Clean Energy Investor Group

50 Camberwell Road Hawthorn East VIC 3123

6 June 2024

Ms Anna Collyer
Chair
Energy Advisory Panel
Lodged online at: www.aemc.gov.au

Dear Ms Collyer,

Response to *Transmission Access Reform – Consultation Paper (April 2024)*
The Clean Energy Investor Group (CEIG) welcomes the opportunity to provide feedback on the Australian Energy Market Commission's (AEMC) consultation paper on Transmission Access Reform published in April 2024.

CEIG represents domestic and global renewable energy developers and investors, with more than 16GW of installed renewable energy capacity across more than 76 power stations and a combined portfolio value of around $38 billion. CEIG members' project pipeline is estimated to be more than 46GW across Australia. CEIG strongly advocates for an efficient transition to a clean energy future on behalf of the investors who will provide the low-cost capital required for this transition.

Key Points

- **General Comments**
  - CEIG notes that there are still several material design issues that need to be addressed by the AEMC, including impacts on Power Purchase Agreements (PPAs) and finalising the balance of risk between new and existing generators.
  - Further testing into the impacts of the preferred hybrid model under realistic future scenarios through an updated cost-benefit-analysis is also required.
  - There is a need to bring the hybrid model closer in line to the original models put forward by industry.
  - CEIG raises concerns that the key questions raised throughout the consultation paper, and by industry, might not be answered ahead of the September deadline to provide key recommendations to Ministers.
- **CEIG outlines key principles for reform to help guide Ministers' decision making:**
  - Should not undermine development of efficient 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;
  - Should not be overcomplicated causing huge uncertainty and delaying investment; and
  - Must easily satisfy a cost benefit analysis with inputs accounting for material risks.
- **Cost-Benefit Analysis**
  - CEIG advocates for updating the 2023 CBA to reflect the impacts of the preferred hybrid model, realistic future scenarios, incorporating the amended NEO, CIS, and forthcoming 2024 ISP to ensure accurate and reliable projections. The assumptions and inputs should be developed in collaboration with market participants.
- **Prototyping**
  - CEIG raises concerns about the unintended consequences revealed through the testing with the NEMDE prototype.
  - CEIG recommends additional analysis using forward-looking data to model high VRE grid conditions expected post-2027, to address concerns about unintended consequences from reliance on historical data.
- **Modelling the Hybrid Model**
  - CEIG supports the engagement of ACIL Allen to model priority access impacts on investment decisions and suggest using the simplified prototype model via the EAP to ensure realistic inputs and assumptions. The key questions to be answered is once the hybrid model begins operation, can new developments better forecast their curtailment including network outages, future augmentations and new constraint equations.
- **Priority Access Allocation Models**
  - CEIG favours Option 1 – Batching by Time Window, whilst recommending the AEMC includes an allowance for generators to take mitigating measures like investing in additional transmission infrastructure or energy storage to alleviate congestion and improve their queue position.
- **CRM Implementation Approaches**
  - CEIG supports in principle the access dispatch run approach to maintain voluntary participation, highlighting concerns with the higher implementation costs and risks of mandatory participation under the co-optimisation model.
- **Impact on PPAs:**
  - CEIG emphasises the need to avoid undermining long-term price predictability or requiring renegotiation of existing contracts, ensuring that reforms do not disrupt financial agreements and investment plans.
- **Impact on Financial Markets**
  - CEIG further emphasises the need to maintain the voluntary nature of the CRM, prevent reduced contract volumes and balance risks between legacy and future

generators, and avoid unintended consequences and market distortions.

- **Wide-Reaching Constraints**
  - CEIG do consider that priority access could increase investment risk due to wide-reaching constraints.
  - CEIG acknowledges the potential merit of a dynamic grouping option to mitigate risks associated with the unpredictability of wide-reaching constraints, such as system outages or stability issues.
  - However, whilst this approach could provide a more adaptive and responsive mechanism for managing such constraints in real-time, the dynamic grouping option has not been explored in sufficient depth to resolve these concerns.
  - CEIG advocates for further research and modelling before endorsing dynamic grouping for real-time management of wide-reaching constraints like system outages or stability issues.
- **Detailed Priority Access Design Choices**
  - CEIG emphasises the importance of getting the balance of risks between legacy and future generators right to ensure that future generators do not bear a disproportionate share of congestion-related risks.
  - CEIG supports in principle prioritising assets for their economic life and criteria-based allocation for REZs, with differential treatment for thermal generators based on emission intensity to discourage higher-emissions generation being prioritised over zero emission generation.
- **CRM Design Choices**
  - CEIG strongly emphasises the importance of maintaining the voluntary nature of the CRM and recommends that the settlement residue formula should not be complicated, and that the CRM should not pollute regular energy settlements.

GENERAL COMMENTS

CEIG recognises the urgency and significance of reforms to facilitate the transition to a decarbonised National Electricity Market (NEM) which will further enable the decarbonise the broader energy system and create increased opportunities for renewable energy exports.

CEIG commends the AEMC on presenting a clear consultation paper that articulates the case for reform and AEMC's current positions on transmission access reform to guide stakeholder feedback for use in the development of final recommendations to be presented to Energy Ministers in September 2024.

CEIG commends the AEMC's commitment to stakeholder engagement and collaborative approach with the Australian Energy Regulator (AER) and the Australian Energy Market Operator (AEMO). The focus on transparent consultation and iterative development of the hybrid model is crucial in ensuring that the final recommendations are robust and widely supported.

