



Your ref: Transmission Access Reform Consultation Paper

10 June 2022

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

Dear Ms Collyer

### **Submission: Transmission Access Reform Consultation Paper**

CS Energy welcomes the opportunity to provide a submission to the Energy Security Board's (ESB's) Transmission Access Reform Consultation Paper (**Consultation Paper**).

#### **About CS Energy**

CS Energy is a Queensland energy company that generates and sells electricity in the National Electricity Market (**NEM**). CS Energy owns and operates the Kogan Creek and Callide B coal-fired power stations and has a 50% share in the Callide C station (which it also operates). CS Energy sells electricity into the NEM from these power stations, as well as electricity generated by other power stations that CS Energy holds the trading rights to.

CS Energy also operates a retail business, offering retail contracts to large commercial and industrial users in Queensland, and is part of the South-East Queensland retail market through our joint venture with Alinta Energy.

CS Energy is 100 percent owned by the Queensland government.

#### **Key recommendations**

The NEM is changing and will continue to do so as it transitions to a market with more variable renewable energy (**VRE**) and an overall lower carbon footprint. This transformation will see the characterisation of the NEM shifting from centrally located dispatchable generation to small and geographically dispersed VRE generation, connecting to parts of the network with insufficient capacity and far from load centres. The existing grid and transmission access framework were not built in anticipation of future VRE needs. However, this urgent imperative for change does not override the obligation of market bodies to employ good market design practices (such as iterative public consultation, adequate

■ **Brisbane Office**  
PO Box 2227  
Fortitude Valley BC Qld 4006  
Phone 07 3854 7777  
Fax 07 3854 7300

□ **Callide Power Station**  
PO Box 392  
Biloela Qld 4715  
Phone 07 4992 9329  
Fax 07 4992 9328

□ **Kogan Creek Power Station**  
PO Box 41  
Brigalow Qld 4412  
Phone 07 4665 2500  
Fax 07 4665 2599

assessment of potential alternatives and robust, peer-reviewed cost-benefit analysis) when developing potential market reforms.

#### *Approach to consultation*

Given the complexity of the topic and the constricted timeframe, it is imperative that the ESB establishes a transparent and collaborative process going forward to assess the transmission access reform (**TAR**) models, including:

- **Appropriate qualification of the challenges being addressed** – The breadth and magnitude of issues the ESB is attempting to address (e.g. the cap on potential consumer benefits) would ideally be adequately defined. Quantifying the expected benefits serves several purposes. It is important in absolute terms to contextualise the challenge or challenges at hand and this can help prioritise the reform process, while in relative terms it is essential for assessing whether the potential benefits exceed the expected costs of the reform;
- **Appropriate assessment criteria** – Assessment criteria need to align with the key deliverables of the proposed reform, consistent with a well-defined problem statement. Failure to do so will result in market reform being developed while the goalposts are moving, an outcome in violation with best practice market reform;
- **Appropriate level of analysis** – The magnitude and far-reaching implications of TAR warrant appropriate technical and industry expertise to ensure potential models not only address the ESB’s stated concerns with the current market design but avoid potential unintended consequences that arise when a model is applied to the realities of the market; and
- **Consideration of other markets and reforms** – TAR cannot be considered in isolation of the broader market and its frameworks. In addition to transmission planning and investment frameworks, the potential interactions with the contracts market and any potential non-energy service markets eventuating from the essential system services workstream must be explicitly considered and addressed.

#### *Assessment of alternatives*

In response to the ESB’s direct invitation in the Project Initiation Paper, stakeholders proposed a range of potential alternative models in their submissions. Proposals ranged from alternative models such as Shell’s locational connection fees which had been developed somewhat to support for the further investigation of other stakeholder models which were already in the public domain (e.g. Edify Energy’s Congestion Relief Market (**CRM**) and Snowy Hydro’s dual floor price) and other suggested areas for further exploration.

CS Energy is concerned that the ESB set the benchmark for developed models too high for them to qualify for consideration. Further, the ESB does not appear to have fully explored potential modifications to the alternative models proposed; some models were modified to align them with the ESB’s current goals while others were assessed in their “as proposed” form. A broad assessment of proposed alternatives and their potential modifications offered the opportunity to deliver the bulk of the stated benefits of the ESB’s preferred models without the complexity or cost of those ESB preferred models, but that opportunity appears lost.

