

21 December 2022

Ms Anna Collyer
Chair
Energy Security Board
Lodged by email to: info@esb.org.au

Dear Ms Collyer,

Response to *Transmission access reform - Directions papers (December 2022)*

The Clean Energy Investor Group (CEIG) welcomes the opportunity to provide feedback on the Energy Security Board (ESB)'s *Transmission access reform - Directions paper* published in November 2022.

CEIG represents domestic and global renewable energy developers and investors, with more than 11GW of installed renewable energy capacity across more than 70 power stations and a combined portfolio value of around \$24 billion. CEIG members' project pipeline is estimated to be more than 18GW. CEIG strongly advocates for an efficient transition to a clean energy system from the perspective of the stakeholders who will provide the low-cost capital needed to achieve it.

KEY POINTS

CEIG RECOMMENDS THAT MINISTERS CONSIDER THE ADOPTION OF A RANGE OF MEASURES THAT SEPARATELY, OR IN COMBINATION, CAN IMPROVE THE INVESTABILITY OF THE NEM.

CEIG outlines key principles for reform to help guide Ministers' decision making:

- Should not undermine development of new generation;
- Should share efficient congestion fairly across existing and new plants;
- Should not undermine bilateral trade, existing contracts or long-term price predictability;
- Should reduce, not increase, risk during asset operation;
- Should account for all types of congestion (thermal limits, voltage stability, pre-contingent and system strength);
- Should not undermine system security; and
- Should not be overcomplicated.

CEIG supports the Energy Departments and the ESB progressing the Enhanced information proposal:

- The reform could also be strengthened to further improve certainty around network performance by delivering:
 - additional modelling of congestion and network availability (current and future);
 - new mechanism to commit implementation of ISP transmission investment (timing & quantum).
- ‘Enhanced information’ can be implemented as a stand-alone and Ministers should agree to start this work at their February 2023 meeting.

CEIG supports other measures that can help the reform process

- Support investigation of ESB’s proposal to round constraint coefficients (including as a stand-alone reform if required);
- Support Energy Ministers’ decision to write new Statements of Expectation to hold market bodies accountable for the delivery of reforms that enable NEM transformation;
- Investigate use of proven, near term, technical solutions to unlock existing VRE capacity; and
- Provide greater certainty on coal plants’ retirement schedule.

In investment timeframes, CEIG supports the Energy Departments and the ESB further developing the Priority access model:

- Detailed design must follow the principles outlined in this submission, including a fair allocation of risks between existing and new plants.
- CEIG disagrees with the ESB’s proposal around:
 - queue number allocation: **new entrants should not by default get lesser access to the network than existing plants.** Instead, the queue number should be based on the amount of available transmission capacity in the local area. **In an uncongested area, new plants should have the same queue number as existing plants;** it’s only once the available transmission capacity is exhausted that new plants start receiving a higher queue number than existing plants;
 - efficient congestion: **all plants (new and existing) should share an efficient level of congestion;**
 - See Castalia’s further detailed design proposals in its 3 reports for CEIG.
- The ESB’s descriptions of the Priority access model are inconsistent throughout the paper. The ESB should assume that (in line with CEIG’s assumption) the queue is established in the event of bids being tied (i.e. not just at the market price floor).

- If Priority access is not implemented, CEIG does not support the implementation of the Congestion fees model and recommends that Ministers revisit this issue in 12-18 months, following completion of Enhanced information reforms.

In operational timeframes, CEIG supports the Energy Departments and the ESB further developing the CRM as it was proposed by Edify (with CEC amendments), not the ESB's latest proposal.

- **If CRM is not implemented, CEIG does not support the implementation of the CMM.** CMM allocates excessive risks to investors, would create uncertainty and increase costs for consumers.
- **LMP-based reforms need to be discarded:** On top of allocating excessive risks to investors, it is becoming apparent that the Post-2025 energy market will remunerate not just energy but also flexibility and dispatchability. Basing transmission access reform on LMPs is not consistent with the broader direction of reform and has long been rejected by industry.