However, CEIG notes that there are still several material design issues that need to be addressed by the AEMC, including impacts on Power Purchase Agreements (PPAs) and

finalising the balance of risk between new and existing generators. Further testing into the impacts of the preferred hybrid model under realistic future scenarios through an updated cost-benefit-analysis is also required. Finally, there is a need to bring the hybrid model closer in line to the original models put forward by industry, such as including the ability for proponents to improve their queue position by investing in transmission or storage. Considering this, CEIG raises concerns that the key questions raised throughout the consultation paper, and by industry, might not be answered ahead of the September deadline to provide key recommendations to Ministers.

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

Given the current hybrid model still faces several design issues, CEIG believes that it is still relevant to present key principles for reform to help guide both the AEMC in its continued work and Ministers' decision making, as highlighted in our previous submission[1]:

- Should not undermine development of efficient 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;
- Should not be overcomplicated causing huge uncertainty and delaying investment; and
- Must easily satisfy a cost benefit analysis with inputs accounting for material risks.

TESTING AND MODELLING THE HYBRID MODEL

Feedback on cost-benefit analysis conducted in 2023

CEIG emphasises the critical importance of conducting a cost-benefit analysis (CBA) that withstands rigorous scrutiny, particularly by incorporating inputs that accurately reflect material risks and uncertainties. Given that the initial CBA was conducted in 2023, there are valid concerns regarding its underlying assumptions, which may not fully capture the evolving market and operational conditions anticipated beyond 2027, the projected implementation period for the transmission access reforms.

To ensure the reliability and relevance of the CBA, CEIG strongly advocates for an updated analysis. This updated analysis should validate the projected benefits of the impacts of the preferred hybrid model under realistic future scenarios. It is crucial that this validation process takes into account potential changes in market dynamics, technological advancements, and regulatory shifts that could impact the anticipated outcomes of the reforms.

Additionally, CEIG recommends that the AEMC integrates the implications of the amended National Electricity Objective (NEO), the Capacity Investment Scheme (CIS),

[1] CEIG response: ESB Transmission Access Reform Consultation paper

and the forthcoming Final 2024 Integrated System Plan (ISP) into the updated CBA. These elements represent significant developments in the energy policy landscape and are likely to influence both the costs and benefits associated with the transmission access reforms. Furthermore, the assumptions and inputs should be developed in collaboration with market participants.

By incorporating these factors, the AEMC can ensure that the CBA reflects a comprehensive and current understanding of the energy market, thereby providing a more accurate basis for decision-making.

Feedback on prototyping

CEIG appreciates AEMO's efforts in undertaking the test case work for priority access. However, CEIG raises concerns about the 'unintended consequences' of priority access revealed through the testing with the NEMDE prototype. This modelling exercise indicated that a significant number of cases showed prioritised generators having their generation reduced relative to the status quo. Point 66 in the summary downplays the significance of these unintended consequences, yet the fact that 30% of modelled cases exhibited unexpected dispatch changes is a major issue for the credibility of this approach, indicating more work is needed in both design and testing.

Given the importance on providing investors with certainty, including the ability to accurately model the impact of market changes, it is not practical to dismiss these cases as 'outliers' when they represent the extreme scenarios this reform is designed to address and are the closest examples we have in the NEM to the high-VRE and congested future grid.

To enhance the robustness of the analysis and provide investors with greater certainty, CEIG recommends that AEMO conducts additional analysis using forward-looking data. This should simulate conditions representative of a high-VRE grid expected post-2027. By incorporating forward-looking data, AEMO can better capture the dynamic interactions and potential challenges of a VRE-dominated grid, helping to identify and mitigate unforeseen risks, and offering a more accurate projection of the reform's impact on grid stability, efficiency, and investment viability.

Feedback on modelling the hybrid model

CEIG has consistently emphasised the importance of clarity in modelling and implementing reforms, particularly with regard to priority access. CEIG advocates for approaches that ensure market stability, avoid disadvantaging new entrants, and minimise added complexity.

CEIG supports the AEMC's engagement with ACIL Allen to address how priority access may influence future investment decisions. This modelling effort is crucial as it holds the potential to answer the question – once the hybrid model begins operation, can new developments better forecast their curtailment including network outages, future augmentations and new constraint equations. Providing investors with greater certainty

regarding the implications of priority access, will help banks and financial institutions make informed decisions, positively influencing investment in renewable energy projects.

In response to questions 3 to 5 in section 3.3 of the Consultation Paper, CEIG recommends that the Energy Advisory Panel (EAP), in conjunction with ACIL Allen and market participants, utilise the forthcoming simplified prototype model to ensure that realistic inputs and assumptions are incorporated. This collaborative approach will enhance the model's accuracy and reliability, providing stakeholders with a comprehensive tool to assess the potential outcomes of the hybrid model.

ASSESSMENT OF KEY MODEL OPTIONS

Assessment of priority access allocation models

Option 1: Batching by time window (preferred)

CEIG supports this approach, particularly the treatment of Renewable Energy Zone (REZ) generators being grouped and allocated a queue position based on meeting certain defined milestones or criteria. This method effectively safeguards projects within REZs from the risk of being leapfrogged by non-REZ generators, thereby promoting stability and predictability for investments in REZs and provides certainty.

Whilst Option 1 most closely resembles the original transmission queue model presented by Castalia[2], CEIG notes a critical missing element: where there is no available position in the queue for local transmission capacity being implemented through the regulated transmission investment process (and ISP projects), a renewable generation investor may be willing to pay to create additional capacity, thus improving their queue position. This flexibility will provide investors with a “safety-valve” to invest in transmission or storage when the value of the upgrade is great enough that they are willing to pay for it.

CEIG understands that state governments will likely control access to projects near REZs. These projects are expected to connect to the grid only if they take measures to avoid impacting the REZs. Therefore, CEIG recommends that the AEMC considers interactions with state governments and the potential for generators to enhance their queue position by alleviating congestion in their final design.