In CS Energy's view, the potential role for changes to the current Marginal Loss Factor (**MLF**) methodology as part of a hybrid TAR model has also not been adequately considered by the ESB. CS Energy is one of several stakeholders that has suggested the potential for MLFs to form part of an enduring solution. Given MLFs can address at least some of the goals of the ESB's TAR initiative without disrupting market processes, CS Energy considers, and has previously suggested, that a more fulsome assessment of MLFs as part of the current TAR process is warranted.

#### *Alignment of theoretical models to real-world markets*

The ESB does not appear to have incorporated the feedback provided by stakeholders about how the electricity and related markets operate or the expected impacts of the proposed models into their deliberations.

The qualitative descriptions of how the shortlisted models would operate that the ESB has employed in place of worked examples in the Consultation Paper appear to be based on a short-run economic efficiency model utilised within a single trading interval. While such theoretical exercises are a starting point for developing a detailed model of TAR, these simplified models do not capture how these mechanisms would impact the energy and related markets over the long term, if implemented.

The ESB's stated goals for this reform process, such as short-run marginal cost (**SRMC**) bidding and the elimination of race-to-the-floor bidding will likely be incompatible with how the market is designed to operate. Furthermore, any impacts on related markets, principally the contract market and non-energy services markets, are downplayed or not considered.

Modelling that takes into account the interactions between the energy and related markets (both current and expected) is required to demonstrate how the models will be implemented and their impacts on markets, market participants and consumers.

#### *Shortlisted transmission access reform models*

The extremely high-level models discussed in the Consultation Paper have fundamental design choices still to be resolved. This not only limits the ability of stakeholders to provide detailed feedback but in many instances the open questions relate to issues that may materially affect stakeholders' views of the proposed models and their expected impact.

Further public consultation is required to develop these models to a state where substantive comment and discourse can be sought. The ESB will be doing all stakeholders (especially consumers) a disservice if the next step isn't an iterative public consultation to examine the range of options the ESB intends to recommend to Energy Ministers in order to avoid unintended consequences stemming from the provision of an incomplete model for approval.

## **Conclusion**

CS Energy appreciates the ESB is working to a tight deadline, but remains concerned that the detailed design work required to inform meaningful assessment of the proposed alternative models may not be completed in time to be considered and consulted upon before the ESB's preferred models are announced in Quarter 3 2022. This is particularly worrying as responding to the Consultation Paper appears to be the last opportunity for those stakeholders that are not members of the ESB's Technical Working Group (**TWG**) or

Jurisdictional Advisory Group (**JAG**) to contribute to the development of this significant market reform.

CS Energy has provided further comments on the ESB's approach to the ongoing consultation process and the four shortlisted models in Attachment A.

If you would like to discuss this submission, please contact Evan Jones (Market Regulatory Manager) on 0419 667 908 or [ejones@csenergy.com.au](mailto:ejones@csenergy.com.au).

Yours sincerely

A handwritten signature in black ink, appearing to read 'A. Demaria', is positioned above the typed name.

**Dr Alison Demaria**  
Head of Policy and Regulation (Acting)

## ATTACHMENT A

### APPROACH TO CONSULTATION

Good market design that maximises consumer benefit relies on a deliberate and well-structured process leveraging comprehensive stakeholder engagement that reflects a genuine bilateral exchange of ideas.<sup>1</sup> The ESB's TAR has not pursued the open, transparent consultation process suggested in CS Energy's submission to the Project Initiation Paper, summarised as per:<sup>2</sup>

- Appropriate qualification of challenges;
- Clear and consistent objectives;
- Alignment with market design principles;
- Appropriate assessment criteria and approach;
- Appropriate level of analysis;
- Transparent and collaborative design process; and
- Consideration of alternatives.

#### *Appropriate qualification of challenges*

Despite the ESB intending to make a draft recommendation on its preferred TAR models in Quarter 3 2022, the shortlisted models are not currently progressed enough to allow the necessary robust cost-benefit analyses to be performed.

In terms of potential market benefits, the breadth and magnitude of issues the ESB is attempting to address (e.g. the cap on potential consumer benefits) is yet to be adequately defined. Quantifying expected benefits serves several purposes. It is important in absolute terms to contextualise the challenge or challenges at hand and this can help prioritise the reform process, while in relative terms it is essential for assessing whether the potential benefits exceed the expected costs of the reform.

