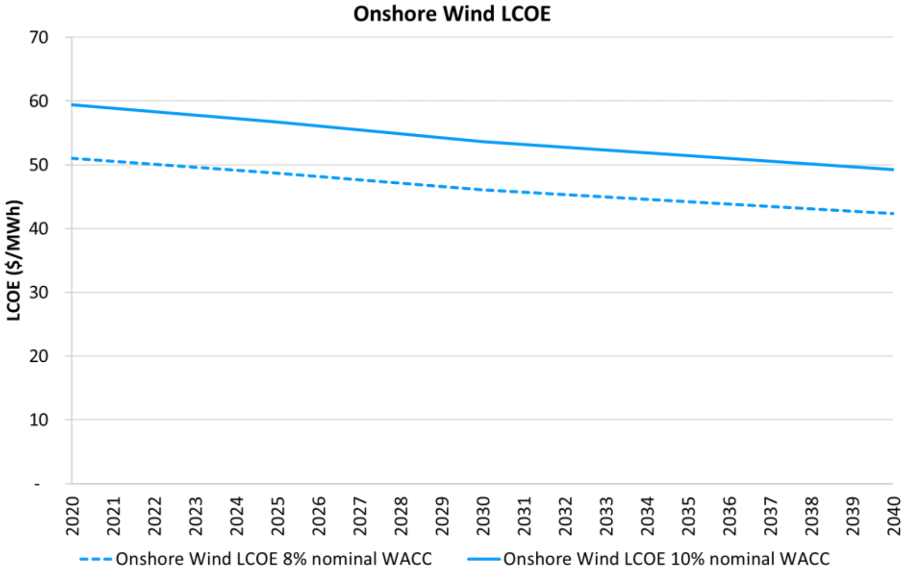
[11] Representing developers, existing generators, and debt and equity investors.
[12] In the interests of transparency, we note that two responses suggested there would be no change to the WACC. Both respondents are vertically integrated market participants with diversified generation portfolios.
[13] Survey respondents were asked to rate their knowledge and understanding of the transmission access reform proposal on a scale of 1 to 5 (1 indicating no or very limited understanding and 5 indicating full understanding). The average response was 3.7. This question was not asked in the AEMC's 2019 investor survey.
[14] Simshauser, P. and Gilmore, J. *Is the NEM broken? Policy discontinuity and the 2017-2020 investment megacycle*, May 2020. https://www.eprg.group.cam.ac.uk/wp-content/uploads/2020/05/2014-Text_UPD.pdf
[15] These graphs are illustrative of the general impact of WACC on LCOE and not the direct impact of the transmission access reform proposal on LCOE.

Figure 2: Indicative LCOE for onshore wind in the NEM, with and without a 2% WACC increase



Source: Baringa Partners

A 137 basis point increase in the WACC will increase LCOEs by approximately $5.50/MWh. This increase in the cost of new energy will necessarily result in higher wholesale prices – projects will be delayed until rising demand or failing coal units drive sufficiently high prices. Given that all new bulk energy providers will be renewable energy generators, a $5.50/MWh increase in wholesale prices would be equivalent to approximately $990 million in additional consumer costs across the NEM. This will primarily be in the form of a wealth transfer from consumers to incumbent coal generators (who will be price takers).

For state governments, a higher WACC will increase the cost of meeting renewable energy targets. The Victorian Renewable Energy Target (RET) will require at least 5,000 GWh per annum of new renewable generation.[16] An increase in the LCOE of $5.50/MWh due to a higher WACC would increase the cost of the scheme by in excess of $27 million per annum. This would be true even with a Government contract for difference unless the Government takes all risk associated with the transmission access reform proposal. For the Queensland RET, some 10,000 GWh per annum of new renewable generation is required.[17] As a result, the reform would risk imposing additional cost to consumers or Government of about $55 million per annum.

In further support of this survey finding, the CEC discussed WACC implications with our banking members, who represent some of the biggest lenders to the renewable energy sector in Australia. Feedback indicated that an increase in WACC could be expected given increased due diligence requirements relating to more volatile LMP, VWAP and dynamic loss factors as well as increased

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[16] Acil Allen, Victorian Renewable Energy Transition: Economic Impacts Modelling, August 2019, p.10. https://www.energy.vic.gov.au/__data/assets/pdf_file/0023/430763/VRET-2030-Economic-Impacts-Modelling-Report.pdf

[17] Queensland Renewable Energy Expert Panel, Credible Pathways to a 50% Renewable Energy Target for Queensland: Final Report, 30 November 2016, p.70. https://www.dnrme.qld.gov.au/__data/assets/pdf_file/0018/1259010/qreep-renewable-energy-target-report.pdf

operating leverage for a generator (i.e. fixed costs would increase once costs for FTRs are factored in). In addition, we have also received feedback from across our membership of a concern that there may be a requirement to hold some amount of FTRs for a project as a condition of financing.

