



9 June 2022

Ms Anna Collyer  
Chair  
Energy Security Board  
Lodged by email to: [info@esb.org.au](mailto:info@esb.org.au)

Re: **Response to transmission access reform Consultation Paper May 2022**

Dear Ms Collyer:

Tilt Renewables welcomes the opportunity to make a submission to the above Consultation Paper ("Paper") as part of our continuing engagement with the Energy Security Board ("ESB").

Tilt Renewables is committed to continue playing a lead role in accelerating Australia's transition to clean energy. Tilt is the largest owner and operator of wind and solar generation in Australia, with 1.3 GW of renewable generation capacity across nine wind and solar farms operating, or in the final stages of commissioning, and another 396MW wind farm (Rye Park in NSW) under construction. In addition, Tilt Renewables has a development pipeline of over 3.5GW including the 1.5GW Liverpool Wind Farm development project in NSW's CWO REZ.

Tilt Renewables appreciates the ESB's consideration of additional models to manage network congestion more effectively. An overarching principle in our submission is that in an already complex system and market, simplicity is critical – more complexity deters new investment. An Executive Summary of our view is provided below followed by a more detailed discussion of the different alternatives and issues to be considered.

## **Executive Summary**

### **Investment Timeframes**

Tilt Renewables considers there is a case for reform and an opportunity to improve the current situation in the investment timeframe. However, as the ESB correctly notes on page 7 of the Paper, the fundamental challenge is that:

*"...a model may enable investors to manage their risk, but in a way that creates barriers to new entry. This is a key trade-off when designing the models – that is, the appropriate balance between investors' ability to manage risk and promoting effective wholesale competition over the long-term..."*

As Tilt Renewables is an active developer of renewable projects, as well as a very significant owner of renewable generation, we are well positioned to provide advice and insights into this delicate balance.

Of the two investment timeframe alternatives, Tilt favours continued work on the Transmission Queue model. Tilt considers that the Transmission Queue model (subject to final design) should not favour minimising existing investment risk at the expense of making new investment, i.e. wholesale competition, too difficult. This further work should focus, as a priority, on adjustments to make sure new generation investment is not materially hindered or deterred. For the Congestion Zones with Connection Fee model, Tilt does agree with more detailed information being provided by NSPs and AEMO to better inform



new generation locational decisions such as the Congestion Zone information aspect of this model. Tilt would also recommend consideration of the Clean Energy Council's recommended approach of mandating more information be shared to improve locational investment decisions. However, Tilt does not support the Connection Fee aspect of this model.

### **Operational Timeframes**

Tilt Renewables considers there is **not** a case for reform in the Operational Timeframe. A well-designed reform in the investment timeframe should solve 70-80% of the material issues. Therefore, making radical and disruptive changes in the operational timeframe, such as Locational Marginal Pricing, are unnecessary, harmful to the market and will almost inevitably result in significantly higher prices for electricity customers. As Tilt, and the vast majority of the electricity industry, has advocated for several years, work should not continue on the CMM with Universal Rebate (LMP) model.

Tilt considers that it is worthwhile to continue work on the Congestion Relief Model, not to 'solve' the minor issue of disorderly bidding and/or 'winner take all' dispatch, but as a potential improvement to the NEM. However, the CRM must demonstrate that it is low risk and an almost certain benefit to the market. The model(s) the ESB chooses to progress for either timeframe must satisfy a cost benefit analysis as well as an analysis of intended, and potential unintended (many of which have been flagged), consequences and risks and how these will be addressed. It must be demonstrated that the benefits of the reform far exceed the costs and risks.

## **Further Discussion of the Four Alternatives**

### **Congestion Zones with Connection Fee**

Tilt agrees that a process by which more detailed information is provided regarding congestion levels in different zones is desirable and should be implemented. As stated on page 26 of the Paper:

*The purpose of this process would be to clearly signal to prospective investors which parts of the network are available for further development, which parts are reaching capacity, and those that are already full.*

More information being provided to intending generators is desirable, and it is difficult to see how this would not assist in better locational decisions by itself, to some degree, as the Clean Energy Council advocates.