Similarly, none of the proposed models are at a sufficient stage of development to estimate expected costs, including both up-front and ongoing implementation costs for all stakeholder groups as well as costs arising from potential interactions with existing frameworks. The lack of forecast or expected implementation costs of the shortlisted options in the Consultation Paper is reinforced by the significant open questions posed by the ESB on each option.

With respect to the potential costs of the CRM, the Consultation Paper references a figure of \$300 million  $\pm$  30% for a set of system changes<sup>3</sup>. This provides more concern than comfort given:

- The potential wide margin of error in the estimate; and

<sup>1</sup> See for example KPMG, [Electricity Market Design Principles](#), Section 3.8 – Good regulatory practice, pages 29-30

<sup>2</sup> CS Energy, [Transmission Access Reform Project Initiation Paper submission](#), pages 5-19

<sup>3</sup> Similar to that proposed in respect of the Coordination of Generation and Transmission Investment Review (CoGaTI)

- The ESB has not provided any evidence of its claim that “a material proportion of the costs identified [for CoGaTI] would likely be applicable for the CRM” despite significant differences between the models.<sup>4</sup>

As demonstrated by stakeholder feedback concerning the modelling of the potential benefits by NERA Economic Consulting and the estimation of information technology implementation costs by HARD Software undertaken to inform the CoGaTI process, thorough public consultation on the assumptions and methodology of any modelling undertaken to support or justify market reform is required to ensure the results are robust, comprehensive and accurate. With the industry’s experience of Five-Minute Settlement implementation still fresh, stakeholders require confidence in what the actual expected costs of the proposed models are in advance of the final recommendations being made in order to provide informed feedback. Although industry initially bears the risks and costs of the proposed TAR, the costs are ultimately passed through to consumers, so any reform must demonstrate how the benefits exceed the costs.

No recommendation should be made on the ESB’s preferred model(s) without public consultation on cost-benefit analyses of *all* shortlisted models. As it stands, given the current state of development of the shortlisted models, CS Energy is concerned that the ESB will not be able to determine whether the proposed models provide a net benefit to consumers prior to making its recommendations to Energy Ministers by the end of 2022.

*Appropriate assessment criteria and approach*

CS Energy notes the assessment criteria have once again changed between the previous round of consultation and the current round, as illustrated in Table 1.

Project Initiation Paper (November 2021) <sup>5</sup>	Consultation Paper (May 2022) <sup>6</sup>
1) Efficient market outcomes – investment	1) Efficient market outcomes – investment
2) Efficient market outcomes – dispatch	2) Efficient market outcomes – dispatch
3) Appropriate allocation of risk	3) Appropriate allocation of risk
4) Appropriately allocation [sic] of the cost of transmission investment	
	4) Manage access risk
	5) Effective wholesale competition
5) Implementation considerations	6) Implementation considerations
6) Flexibility to enable consideration of jurisdictional differences	7) Integration with jurisdictional REZ schemes

Table 1: Comparison of assessment criteria; Project Initiation Paper versus Consultation Paper

The ESB’s rationale for changing the risk management assessment criteria (namely to explicitly balance the views of consumers, investors, incumbents and new technology providers) is understandable. However, CS Energy notes that continued changes to the

<sup>4</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 46

<sup>5</sup> Energy Security Board, [Transmission Access Reform Project Initiation Paper](#), page 15

<sup>6</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 12

assessment criteria make it difficult for stakeholders to determine what the proposed reform is trying to achieve and how it is trying to achieve it, frustrating stakeholder attempts to identify potential alternatives to the ESB's preferred models or provide considered feedback.

Changing assessment criteria also clouds the transparency of the decision making process. Based on the criteria in the Project Initiation Paper and that stakeholders "*should have regard to these criteria when preparing alternate models*",<sup>7</sup> CS Energy supported further investigation of the Public Interest Advocacy Centre's (**PIAC's**) risk sharing model for Renewable Energy Zones (**REZs**). However, this model was not shortlisted "*given its focus on cost allocation between utility-scale generation and consumers, rather than explicitly dealing with congestion*", but the ESB did not acknowledge that the assessment criteria had changed since the invitation for alternative models was issued<sup>8</sup>.

CS Energy considers that flexible assessment criteria are unlikely to support the development of robust, long-lived market reform or outcomes that are beneficial to consumers.