Cost benefit analysis

While a cost benefit analysis was a logical next step in the transmission access reform proposal development process, the CEC is concerned about the final result. Given NERA's Costs and Benefits of Access Reform Report in March 2020 estimated the total benefit of the reform to consumers to be between $1,811 million and $8,217 million, it is questionable that the total benefit in the final analysis is magnitudes higher at between $6,155 million and $8,245 million. The modelling has not considered a number of real-world factors such as the cost of capital implications and necessity to purchase FTRs for new developments as described above. It also makes some questionable assumptions. Examples of this include:

- The modelling assumes a wholesale price of $30/MWh until 2030, which is significantly below any price forecast available in the market presently, before rising to approximately $100/MWh by 2040.
- The modelling has been run with just 24 "load blocks" per month to determine investment, which is unsuitable for effectively modelling the highly diverse and volatile future NEM.
- The modelling is based on the ISP assumptions book from December 2019. The central ISP scenario in the assumptions book includes distributed energy resources (DER) capacity much below current actuals and very slow growth as it assumes incentives for DER are abolished after 2021. As a result, grid demand is much higher than is likely, increasing the modelled benefits. Similarly, high oil price assumptions drive high gas prices and increase the benefits, especially given the unrealistic modelling of storage (see below). The modelling does not allow new pumped hydro storage in areas where there is no existing hydro, which could include Northern Queensland, New England in NSW and all of South Australia.
- The modelling suggests much of the savings are in the last five years when assumptions are likely to be the least accurate. This is particularly problematic given the assumptions show little to no nominal decreases in renewable generation cost after 2030. In addition, given the high prices forecast in the later five years of the modelling, there should be significant demand destruction at such prices, reducing the benefits even further. The high prices forecast also appear inconsistent with the latest residential price index assumption for the 2020 ESOO, which suggests level to decreasing residential cost of energy over the same period.[18]
- In calculating the subsidy to generators, the model appears to assume unlimited ability by renewable energy generators in extracting a rent from the market to compensate for reduced capacity factors. In actual fact, these generators will have to compete to get up and generators in less congested areas will be able offer PPAs at lower prices.
- The modelling fails to vary loss factors between the reform and no reform scenarios when increased losses (due to increased renewable generation in remote areas) should influence where generation connects.
- The model fails to properly model storage (because it is hard with many feedback loops) and inflates the cost at which it is dispatched, which fails to recognise storage gets revenues in

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[18] AEMO, 2020 Electricity Statement of Opportunities, August 2020, p. 32. https://aemo.com.au/-/media/files/electricity/nem/planning_and_forecasting/nem_esoo/2020/2020-electricity-statement-of-opportunities.pdf?la=en&hash=85DC43733822F2B03B23518229C6F1B2

many markets. In addition, the model fails to consider portfolio benefits that can drive storage investment.

- There is no clear evidence or justification of how the cost of race to the floor bidding actually flows to consumers. The report fails to acknowledge that race to the floor bidding actually reduces prices at times when constraints are resolved and prices fall. In addition, there are many reasons for race to the floor bidding, including shut-down and start-up costs. Furthermore, much of the benefit would be lost in grandfathering of FTRs.
- In terms of increased competition, the ISP will already reduce the risk of price separation between regions by massively increasing transmission capacity. There are significant questions as to what extent FTR can increase competition beyond this benefit.

Conclusion

The CEC recognises the significant efforts by the AEMC to develop the transmission access reform proposal. We also thank the AEMC for engaging regularly and directly with the CEC and our members throughout the entire the COGATI process. However, as is clear throughout this submission, the clean energy industry does not support the transmission access reform proposal as it is the wrong reform at the wrong time. Given other initiatives underway that will improve locational signalling, the strong case to prioritise other reforms ahead of the transmission access reform proposal and the need for investment to stimulate economic activity in response to COVID-19, the AEMC (and ESB as part of the broader post-2025 work program) should discontinue work on this reform. Importantly, this will allow AEMC and industry resources to be redirected to other more pertinent market reform issues. The need for transmission access can be revisited at a later date once the ISP, REZs and other reforms have been implemented to better understand the residual issues that may require access changes.

Thank you for the opportunity to comment on this consultation. If you would like to discuss any of the issues raised in this submission, please contact me, as outlined below.

Yours sincerely,

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