REFORM IMPLEMENTATION

CEIG does not support the ESB's approach to implement operational reforms first, then investment reforms

- Most customer benefits will occur in investment (vs. operational) timeframes.
- CEIG is concerned with the ESB's main focus on dispatch efficiency; more effort should be placed on investment timeframe reform (i.e. avoiding congestion in the first place through improved locational signals).

CEIG does not support the ESB's approach to only implement the Priority Access model if the CRM is implemented

- Ministers could retain status quo in operational timeframes if the CRM model is not implemented.

Assessment of options should include all shortlisted options:

- robust assessment of costs and benefits (including a genuine assessment of changes in the cost of capital);
- assessment by AEMO of potential impacts on grid reliability and system security;
- advice on how the models could be implemented in NEMDE.

MINISTERS CAN CHOOSE FROM A RANGE OF OPTIONS TO IMPROVE THE INVESTABILITY OF THE NATIONAL ELECTRICITY MARKET (NEM)

CEIG outlines key principles for reform to guide Ministers' decisions:

- Should not undermine development of new generation;
- Should share efficient congestion fairly across existing and new plants;

- Should not undermine bilateral trade, existing contracts or long-term price predictability;
- Should reduce, not increase, risk during asset operation;
- Should account for all types of congestion (thermal limits, voltage stability, pre-contingent and system strength);
- Should not undermine system security; and
- Should not be overcomplicated.

CEIG supports the Energy Departments and the ESB progressing the Enhanced information proposal and Ministers should agree to start this work at their February meeting

CEIG agrees with the ESB that the provision of additional information on transmission network availability is a no-regrets reform and CEIG supports the development of this work.

Unlike the ESB though, CEIG believes that this work could be implemented as a stand-alone reform, regardless of what other reforms are implemented (or not). Ministers should agree to start this work at their February 2023 meeting.

Enhanced information+: improved certainty around current and future network performance

CEIG proposes to strengthen the ESB's proposal in an Enhanced information+ package that will improve certainty around current and future network performance.

1) Additional modelling on congestion and network availability

This new information will provide a much more granular and more regular understanding of current and future network availability which will support investors' siting decisions.

New modelling data could be provided to the market that would measure:

- Measure of congestion: must include all types of congestion (thermal limits, voltage stability, pre-contingent and system strength);
- Measure of network availability for each node/ transmission line:
 - must account for all existing, committed and 'likely projects to achieve Financial Investment Decision within the next 1-2 years.
 - could include 2-4 different scenarios (e.g. summer peak demand...)

There should be an obligation for the Australian Energy Market Operator (AEMO) or the Network Service Providers (NSPs) to publish this modelling information, and for it to be published regularly (semi-annually; at least annually).

2) New mechanism to commit the implementation of the ISP's transmission investment program (timing & quantum)

This new mechanism would provide more granular details on the deliverability of the transmission investment program.

Currently, AEMO outlines the most likely Integrated System Plan (ISP) scenario but there is no commitment nor responsibility for any entity to deliver the volume and the timing of transmission investment outlined in the ISP. The ISP's Actionable Project process prioritises transmission projects but there is no certainty that the timing outlined in the ISP will eventuate.

Ministers should put in place a new mechanism to clearly commit the implementation of the ISP's transmission investment program.

This new measure would provide greater certainty around the status of the network in the medium term by 'locking in' the timing and the quantum of transmission investment and ensuring that sufficient resources are allocated. The Rewiring the Nation Office (RTNO) could be the responsible entity, with financial backing from the Rewiring the Nation Fund.

A possible process could be:

- Ministers issue an annual determination and direct the RTNO;
- RTNO publishes an annual Statement of Objectives showing priority projects, milestones, responsibility for delivery & funding.