#### *Appropriate level of analysis*

Given the magnitude and far-reaching implications of the proposed TAR, it is imperative that the ESB secures sufficient technical and industry expertise to ensure the recommended models address the ESB's documented issues with the current market design and avoid potential unintended consequences stemming from divergence of the operation of the energy and related markets in practice compared to in theory. In the event the ESB is unable to engage industry expertise for this reform process, other channels for securing the necessary skills must be employed.

The outputs of these experts must also be made public in a timely fashion to inform the ESB's public consultation. At the public webinar on 26 May 2022, the ESB stated that it was planning on engaging consultants to model the impacts of the shortlisted models to get stakeholders more comfortable with how they would be impacted. At the time of writing, it is not clear whether this work will be provided in time to inform public consultation prior to the ESB selecting its preferred models or what form the published outputs of this modelling will take (e.g., high-level summary, detailed report, access to the modelling undertaken for stakeholder critique of the modelling methodology and assumptions). CS Energy suggests that undertaking such modelling and seeking stakeholder feedback on the modelling should be a pre-requisite for the ESB selecting its preferred models.

#### *Transparent and collaborative design process*

Stakeholders' involvement in this design process has been very limited to date:

- Fundamental design choices have yet to be resolved, restricting the consultation process and denying stakeholders a collaborative role. These key decisions would likely substantially change the relative costs and benefits of these models, and subsequently stakeholders' views. For example, the selection of rebate allocation metric under the Congestion Management Model (**CMM**) with universal rebates or the duration of transmission queue rights under the transmission queue model; and

<sup>7</sup> Energy Security Board, [Transmission Access Reform Project Initiation Paper](#), page 15

<sup>8</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 66

- Stakeholders do not have clarity on the final form of the models, how they may be implemented or their potential impact. This greatly affects their ability to provide meaningful contributions to the consultation, or even express an informed preference for a particular option.

The public webinar on 26 May 2022 was scheduled for 90 minutes but the bulk of the time was spent on an overview of the case for change and the shortlisted models, and a survey of webinar participants. The results of the survey's high-level questions revealed opinions across participants were mixed. Less than 15 minutes was allocated to answering the questions posed by webinar participants. The ESB stated it would get back to stakeholders in one way or another with answers to the ~30 questions that were not addressed in the session, but this has not yet happened.

### *Consideration of alternatives*

In the Project Initiation Paper, the ESB invited stakeholders to submit alternative solutions that had not been previously submitted “so that they can be given due consideration as part of the detailed design process.”<sup>9</sup> This invitation was issued despite the assessment of alternatives to the CMM with REZ Adaptation not being included in the transmission and access recommendations approved by National Cabinet, namely:

*“Recommendation 5(a) Adopt the REZ Planning Rules and the Principles for an Interim REZ framework to address the urgent planning implications for REZs.*

*Recommendation 5(b) Instruct the ESB to prepare a rule change for submission to the AEMC to progress the congestion management model, adapted for integration with REZs. This model complements the Interim REZ framework and will address the emerging congestion management needs of the system. Comprehensive consultation, with a wide range of industry, consumer and government stakeholders on the detailed design of the model will be undertaken as part of the rule change process.*

*Recommendation 6 The ESB recommends Energy Ministers seek advice from the AEMC on what initial reforms are necessary to current regulatory frameworks to improve the timely and efficient delivery of major transmission projects (including ISP projects). This advice will be prepared as part of the AEMC's current Transmission Investment and Planning Review.”<sup>10</sup>*

While the short timeframe in which to respond to this invitation constrained the ability of stakeholders to identify and significantly develop potential alternative models, a range of suggestions were made in submissions to the Project Initiation Paper, as detailed in Table 2. Stakeholder proposals included significantly developed alternative models (e.g. Shell's locational connection fees), supported further investigation of other alternative models (e.g. Edify Energy's CRM and Snowy Hydro's dual floor price, both of which had been made public prior to this round of consultation)<sup>11</sup> and/or suggested areas for further investigation.<sup>11,12</sup>

<sup>9</sup> Energy Security Board, [Transmission Access Reform Project Initiation Paper](#), page 6

<sup>10</sup> Energy Security Board, [Summary of the final reform package and corresponding Energy Security Board recommendations](#), pages 3-4