Option 2: Batching by time window REZ

While CEIG acknowledges the importance of encouraging investment within REZs to efficiently utilise transmission infrastructure, prioritising all REZs equally, as highlighted in the consultation paper, may inadvertently disincentivise development pipelines that include projects outside yet-to-be-announced REZs. This could potentially hinder the overall development of the renewable energy sector.

Option 3: Two tiers

CEIG finds this option too blunt and potentially unfavourable for greenfield developments. The arbitrary allocation of priority could disadvantage generators connecting outside a REZ compared to those within a REZ, even if the latter connect later. Additionally, there

[2] Castalia, 2022. Rethink of open access regime (section 3.1.4 page 36)

are concerns about the central decision-maker's role in assigning priority, which could lead to inconsistent and unpredictable outcomes.

Option 4: Dynamic grouping

Currently, there is insufficient information to fully evaluate this option with the effectiveness and perverse outcomes in the complex meshed NEM being far from clear at this stage. However, on the surface, it appears to provide a blunted signal, offering little certainty and predictability. There is also a risk that queue positions might change after a financial investment decision (FID) has been made, adding to the uncertainty for investors and negating the intent of the reform.

Assessment of CRM implementation approaches

CEIG acknowledges that the current dispatch model includes co-optimisation for energy and frequency control ancillary services (FCAS). While the co-optimisation approach is being considered as a potential Congestion Relief Market (CRM) implementation method, it has not yet been tested thoroughly, resulting in a lack of detailed information to make an informed preference. Furthermore, as highlighted by the AEMC, the implementation costs associated with co-optimisation would be higher than the current sequential dispatch method. Additionally, there is a perception that co-optimisation may be less voluntary than the two-stage approach.

CEIG continues to express concerns about the potential for mandatory participation in what could effectively become a locational marginal pricing (LMP) system through the CRM. It is crucial that any CRM implementation remains voluntary and does not complicate existing energy settlements. The voluntary nature of the CRM is essential to maintaining market stability and ensuring that participants are not forced into a system that could increase complexity and risk.

Given these considerations, CEIG's preference is for the access dispatch run approach, where generators that choose not to participate in the CRM are settled at the Regional Reference Price (RRP). This approach maintains the voluntary nature of the CRM, ensuring that generators have the option to participate based on their individual circumstances and preferences. It also helps to avoid the potential complications and increased costs associated with a mandatory co-optimisation model.

KEY STAKEHOLDER CONCERNS

As the AEMC progresses with the design of this reform, it is essential to consider the practical implications for PPAs and the broader financial markets. Ensuring that the new arrangements do not unduly disrupt existing contracts or create market uncertainties is vital for maintaining investor confidence and promoting continued investment in renewable energy projects.

Feedback on impact of the hybrid model on PPAs

The potential impact of the hybrid model on PPAs is a significant concern for CEIG. It is crucial that the proposed reforms do not undermine long-term price predictability or

disrupt existing contracts, as this could negatively affect the terms and stability of PPAs.

CEIG is particularly worried that the changes introduced by the hybrid model could necessitate the renegotiation of existing PPAs or impact the valuation of future contracts. Such a scenario could destabilise financial planning and investment strategies, creating uncertainty for investors and stakeholders. Specifically, contracts that include clauses related to access rights might require renegotiation, which could be a complex and resource-intensive process.

Moreover, while the AEMC suggests that PPAs with clauses aimed at maximising generation will not be affected due to the voluntary nature of the CRM, CEIG remains concerned about the potential for forced participation. This concern is particularly relevant if the implementation of the hybrid model inadvertently leads to a situation where participation in the CRM becomes effectively mandatory, despite being designed as voluntary.

To mitigate these risks, CEIG recommends that the AEMC carefully consider the implications of the hybrid model on PPAs and take steps to ensure that existing contracts are respected and that any necessary transitions are managed smoothly. It is essential that the reforms are designed to provide clear guidelines and support mechanisms to help market participants navigate potential changes without causing disruption to financial agreements and investment plans.

Feedback on impact of the hybrid model on financial markets

CEIG acknowledges the concerns raised in the consultation paper regarding the potential impact of the CRM on financial markets. One of the key issues is the possibility that the CRM could reduce the volume of contracts sold by generators, thereby introducing additional financial risks that need to be carefully considered.

Furthermore, CEIG is concerned that the CRM might evolve into a mandatory mechanism over time, contrary to the explicit directive from Ministers to avoid implementing LMP systems. Ensuring that the CRM remains voluntary is crucial to maintaining market stability and adhering to policy directives.

CEIG also recognises the AEMC's observations that increased congestion or price risk due to priority access would primarily impact new entrants in congested areas, aligning with the reform objectives of improving investment efficiency and managing access risks. By targeting these risks at new entrants, the reforms aim to provide clearer signals for investment in less congested areas, thereby optimising the use of the existing transmission network.

CEIG emphasises the importance of maintaining the voluntary nature of the CRM and ensuring that any reforms do not inadvertently force participation or shift undue financial burdens onto new market entrants. This balance is critical for sustaining investor confidence and supporting the continued growth and stability of the renewable energy

sector.

Feedback on wide-reaching constraints

CEIG do consider that priority access could increase investment risk due to wide-reaching constraints. Constraint equations in NEMDE are classified as either 'system normal' (normal operating conditions) or 'contingency' (outages, exceptional events, etc.). CEIG believes that the intent of this reform was to manage grid congestion under normal operating conditions. However, the implementation path involving bid price floor adjustments also extends to contingency conditions, leading to unintended consequences.

As a result, new generators would face significantly greater curtailment risk during outages and contingency events. Recent examples in the NEM show that new generators could be constrained down to zero for extended periods, particularly concerning given the scope of transmission upgrades planned in the coming decade. Revenues captured during such contingency events constitute a significant portion of the business case for new battery projects, and the de-prioritisation of their dispatch during these times represents a substantial risk.