However, Tilt does not agree that a connection access fee system would be beneficial or appropriate. While fees charged to generators may appear to less sophisticated energy user groups as beneficial, this is very unlikely to be the case for two reasons. First, these fees will have to be incorporated into offtake agreement pricing to customers increasing costs to energy users. Second, the fees will serve as another obstacle to projects proceeding to construction resulting in delays to new generation and storage inevitably resulting in higher wholesale prices. Some projects will spend millions of dollars and several years proceeding up to the point where they find they have a connection fee so onerous the project is put on the shelf thereby reducing wholesale energy market competition. In addition, one must question the wisdom of a fee that the ESB correctly admits that



*“it is difficult [to] set a single fee to reflect a project’s future impact on congestion”*

In addition, if there is no clear purpose or rationale for such a fee, one must question why a fee should be charged.

Another problem with charging fees, much of which would likely be paid annually, is that one could have the perverse situation where a new transmission augmentation drastically reduces, if not eliminates, the congestion a generator was/is being charged in 5-10 years’ time. In this situation, a generator would be paying a congestion fee for congestion that no longer exists which clearly makes no sense. This could be remedied by having periodic reviews that would reduce a generator’s access fee (and pay a rebate for a portion of the initial access fee) should congestion be reduced. However, others will likely argue that such a review must also have the capability to increase access fees should congestion be worse than anticipated. The possibility that access fees might increase would make new generation investment even riskier, and potentially unfinanceable.

In conclusion, Tilt agrees that it would be worthwhile to mandate providing intending generators with a lot more information about forecast congestion and further consideration of the Clean Energy Council’s proposal. However, Tilt does not recommend further work on the Access Fee aspect of this model.

### Transmission Queue

Tilt Renewables agrees that modification to the existing Open Access system is desirable and should be able to be designed to benefit the market by reducing the curtailment (and MLF) volatility to existing generators, while providing strong locational signals to intending generators to reduce their risks. However, as previously stated, it is critical that the right balance be achieved between protecting existing investments while encouraging new generation to enter the market to replace retiring coal fired generators and increase competition (thereby putting downward pressure on wholesale energy prices).

It is clear that the Transmission Queue model definitely improves the ability of investors to manage risk of their current, and future investments before the queue comes into effect (i.e., generation provided with a connection queue number of ‘0’). However, it is less clear what the impact on future generation investment will be once the queue is in effect. Will financiers be willing to provide attractive finance to projects with a connection queue of 1, 2 or 3 even in areas where congestion is low to moderate? Tilt considers that the ESB should continue evaluating the Transmission Queue model with a view towards investigating the potential impact to new development investment. If the detrimental impact on new developments appears too severe, perhaps an adjustment can be made where existing investments are not 100% insulated from increased congestion, instead of doing ‘no harm’, new generation could be allowed to do a ‘small amount of harm’.

The ‘safety valve’ mechanism where intending generators can fund new transmission augmentations (or install a Battery Energy Storage System (BESS) to charge during constraints) to reduce the curtailment caused by the new generator is a welcome option. However, there must be a mechanism that precludes existing, or new, generators materially benefiting from this augmentation without some compensation being paid to the generator who funded the augmentation. Such a structure would be complicated to implement but would be vital to the safety valve being a viable option.

Tilt considers there are likely to be few places in the NEM where the Eol process will result in the ‘first come, first serve’ process being possible (left hand branch of Figure 3.3.).