Investors have welcomed the recent Commonwealth Government's first *Rewiring the Nation* announcements as they have provided greater certainty around the delivery of key transmission assets. This new measure would generate similar positive outcomes as investors would have greater visibility over where and when to site their new investments.

Other measures can also support Transmission access reform

1) Support the investigation of the proposal to round constraint coefficients

The **Energy Departments and the ESB** should conduct some modelling to assess the potential impacts from rounding constraint coefficients on congestion and assess how much rounding would be required to deliver impactful results.

If this process was assessed as valuable, this could be implemented as a stand-alone proposal, regardless of what other broader reforms are implemented (or not).

2) Support Energy Ministers' decision to write new Statements of Expectation for the market bodies

Energy Ministers have recently agreed to write new Statements of Expectation for the market bodies. CEIG supports this decision which will be a useful way to align the governance of the market bodies to ensure that they are held accountable for the delivery of reforms that enable NEM transformation.

3) Support investigating the use of proven, near term, technical solutions to unlock existing Variable Renewable Energy (VRE) capacity

CEIG supports the **Energy Departments and the ESB** investigating the use of existing power flow control technologies to unlock generation from existing plants in currently congested areas. This can be a useful short-term solution to access low-cost additional generation while regulatory processes are underway to assess whether a longer-term solution is warranted (e.g. transmission upgrade).

This can be facilitated through the use of proven technologies (e.g. Smart Wires) which are in use overseas. Allocation of grant funding from the State and the Commonwealth governments would assist in expediting resolution of existing congestion issues and the better utilisation of existing generation which currently experiences significant curtailment.

4) Support providing greater certainty on coal retirement schedule

Another way to provide greater certainty around network availability is governments and/ or market bodies providing greater certainty around coal plants' retirement schedules.

An update on the work of the Commonwealth Government and the ESB on the proposed coal exit contracts could be useful in this regard.

PRIORITY ACCESS MODEL

In investment timeframes, CEIG supports the Energy Departments and the ESB further developing the Priority access model

It is critical that detailed design follows the principles outlined in this submission, particularly ensuring there is a fair allocation of risks between existing and new plants so that new investment is not disincentivised.

CEIG noted the ESB's assessment that the Priority access model would not deter efficient new entry:

A critical question is whether new investment is stifled if incumbents are given priority access. Our preliminary view is that it would not deter efficient new entry. Indeed, the 'first in best dressed' dynamic has the potential to accelerate new entry.

The access granted by the queue rights reflect the availability of hosting capacity; they adjust in accordance with prevailing network conditions and local generator output. To the extent that there is spare network capacity available at any given time, new entrants can use it. They can also be dispatched via the CRM if there is a lower cost outcome. Each generator is protected from subsequent wealth transfers to future investments, reducing their risk.

A new project may be prepared to absorb higher levels of curtailment in the short term to take advantage of new hosting capacity when it becomes available. But if the new project's business case relied on cannibalising access from incumbents in the medium to long term, arguably it should not be connecting at that location.

Put another way, queue positions that have most value are most likely to be in parts of the network that are – or are expected to be – uncongested. This incentivises generators to join the queue in these areas, promoting efficient investment.

Detailed design considerations

Note on ESB’s description of Priority access model

CEIG notes that the ESB’s descriptions of the Priority access model are inconsistent throughout the paper.

The ESB describes the model as “This variant establishes a queue in the event of bids being tied at the market price floor.” However, other sections of the paper assume (in line with CEIG’s assumption) that the queue is established in the event of bids being tied (i.e. not just at the market price floor).

Note on balance of risks between existing and new plants

CEIG disagrees with the ESB’s proposals around:

- queue number allocation: new entrants should not by default get lesser access to the network than existing plants. Instead, the queue number should be based on the amount of available transmission capacity in the local area. In an uncongested area, new plants should have the same queue number as existing plants; it’s only once the available transmission capacity is exhausted that new plants start receiving a higher queue number than existing plants; and
- efficient congestion: all plants (new and existing) should share an efficient level of congestion and be curtailed up to that level equally.