CEIG acknowledges the potential merit of a dynamic grouping option to mitigate risks associated with the unpredictability of wide-reaching constraints, such as system outages or stability issues. However, whilst this approach could provide a more adaptive and responsive mechanism for managing such constraints in real-time, the dynamic grouping option has not been explored in sufficient depth to resolve these concerns.

There is insufficient information on the dynamic grouping option to fully support its implementation as a solution for incorporating wide-reaching constraints in real-time. The lack of detailed data and comprehensive analysis makes it challenging to assess the feasibility and effectiveness of this approach.

CEIG recommends that further research and detailed modelling be conducted to evaluate the dynamic grouping option thoroughly. This should include simulations under various scenarios to understand how dynamic grouping would perform in managing wide-reaching constraints and its potential impact on market stability and efficiency.

DETAILED DESIGN QUESTIONS

Feedback on detailed priority access design choices

CEIG appreciates that the policy levers are designed to balance risks between legacy and future generators and emphasises the importance of getting this balance right to ensure that future generators do not bear a disproportionate share of congestion-related risks, which is essential for maintaining a level playing field and encouraging ongoing investment in renewable energy projects.

<u>Duration of prioritisation</u>

CEIG supports in principle the AEMC's preferred position to prioritise for the expected

economic life of an asset. This approach strikes a balance between incumbent and new generators, ensuring that assets with longer lifespans can recover sufficient revenue to secure favourable financing terms. Both options presented provide adequate duration to support the financial viability and investment security of renewable energy projects.

Treatment of legacy generators

CEIG supports in principle the AEMC's preferred position to substantially grandfather legacy generators, treating them similarly to new generators in terms of prioritisation. However, CEIG expresses concern about the treatment of fossil fuel generators. If fossil generators receive favourable queue positions, this could potentially increase the emissions intensity of generation in the NEM, counteracting efforts to reduce greenhouse gas emissions.

To address this, CEIG recommends that thermal generators should either be excluded from the scheme or be subject to differential treatment based on their emissions intensity. For example, these generators could be allowed to bid only a portion of their capacity at the floor, such as their minimum generation level. This would discourage higher-emissions generation and incentivise the adoption of newer, zero emissions generation.

Timing of allocation to REZs

CEIG supports in principle a criteria-based approach to allocating access for REZs. This method can be more easily adapted to variations in REZ frameworks across different states and reduces the potential for gaming the allocation of queue positions, as highlighted by the AEMC in the consultation paper.

Timing of allocation to non-REZ generators

CEIG supports in principle a criteria-based approach for allocating queue positions to non-REZ generators. Allocating positions late in the connections process, but before the financial investment decision (FID), ensures that only genuine projects are allocated positions. This approach provides certainty to investors while minimising the risk of speculative projects.

Feedback on CRM design choices

Voluntary Participation

CEIG strongly emphasises the importance of maintaining the voluntary nature of the CRM. This principle ensures that market participants can choose to engage with the CRM based on their individual risk preferences and operational strategies. A voluntary CRM reduces the risk of unintended consequences and market distortions that could arise from mandatory participation. CEIG supports in principle measures that uphold the voluntary participation framework and encourage market participants to opt-in based on clear incentives and benefits.

Settlement Residues and Revenue Allocation

CEIG recognises that the management of settlement residues and the allocation of CRM revenues are critical components of the CRM design. Effective management of these

elements ensures that the CRM operates efficiently and that market participants are appropriately compensated for their contributions to congestion relief. CEIG recommends that the settlement residue formula should not be complicated, and that the CRM should not pollute regular energy settlements.

CEIG thanks the AEMC for the opportunity to provide feedback on the Consultation paper and looks forward to continued engagement on those issues. Our Acting Policy Director can be contacted at daniel.zelcer@ceig.org.au if you would like to further discuss any elements of this submission.

Yours sincerely,

Daniel Zelcer
Acting Policy Director
Clean Energy Investor Group Ltd
w: www.ceig.org.au

Industry stakeholder feedback guide – Transmission Access reform

RE - AEMC Consultation Paper - Transmission Access reform – April 2024 EPR0098

The AEMC has published a Stakeholder Feedback Template alongside the consultation paper for the Transmission Access Reform project.

The AEMC's list of consultation questions laid out in the template represent a good start. However, it is critical that detailed industry perspectives are drawn out, particularly as these relate to the material issues identified over the last few years of stakeholder consultation.

This document draws out those detailed issues and is intended to complement the AEMC's feedback template. Questions have been prepared by a group of industry participants who have had extensive experience in the development of the TAR process. They are intended to add to the depth and quality of stakeholder feedback to the AEMC's processes.

Stakeholders are invited to amend or add to this document as they see fit – it is intended as a guide only and is not an exhaustive description of all the issues. Stakeholders are also welcome to use this template as the basis of their submission, recognising that AEMC questions and industry questions have been purposefully separated.

Submissions are to be lodged via the AEMC's website by **6 June 2024**.

SUBMITTER DETAILS

ORGANISATION: Clean Energy Investor Group

CONTACT NAME: Daniel Zelcer

EMAIL: daniel.zelcer@ceig.org.au

PHONE: 0412798272

DATE: 6 June 2024

Testing and modelling the hybrid model

Feedback on cost benefit analysis (CBA) conducted in 2023

AEMC Question 1: Feedback on cost benefit analysis (CBA) conducted in 2023

What are stakeholder views on the assumptions used in the CBA?