Instead, there will be lots of auctions resulting in significantly expensive bids for transmission queue number '0' (or even '1'). While this process may 'discover' the most cost-efficient projects, the process is just as likely to discover the proponents with larger balance sheets and/or appetites for risk. The auction fees for this model result in the same issue with the previous model – the fees will add to the cost of offtake agreements resulting in higher prices for electricity customers. Tilt Renewables does not consider these fees should be paid to energy users – CEIG's proposal to use the funds for community benefit schemes would be a more appropriate outcome. In addition, Tilt considers that further analysis should go into other potential criteria, other than an expensive auction, to differentiate bidders in the EoI process.

The CEIG and ESB appear to agree that the transmission queue model needs to be adjusted as the curtailment coefficients will determine dispatch much more often than the transmission queue number. Tilt agrees this is an issue, however we do not agree with the ESB's proposed avenues for improvement – linking the transmission queue to the CRM or CMM to 'solve' the problem. The CEIG's proposed solution of rounding the curtailment coefficients is worth further consideration and is a much simpler potential remedy. However, there is the potential for the operational margins in the constraint equations may need to be increased, to some degree, as the curtailment coefficients would be less accurate and less precise. This would result in an increase in curtailment which would obviously be undesirable.

In conclusion, Tilt recommends the ESB continues assessment of the Transmission Queue model.

### *Congestion Management Model (CMM) with universal rebates*

It is difficult to come up with a better example of a 'solution' desperately seeking a problem to solve than Local Marginal Pricing.

- First, LMP was the centrepiece of COGATI which was going to coordinate transmission and generation investment over three years ago, but the link to transmission investment was dropped.
- Then, LMP was going to improve investor certainty, until an impromptu straw poll showed 90% of investors and developers thought COGATI would increase investor uncertainty and did not want LMPs to proceed<sup>1</sup>.
- LMP was then going to solve the 'diabolical' problem of disorderly bidding which only the AEMC/ESB considered a problem worth worrying about; however, implementation of 5-minute intervals made this problem even more trivial.
- LMPs then became the solution to a slightly better congestion coefficient causing a 'winner take all' result for one nearby generator over another.

The only constant during this 3-4 year process of LMPs has been the steadfast opposition of all three clean energy industry bodies (Clean Energy Council, Clean Energy Investor Group and Smart Energy Council) and the overwhelming majority of their members.

Of course, the interests of energy users are also important - not just those of the industry. However, Tilt would point out the last two 'problems' to be solved have no direct impact on energy prices to consumers of any consequence. Disorderly bidding and 'winner take all'

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<sup>1</sup> [Renewable industry rejects AEMC new pricing proposals, fears investment halt | RenewEconomy](#)



dispatch will, in the majority of cases, result in one zero marginal cost generator being dispatched in lieu of another zero marginal cost generator, both bidding - \$1000/MWh into the market. Therefore, energy users should not care which zero marginal cost generator is potentially being disadvantaged as the effect on energy prices will be unmeasurable.

The issue of primary importance to energy users, in the medium term, is having as much new generation and storage installed in the NEM as quickly and efficiently as possible. Coal fired generators are getting older, less reliable and are exiting the market. If the ESB implements disruptive, complicated and unpredictable changes to access arrangements for new generators, investment will slow down as investors, and importantly financiers, try to understand the implications and risks of the proposed changes.

There have been many other serious issues raised with regards to LMP over the last several years and more will be brought up in this round of consultation. There is little value in Tilt repeating these many valid concerns. However, we will comment on the impact of CMM/LMP on existing offtake agreements.

As the ESB points out in the Paper, Tilt Renewables, amongst others, raised concerns that difficult renegotiations would be required for long term offtake agreements extending into the period when CMM/LMP takes effect. The ESB states in the paper that:

*"... the ESB has considered this feedback and considers that it unlikely that renegotiation would be required in most cases"*

Tilt Renewables has extensive and detailed experience negotiating and completing Power Purchase Agreements (PPAs) and it is clear that there will be impacts on many offtake agreements. As just one example, for a Contract for Difference (CfD) PPA, the payments are based on the difference between the RRP and the CfD strike price. After CMM/LMP takes effect, one of the parties will argue that the payment should now be based on the difference between (LMP + Rebate Paid) and the CfD price as the Rebate is not guaranteed to make up the difference between RRP and LMP. The other party will argue the PPA does not need to be changed. Understandably, neither party wants to take the risk that the Rebate falls short of the difference between RRP and LMP and very difficult negotiations will ensue as both sides have valid and credible arguments.