CEIG refers the ESB to Castalia’s original proposals for more information.

Note on other detailed design matters

CEIG’s preferred approach on the detailed design options discussed in the ESB’s paper is provided in the 3 reports commissioned from Castalia:

- [Rethink of open access regime Report](#) (Feb-22)
- [Q&A document](#) (Apr-22)
- [Further detailed design Report](#) (May-22)

and CEIG’s submissions prepared in 2022 on the Transmission access reform workstream (available at www.ceig.org.au).

If Priority access model not implemented

If the Priority access model is not implemented, CEIG does not support the implementation of the Congestion fees model for reasons outlined below.

In this case, CEIG suggests that Energy Ministers could revisit the potential for Investment timeframe access reform in 12 to 18 months, following completion of Enhanced information reforms and once its benefits can be assessed. A new process to design an alternative solution in consultation with industry should be considered.

CONGESTION FEES MODEL

CEIG does not support the ESB's proposal to introduce a new congestion fee as it does not deliver the upfront improvements to revenue certainty that investors need to lower the cost of capital.

From an investor's perspective, the ESB's proposal has several critical downsides:

- The fee imposes a new cost on new generation projects without any concrete benefits: unlike the Priority access model, there is no guaranteed visibility on a project's curtailment risk over the life of the asset;
- Features of the open access regime mean that generators will continue to be exposed to an unknown amount of congestion:
 - 'winner takes all': a project that has paid the fee can still be congested by a nearby project with a coefficient 1/1000th better than its own.;
 - Nature of open access: despite having paid a fee and the congestion fee being high, new entrants can continue to locate nearby and displace existing plants' output.
- The new fee would need to be recovered from consumers and would leave consumers to pay higher prices overall as the cost of higher wholesale prices would exceed the upfront decrease in transmission use of system (TuoS) charges.
 - The connection fee increases the equilibrium price a new generator needs (i.e. all wholesale energy needs to be higher priced for those generators to connect). However, the TuoS savings are only on the subset of energy provided by the new generator – a much smaller amount. Overall, this is not a zero-sum game and consumers end up paying higher prices.
- Even if the fee provides a locational signal, it is unclear that it would be followed. The extent of that would probably vary depending on how material the fee would be compared to the rest of a project's cost.
- Finally, the ESB has previously acknowledged that it would be difficult to calculate the fee accurately and that it also may be set too high or too low. This may negatively impact on the optimal NEM development outlined in AEMO's ISPs. There could also be unforeseen and unfair results (e.g. required fee payment, then unforeseen improvement in transmission availability a few years later).

OPERATIONAL TIMEFRAME REFORM

CEIG supports the Energy Departments and the ESB further developing the Congestion Relief Model (CRM) as it was proposed by Edify (with Clean Energy Council's amendments), not the ESB's latest proposal.

CEIG supports further development of a CRM model that:

- prices congestion relief at the regional reference price, not at the LMP; and
- is genuinely voluntary.

If the original CRM is not implemented, CEIG does not support the implementation of the Congestion Management Model (CMM)

CMM allocates excessive risks to investors, would create uncertainty and increase costs for consumers.

As CEIG has previously argued¹, Locational Marginal Prices (LMPs) would create uncertainty and increase costs for consumers as it contains key design features (including exposure to LMPs) that allocate excessive risks to investors:

- The introduction of the CMM would likely lead to a significant slowdown in new generation and storage investment, resulting in higher wholesale prices for consumers;
- Because of the difficulty to accurately forecast the level of rebates over the life of the project, financiers will be very hesitant to finance new developments which could result in either unavailable or very expensive debt;
- The CMM does not protect a project from a second generator connecting nearby causing more severe congestion and resulting in negative impacts on the level of rebates received; and
- It is critical that industry concerns around CMM - which have now been voiced over many years when considering the earlier COGATI iterations - are both listened to and acted upon.