CEIG emphasises the critical importance of conducting a cost-benefit analysis (CBA) that withstands rigorous scrutiny, particularly by incorporating inputs that accurately reflect material risks and uncertainties. Given that the initial CBA was conducted in 2023, there are valid concerns regarding its underlying assumptions, which may not fully capture the

evolving market and operational conditions anticipated beyond 2027, the projected implementation period for the transmission access reforms.

To ensure the reliability and relevance of the CBA, CEIG strongly advocates for an updated analysis. This updated analysis should validate the projected benefits of the impacts of the preferred hybrid model under realistic future scenarios. It is crucial that this validation process takes into account potential changes in market dynamics, technological advancements, and regulatory shifts that could impact the anticipated outcomes of the reforms.

Additionally, CEIG recommends that the AEMC integrates the implications of the amended National Electricity Objective (NEO), the Capacity Investment Scheme (CIS), and the forthcoming Final 2024 Integrated System Plan (ISP) into the updated CBA. These elements represent significant developments in the energy policy landscape and are likely to influence both the costs and benefits associated with the transmission access reforms. Furthermore, the assumptions and inputs should be developed in collaboration with market participants.

By incorporating these factors, the AEMC can ensure that the CBA reflects a comprehensive and current understanding of the energy market, thereby providing a more accurate basis for decision-making.

Industry's additional questions considered in our answer above:

(a) Do you consider NERA's CBA modelling of COGATI in 2020 and CMM/CRM updated analysis in 2023 to be an accurate Cost Benefit Analysis of the current (Priority Access and Congestion Relief Market) hybrid model? Why / why not?

(b) Do you consider the Cost Benefit Analysis appropriately reflects the impact on financial markets? If not, do you consider that financial market impacts would likely have a material impact on a CBA?

(c) Do you support a new Cost Benefit Analysis being undertaken of the model ultimately recommended by the AEMC even if it causes a delay in the decision process? Why do you consider this necessary or unnecessary?

Feedback on prototyping

AEMC Question 2: Feedback on prototyping

What are stakeholder views on the result of the prototyping analysis? Is there any additional analysis that would be useful?

CEIG appreciates AEMO's efforts in undertaking the test case work for priority access. However, CEIG raises concerns about the 'unintended consequences' of priority access revealed through the testing with the NEMDE prototype. This modelling exercise indicated that a significant number of cases showed prioritised generators having their generation reduced relative to the status quo. Point 66 in the summary downplays the significance of these unintended consequences, yet the fact that 30% of modelled cases exhibited unexpected dispatch changes is a major issue for the credibility of this approach, indicating more work is needed in both design and testing.

Given the importance on providing investors with certainty, including the ability to accurately model the impact of market changes, it is not practical to dismiss these cases as 'outliers' when they represent the extreme scenarios this reform is designed to address and are the closest examples we have in the NEM to the high-VRE and congested future grid.

To enhance the robustness of the analysis and provide investors with greater certainty, CEIG recommends that AEMO conducts additional analysis using forward-looking data. This should simulate conditions representative of a high-VRE grid expected post-2027. By incorporating forward-looking data, AEMO can better capture the dynamic interactions and potential challenges of a VRE-dominated grid, helping to identify and mitigate unforeseen risks, and offering a more accurate projection of the reform's impact on grid stability, efficiency, and investment viability.

Industry's additional questions considered in our answer above:

(a) As stated in the Paper (p. 25), last year's prototyping analysis of the hybrid model showed that wholesale prices were higher in 31% of the cases and a highest priority access generator was curtailed more in 30% of the cases analysed compared to the status quo.

Do you think the materiality and implication of these identified issues has been adequately addressed in the Paper? If not, what additional analysis do you consider is required?

How significant do you consider the issues to be?

(b) Do you consider sufficient analysis has been undertaken to explore how the CRM and Priority Access models will work in combination?

Feedback on modelling the hybrid model

AEMC Question 3: Feedback on modelling the hybrid model

Noting that this work is still being completed, do stakeholders have any initial views on how modelling priority access would impact investment decisions?

CEIG has consistently emphasised the importance of clarity in modelling and implementing reforms, particularly with regard to priority access. CEIG advocates for approaches that ensure market stability, avoid disadvantaging new entrants, and minimise added complexity.

CEIG supports the AEMC's engagement with ACIL Allen to address how priority access may influence future investment decisions. This modelling effort is crucial as it holds the potential to answer the question – once the hybrid model begins operation, can new developments better forecast their curtailment including network outages, future augmentations and new constraint equations. Providing investors with greater certainty regarding the implications of priority access, will help banks and financial institutions make informed decisions, positively influencing investment in renewable energy projects.

In response to questions 3 to 5 in section 3.3 of the Consultation Paper, CEIG recommends that the Energy Advisory Panel (EAP), in conjunction with ACIL Allen and market participants, utilise the forthcoming simplified prototype model to ensure that realistic inputs and assumptions are incorporated. This collaborative approach will

enhance the model's accuracy and reliability, providing stakeholders with a comprehensive tool to assess the potential outcomes of the hybrid model.

Industry's additional questions considered in our answer above:

(a) After the hybrid model starts (i.e. in 2028), what effect will Priority Access have on new development projects achieving FID? Will they find it easier or harder, and why?

(b) Do you consider that the risks with implementing the hybrid model have been adequately considered and addressed? What are the key risks and how serious are they? What would be the advantages and disadvantages of not implementing the hybrid model?

(c) What do you consider the impact of the hybrid model will be on emissions? Is a technology-neutral approach granting highest priority access to thermal (and renewable) incumbent generators appropriate? Has the role of emission reductions objective in the NEO been considered appropriately?

(d) What matters need to be considered for modelling the effects of the hybrid model on investment in long lead time assets, such as pumped hydro or other forms of storage?