One benefit that has been argued by the AEMC/ESB for years has been that CMM/LMP will provide better locational signals for new generation. While the industry has largely disagreed with this proposition, we do welcome the ESB now conceding that:

*"...this model [CMM/LMP] does not provide a signal to locate in places where the generator does not increase congestion."*

As it is now agreed CMM/LMP does not address the most important problem being addressed by transmission access reform (i.e., reducing congestion and curtailment) there is even less reason to continue consideration of this model.

In conclusion, Tilt respectfully requests the ESB terminate further consideration of the CMM/LMP model.



### Congestion Relief Market (CRM)

The CRM is a very interesting concept that deserves to be progressed further. Tilt advocates for this not because CRM should mitigate the minor issues of disorderly bidding or 'winner take all' dispatch, but because there is the possibility it could be a beneficial reform in its own right. It is a fresh concept that deserves more analysis, particularly compared to the 3+ year old LMP proposal.

The concept of the CRM is very attractive. It is a mechanism whereby batteries, and other storage, are paid to reduce curtailment in the market thereby maximising use of the existing network. Furthermore, the mechanism is optional; companies that want to bid/offer CRM do so, and companies that do not want to participate can opt out. This is a huge advantage over LMP/CMM which disrupts the NEM anywhere curtailment is present, or potentially going to occur in the future.

While the CEC and Edify have undertaken some work with regards to how the CRM will work with NEMDE which has been useful, there are further questions and market simulations that should be run to further explore how the CRM would likely work in practice. Therefore, progressing further studies and analysis of CRM should be undertaken.

Part of this work should be a cost/benefit analysis estimating, as accurately as possible, the benefits of CRM as well as the costs and potential risks. This sort of analysis should be performed for any model that is progressed by the ESB. It is critical that such modelling occur in conjunction with the industry, potentially via the existing working groups, to ensure the inputs and assumptions are credible and reasonable. In addition, the costs must not be limited to AEMO's implementation costs but must include costs to market participants as well---such as renegotiating PPAs. While unlikely to be an issue for CRM, the cost benefit analysis should also consider forecast changes to wholesale energy costs due to new generation investment delays caused by market disruption and increased investor and financing uncertainty.

In addition, further work by the CRM should also address the ESB's valid concerns in the last paragraph on page 47 of the paper, including that

*there is a prospect that payments for congestion relief could provide a windfall gain that defers efficient retirement decisions.*

Another potential similar problem to address would be to make sure thermal generators, particularly gas turbines, do not offer, and get paid for, congestion relief when they had no intention of generating in the first place, due to their generation being uneconomical or other issues.

### **Conclusion**

Wholesale electricity prices are obviously volatile and are currently at extremely high levels. The focus of the ESB and AEMC should be to avoid any rule change or policy that has even the potential of causing wholesale electricity prices to become more volatile or to rise. The CMM/LMP will cause electricity prices to rise as investment in new generation will face disruptive, complicated and unpredictable risks. For this reason, amongst many others, the ESB should progress the CRM model instead of the CMM/LMP model.



Once again, thank you for the opportunity to comment on the Consultation Paper and we look forward to continuing to further discussions with the ESB. Please feel free to contact [jonathan.upson@tiltrenewables.com](mailto:jonathan.upson@tiltrenewables.com) should you have any questions or to discuss any aspect of this submission.

Yours Sincerely,

A handwritten signature in black ink that reads "Jon Upson".

Jonathan Upson  
Head of Policy & Regulatory Affairs  
**Tilt Renewables**