LMP-based reforms need to be discarded

The clean energy industry has long been vocal against LMP-based reforms which do not have its support and CEIG strongly believes that LMP-based reforms need to be discarded.

On top of allocating excessive risks to investors, it is becoming more evident that the Post-2025 energy market will remunerate not just energy but also flexibility and dispatchability. Basing transmission access reform on LMPs - a complex way to price energy - is not consistent with the broader direction of reform and has long been rejected by industry.

Modelling

CEIG understands that the results of the modelling commissioned to-date by the ESB have been delayed and notes that this implies that stakeholders have to express preferences for models without the benefit of understanding their costs/benefits in any detail beyond the ESB's commentary in its Paper. As a result, the ESB could be pursuing reform(s) that increase costs on participants to implement, without a clear view of benefits.

IMPLEMENTATION

CEIG does not support the ESB's approach to implement operational reforms first, then investment reforms

¹ [CEIG submission](#) (May-22)

Most benefits will occur in investment rather than operational timeframes and customers stand to benefit the most from implementing investment timeframe reforms.

CEIG is concerned with the ESB's main focus on dispatch efficiency and would like to see more emphasis placed on investment timeframe reform (i.e. avoiding congestion in the first place through improved locational signals).

CEIG supports the importance of investment (vs. operational) timeframe reform:

- In a NEM with 100% VRE, providing investors with greater certainty about their future ability to dispatch is critical; to lower the cost of capital, this needs to happen upfront, at the time they make their investment decision;
- To lower overall costs for consumers, the volume of capital also needs to be minimised (through better coordination of generation and transmission investment).

In their *Rethink of Open Access Regime Report*², Castalia have done a high-level quantification of the benefits of investment timeframe reforms and argued that they would far outweigh the minimal benefits to be gained from improved efficiency of dispatch. This is the result of the capital-intensive nature of the transition and the fact that there are limited benefits of competition in 5-minute intervals in a 100% VRE NEM with near-zero short-run marginal cost – a new environment that will be largely in place in the NEM within the next 7 years based on the Commonwealth Government's target of 83% VRE by 2030.

CEIG does not support the ESB's approach to only implement the Priority access model if the CRM is implemented

The investment timeframe models continue to be integrated with operational timeframe models which is not a prerequisite for those models to operate. As with previous consultations, the two do not need to be linked together.

Government must focus implementation on investment timeframe reform: it could implement an investment timeframe model and retain status quo in operational timeframes if the CRM model is not implemented.

CEIG welcomes a robust assessment of costs and benefits for all shortlisted models

A robust assessment of costs and benefits for all shortlisted models (including an assessment of costs for all market participants and a genuine assessment of changes in the cost of capital) is required to effectively compare and assess all reform options.

The ESB should not assume that some models have already been assessed as part of earlier (heavily contested) modelling exercises. In particular, the

² Castalia, [Rethink of Open Access Regime](#), (Feb-22)

introduction of CMM should not be considered costless. Instead, CMM is likely to increase the weighted average cost of capital for both new and existing generators and deter new investment. It should not be considered as the fall-back option that is passed with no cost-benefit analysis.

Modelling should include a detailed assessment of potential impacts on grid reliability and system security for all shortlisted models.

AEMO should provide detailed advice and modelling around:

- feasibility and implementation of the shortlisted models in NEMDE;
- potential impacts on grid reliability and system security for all shortlisted models.

The issues contemplated by the ESB and stakeholders can be extremely technical. It is difficult to have meaningful discussions without the benefit of detailed advice from AEMO's technical experts.

CEIG thanks the ESB and the Commonwealth government for the opportunity to provide feedback on the Directions paper and looks forward to further engagement on those issues. Our Policy Director Ms. Marilyne Crestias can be contacted at marilyne.crestias@ceig.org.au if you would like to further discuss any elements of this submission.

Yours sincerely,



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