(e) In regards to protecting REZ access rights, do you consider that alternatives to the hybrid model, such as the various 'controlled access' models flagged by NSW and QLD, might form a viable alternative to the hybrid model?

Assessment of key model options

Assessment of priority access allocation models

AEMC Question 4: Assessment of priority access allocation models

Each model option outlined in this section addresses the problem and reform objectives to different degrees.

Which model option do you prefer and why?

Option 1: Batching by time window (preferred)
CEIG supports this approach, particularly the treatment of Renewable Energy Zone (REZ) generators being grouped and allocated a queue position based on meeting certain defined milestones or criteria. This method effectively safeguards projects within REZs from the risk of being leapfrogged by non-REZ generators, thereby promoting stability and predictability for investments in REZs and provides certainty.

Whilst Option 1 most closely resembles the original transmission queue model presented by Castalia[1], CEIG notes a critical missing element: where there is no available position in the queue for local transmission capacity being implemented through the regulated transmission investment process (and ISP projects), a renewable generation investor may be willing to pay to create additional capacity, thus improving their queue position. This flexibility will provide investors with a "safety-valve" to invest in transmission or storage when the value of the upgrade is great enough that they are willing to pay for it.

[1] Castalia, 2022. Rethink of open access regime (section 3.1.4 page 36)

CEIG understands that state governments will likely control access to projects near REZs. These projects are expected to connect to the grid only if they take measures to avoid impacting the REZs. Therefore, CEIG recommends that the AEMC considers interactions with state governments and the potential for generators to enhance their queue position by alleviating congestion in their final design.

Option 2: Batching by time window REZ

While CEIG acknowledges the importance of encouraging investment within REZs to efficiently utilise transmission infrastructure, prioritising all REZs equally, as highlighted in the consultation paper, may inadvertently disincentivise development pipelines that include projects outside yet-to-be-announced REZs. This could potentially hinder the overall development of the renewable energy sector.

Option 3: Two tiers

CEIG finds this option too blunt and potentially unfavourable for greenfield developments. The arbitrary allocation of priority could disadvantage generators connecting outside a REZ compared to those within a REZ, even if the latter connect later. Additionally, there are concerns about the central decision-maker's role in assigning priority, which could lead to inconsistent and unpredictable outcomes.

Option 4: Dynamic grouping

Currently, there is insufficient information to fully evaluate this option with the effectiveness and perverse outcomes in the complex meshed NEM being far from clear at this stage. However, on the surface, it appears to provide a blunted signal, offering little certainty and predictability. There is also a risk that queue positions might change after a financial investment decision (FID) has been made, adding to the uncertainty for investors and negating the intent of the reform.

Industry's additional questions considered in our answer above:

(a) For the model selected in your response to AEMC's Q4, do you consider this model will benefit your business or organisation? Do you think it will benefit the electricity market as a whole? Please explain your rationale.

(b) What effect would grandfathering the highest priority access for existing generators have on coal retirement decisions?

Assessment of CRM implementation approaches

AEMC Question 5: Assessment of CRM implementation approaches

What are the relative advantages and disadvantages of each design?

Do stakeholders have a preferred design and if so, why?

CEIG acknowledges that the current dispatch model includes co-optimisation for energy and frequency control ancillary services (FCAS). While the co-optimisation approach is being considered as a potential Congestion Relief Market (CRM) implementation method, it has not yet been tested thoroughly, resulting in a lack of detailed information to make an informed preference. Furthermore, as highlighted by the AEMC, the implementation costs associated with co-optimisation would be higher than the current sequential dispatch method. Additionally, there is a perception that co-optimisation may be less voluntary than the two-stage approach.

CEIG continues to express concerns about the potential for mandatory participation in what could effectively become a locational marginal pricing (LMP) system through the CRM. It is crucial that any CRM implementation remains voluntary and does not complicate existing energy settlements. The voluntary nature of the CRM is essential to maintaining market stability and ensuring that participants are not forced into a system that could increase complexity and risk.

Given these considerations, CEIG's preference is for the access dispatch run approach, where generators that choose not to participate in the CRM are settled at the Regional Reference Price (RRP). This approach maintains the voluntary nature of the CRM, ensuring that generators have the option to participate based on their individual circumstances and preferences. It also helps to avoid the potential complications and increased costs associated with a mandatory co-optimisation model.

Industry's additional questions considered in our answer above:

(a) For the preferred model design selected in your response to AEMC's Q5, do you consider this model will benefit your business or organisation? Do you think it will benefit the electricity market as a whole? Please explain your rationale.

(b) On page 64 of the Paper, it is stated:

"there could be a perception co-optimisation is less voluntary than the current lead model as CRM bids could affect or set the RRP that all participants face, including participants who do not opt into the CRM."

Do you consider the co-optimised CRM remains a voluntary model?

Do you have an adequate understanding of the operation and implications of the co-optimised CRM? If not, what further work is required?

Key stakeholder concerns

Feedback on impact of the hybrid model on PPAs

AEMC Question 6: Feedback on impact of the hybrid model on PPAs?

What are stakeholder views on the observations and AEMC initial views regarding impacts of the hybrid model on PPAs?

As the AEMC progresses with the design of this reform, it is essential to consider the practical implications for PPAs and the broader financial markets. Ensuring that the new arrangements do not unduly disrupt existing contracts or create market uncertainties is vital for maintaining investor confidence and promoting continued investment in renewable energy projects.

The potential impact of the hybrid model on PPAs is a significant concern for CEIG. It is crucial that the proposed reforms do not undermine long-term price predictability or disrupt existing contracts, as this could negatively affect the terms and stability of PPAs.

CEIG is particularly worried that the changes introduced by the hybrid model could necessitate the renegotiation of existing PPAs or impact the valuation of future contracts. Such a scenario could destabilise financial planning and investment strategies, creating uncertainty for investors and stakeholders. Specifically, contracts that include clauses

related to access rights might require renegotiation, which could be a complex and resource-intensive process.

Moreover, while the AEMC suggests that PPAs with clauses aimed at maximising generation will not be affected due to the voluntary nature of the CRM, CEIG remains concerned about the potential for forced participation. This concern is particularly relevant if the implementation of the hybrid model inadvertently leads to a situation where participation in the CRM becomes effectively mandatory, despite being designed as voluntary.

To mitigate these risks, CEIG recommends that the AEMC carefully consider the implications of the hybrid model on PPAs and take steps to ensure that existing contracts are respected and that any necessary transitions are managed smoothly. It is essential that the reforms are designed to provide clear guidelines and support mechanisms to help market participants navigate potential changes without causing disruption to financial agreements and investment plans.

Industry's additional questions considered in our answer above:

(a) Does your organisation have PPAs that will still be in force in 2028? If so, how likely is it they will have to be renegotiated considering clauses covering obligations to maximise generation, change of law and/or market disruption? Do you expect these renegotiations to be easy?

(b) Should Energy Ministers make a final decision to implement the hybrid model this year, will this make negotiation of new PPAs next year easier, more difficult, or pretty much the same? Why would this be, and would the change be significant?

Feedback on impacts of the hybrid model on financial markets

AEMC Question 7: **Feedback on impacts of the hybrid model on financial markets**

What are stakeholder views on the impacts of the hybrid model on financial markets? Specifically:

a) How the proposed access model, or particular aspect(s) of the model, may impact

b) their ability to manage price risk in the market?

c) The subsequent impact that a reduced ability to manage price risk may then have on participants' hedging costs.

CEIG acknowledges the concerns raised in the consultation paper regarding the potential impact of the CRM on financial markets. One of the key issues is the possibility that the CRM could reduce the volume of contracts sold by generators, thereby introducing additional financial risks that need to be carefully considered.

Furthermore, CEIG is concerned that the CRM might evolve into a mandatory mechanism over time, contrary to the explicit directive from Ministers to avoid implementing LMP systems. Ensuring that the CRM remains voluntary is crucial to maintaining market stability and adhering to policy directives.

CEIG also recognises the AEMC's observations that increased congestion or price risk due to priority access would primarily impact new entrants in congested areas, aligning with the reform objectives of improving investment efficiency and managing access risks. By targeting these risks at new entrants, the reforms aim to provide clearer signals for investment in less congested areas, thereby optimising the use of the existing transmission network.

CEIG emphasises the importance of maintaining the voluntary nature of the CRM and ensuring that any reforms do not inadvertently force participation or shift undue financial burdens onto new market entrants. This balance is critical for sustaining investor confidence and supporting the continued growth and stability of the renewable energy sector.

Industry's additional questions considered in our answer above:

Besides the impacts listed in AEMC's Question 7, what other impacts could the hybrid model have on financial markets?

Feedback on wide-reaching constraints

AEMC Question 8: Feedback on wide-reaching constraints

Do stakeholders consider that priority access could increase investment risk due to wide-reaching constraints?

Do stakeholders consider that there is value in implementing the dynamic grouping option for priority access to mitigate this concern?

CEIG do consider that priority access could increase investment risk due to wide-reaching constraints. Constraint equations in NEMDE are classified as either 'system normal' (normal operating conditions) or 'contingency' (outages, exceptional events, etc.). CEIG believes that the intent of this reform was to manage grid congestion under normal operating conditions. However, the implementation path involving bid price floor adjustments also extends to contingency conditions, leading to unintended consequences.

As a result, new generators would face significantly greater curtailment risk during outages and contingency events. Recent examples in the NEM show that new generators could be constrained down to zero for extended periods, particularly concerning given the scope of transmission upgrades planned in the coming decade. Revenues captured during such contingency events constitute a significant portion of the business case for new battery projects, and the de-prioritisation of their dispatch during these times represents a substantial risk.

CEIG acknowledges the potential merit of a dynamic grouping option to mitigate risks associated with the unpredictability of wide-reaching constraints, such as system outages or stability issues. However, whilst this approach could provide a more adaptive and responsive mechanism for managing such constraints in real-time, the dynamic grouping option has not been explored in sufficient depth to resolve these concerns.

There is insufficient information on the dynamic grouping option to fully support its implementation as a solution for incorporating wide-reaching constraints in real-time. The lack of detailed data and comprehensive analysis makes it challenging to assess the feasibility and effectiveness of this approach.

CEIG recommends that further research and detailed modelling be conducted to evaluate the dynamic grouping option thoroughly. This should include simulations under various scenarios to understand how dynamic grouping would perform in managing wide-reaching constraints and its potential impact on market stability and efficiency.

Industry's additional questions considered in our answer above:

(a) Comment - Even for new generators locating in areas of low curtailment, new developments would suffer much more curtailment for scheduled, and unscheduled, network outages compared to generators with the highest level access.

During network outages, should new developments experience much more of the resultant curtailment than grandfathered highest priority access generators?

How difficult would it be for new generation to manage this risk?

(b) Even for new generators locating in areas of low curtailment, there is a risk that new constraint equations could emerge later, sometimes coincident with grid augmentations like PEC, for which they will suffer much more curtailment than generators with the highest level access.

For new constraint equations, should new developments experience much more of the resultant curtailment than grandfathered highest priority access generators?

How difficult would it be for new generation to manage this risk?

(c) Section 3.3 of the Paper describes further analysis to be undertaken by ACIL Allen.

What scenarios and impacts would you like to see this analysis evaluate to provide more clarity and confidence that investors will have more certainty and less risk after the scheme begins (in 2028)?

(d) The Paper notes that the dynamic grouping option "*has not been tested yet, or developed in any detail*" (p. vi).

Do you think an informed decision on this option is feasible this year? Do you support further consideration of this option?

Detailed design questions

Feedback on detailed priority access design choices

AEMC Question 9: Feedback on detailed priority access design choices

What are stakeholder views on the detailed priority access design questions and the AEMC's preferred positions?

CEIG appreciates that the policy levers are designed to balance risks between legacy and future generators and emphasises the importance of getting this balance right to ensure that future generators do not bear a disproportionate share of congestion-related risks,

which is essential for maintaining a level playing field and encouraging ongoing investment in renewable energy projects.

Duration of prioritisation

CEIG supports in principle the AEMC's preferred position to prioritise for the expected economic life of an asset. This approach strikes a balance between incumbent and new generators, ensuring that assets with longer lifespans can recover sufficient revenue to secure favourable financing terms. Both options presented provide adequate duration to support the financial viability and investment security of renewable energy projects.

Treatment of legacy generators

CEIG supports in principle the AEMC's preferred position to substantially grandfather legacy generators, treating them similarly to new generators in terms of prioritisation. However, CEIG expresses concern about the treatment of fossil fuel generators. If fossil generators receive favourable queue positions, this could potentially increase the emissions intensity of generation in the NEM, counteracting efforts to reduce greenhouse gas emissions.

To address this, CEIG recommends that thermal generators should either be excluded from the scheme or be subject to differential treatment based on their emissions intensity. For example, these generators could be allowed to bid only a portion of their capacity at the floor, such as their minimum generation level. This would discourage higher-emissions generation and incentivise the adoption of newer, zero emissions generation.

Timing of allocation to REZs

CEIG supports in principle a criteria-based approach to allocating access for REZs. This method can be more easily adapted to variations in REZ frameworks across different states and reduces the potential for gaming the allocation of queue positions, as highlighted by the AEMC in the consultation paper.

Timing of allocation to non-REZ generators

CEIG supports in principle a criteria-based approach for allocating queue positions to non-REZ generators. Allocating positions late in the connections process, but before the financial investment decision (FID), ensures that only genuine projects are allocated positions. This approach provides certainty to investors while minimising the risk of speculative projects.

Industry's additional questions considered in our answer above:

Does your organisation support implementation of Priority Access?

Feedback on detailed CRM design choices

AEMC Question 10: Feedback on detailed CRM design choices

Do stakeholders have further views on the detailed design choices for the CRM that were explored by the ESB? Are these views related to a preference for a two-step or co-optimised implementation approach discussed in Chapter 5?

What are stakeholder views on tethering, including the relative advantages and disadvantages of each design and any preference?

Voluntary Participation

CEIG strongly emphasises the importance of maintaining the voluntary nature of the CRM. This principle ensures that market participants can choose to engage with the CRM based on their individual risk preferences and operational strategies. A voluntary CRM reduces the risk of unintended consequences and market distortions that could arise from mandatory participation. CEIG supports in principle measures that uphold the voluntary participation framework and encourage market participants to opt-in based on clear incentives and benefits.

Settlement Residues and Revenue Allocation

CEIG recognises that the management of settlement residues and the allocation of CRM revenues are critical components of the CRM design. Effective management of these elements ensures that the CRM operates efficiently and that market participants are appropriately compensated for their contributions to congestion relief. CEIG recommends that the settlement residue formula should not be complicated, and that the CRM should not pollute regular energy settlements.

Industry's additional questions considered in our answer above:

(a) The Paper notes the co-optimised implementation approach "*has not been developed to the level of detail as the two-stage dispatch*" (p.vii).

Do you consider an informed decision on this option is feasible this year? Do you support further consideration of this option?

(b) Does your organisation support implementation of the Congestion Relief Market?

(c) If Energy Ministers made a final decision to implement the hybrid model, do you consider that investors and developers would have increased or decreased investment certainty, and why?

Other comments

CEIG recognises the urgency and significance of reforms to facilitate the transition to a decarbonised National Electricity Market (NEM) which will further enable the decarbonise the broader energy system and create increased opportunities for renewable energy exports.

CEIG commends the AEMC on presenting a clear consultation paper that articulates the case for reform and AEMC's current positions on transmission access reform to guide stakeholder feedback for use in the development of final recommendations to be presented to Energy Ministers in September 2024.

CEIG commends the AEMC's commitment to stakeholder engagement and collaborative approach with the Australian Energy Regulator (AER) and the Australian Energy Market Operator (AEMO). The focus on transparent consultation and iterative development of the hybrid model is crucial in ensuring that the final recommendations are robust and widely supported.

However, CEIG notes that there are still several material design issues that need to be addressed by the AEMC, including impacts on Power Purchase Agreements (PPAs) and finalising the balance of risk between new and existing generators. Further testing into the

impacts of the preferred hybrid model under realistic future scenarios through an updated cost-benefit-analysis is also required. Finally, there is a need to bring the hybrid model closer in line to the original models put forward by industry, such as including the ability for proponents to improve their queue position by investing in transmission or storage. Considering this, CEIG raises concerns that the key questions raised throughout the consultation paper, and by industry, might not be answered ahead of the September deadline to provide key recommendations to Ministers.

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

Given the current hybrid model still faces several design issues, CEIG believes that it is still relevant to present key principles for reform to help guide both the AEMC in its continued work and Ministers' decision making, as highlighted in our previous submission[2]:

- Should not undermine development of efficient 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;
- Should not be overcomplicated causing huge uncertainty and delaying investment; and
- Must easily satisfy a cost benefit analysis with inputs accounting for material risks.

[2] CEIG response: ESB Transmission Access Reform Consultation paper