<sup>11</sup> Edify Energy, [Post 2025 Market Design Options consultation response](#), page 1

<sup>12</sup> Snowy Hydro, [Rule change request – Dual-Floor Price – Transmission Access Risk](#), page 1

	Congestion Relief Market	State REZ schemes	Marginal loss factors	Locational connection fee	Transmission investment	Dual floor prices	Other
AEC		✓					
AGL	✓	✓					
Alinta		✓					
CEC	✓						
CEIG							• “CEIG is currently developing a proposal”
CS Energy	✓		✓			✓	• PIAC’s REZ risk sharing model
Edify	✓						
Energy Australia	✓		✓	✓			• Tie-breaker rules • Interconnector constraint equations
ECA							• Hybrid CMM/connection fee model
Flow Power	✓			✓			
Hydro Tasmania							• System strength market to address constraints • Run back schemes to utilise existing assets
Iberdrola	✓	✓					• Transmission Statement of Opportunities
Neoen	✓						• Additional investor information • Blocking mechanism to preserve incumbency • Other mechanism to mitigate congestion • Reconfigure constraint equations
Origin					✓		• Network support services from storage • Treatment of storage for network augmentation • TUOS exemption for storage
Pacific Hydro	✓	✓					
Shell	✓			✓			
Snowy			✓		✓	✓	
Tesla	✓	✓					• Revised network investment frameworks
Tilt	✓	✓					• Requested the ESB consider alternatives being proposed by the CEC and the CEIG

Table 2: Potential CMM alternatives from January 2022 submissions

CS Energy is concerned that the benchmark for the requirements of developed models was set too high, noting the disparity between the length of time the ESB has had to develop its models and how long stakeholders had to respond with alternatives. It is apparent that the ESB has not fulsomely considered the potential modifications proposed – in particular, where some models were modified to align with the ESB’s current goals while others were assessed in their “as proposed” form.

Despite the range of alternatives proposed in submissions, the ESB’s public consultation on alternative models was limited to one three hour public webinar, with a ten minute presentation on each of four potential alternative mechanisms (Clean Energy Investor Group’s grid access reform, CS Energy’s fixed-shape time-of-day MLF model, Edify Energy’s CRM and Shell’s locational connection fee model) followed by break-out, plenary and Q&A sessions.<sup>13</sup>

<sup>13</sup> Energy Security Board, [Public seminar on alternate models](#), slide 2

CS Energy does not consider the potential role for changes to the current MLF methodology as part of a hybrid TAR model has been adequately considered by the ESB. CS Energy's proposed MLF model was not the only instance in which stakeholders suggested a potential MLF solution. In its October 2020 submission to the Post-2025 Market Design Consultation Paper, the Public Interest Advocacy Centre suggested a potential modification to MLFs to provide a stronger locational signal:

*“Another example is the use of MLF to provide a stronger, locational signal at the time of investment by reflecting the impact that each individual connecting party has on system-wide loss factors. Connecting parties could have their MLF ‘locked in’ by AEMO for a standard period of time – allowing the party greater certainty of its future revenue. If a new party were to connect nearby and affect the local MLF, this change would be borne by the second party alone rather than being spread across both parties.”<sup>14</sup>*

In its assessment of CS Energy's fixed-shape time-of-day MLFs, the ESB noted that “many respondents to the project initiation document (including the Clean Energy Council, Snowy Hydro, Origin, NEOEN) have suggested that locational signals already exist in the NEM in the form of marginal loss factors (MLFs).”<sup>15</sup> This is not correctly contextualised, as two other stakeholders (in addition to CS Energy) explicitly suggested further examination of MLFs as a potential alternative model:

- Snowy Hydro: *“The ESB in the previous consultations has made observations but does not appear to invite feedback on them, for example the ESB ignored the role of Marginal loss factors (MLF)s in locational decisions. Generation revenue is a function of price and quantity, and MLFs play a significant role in incentivising investment away from congested areas of the network. As it stands, the ESB’s non-assessment of MLF’s is a convenient means of justifying a reform proposal which has been roundly rejected by stakeholders. It is important that there is a genuine consultation with industry that does consider alternative models to CMM and does not only seek options which appear similar to CMM.”<sup>16</sup>*
- Energy Australia: *“Less static or shaped MLFs — deterioration of loss factors is an important consideration for connecting participants and warrants further attention. Noting dynamic MLFs have been considered before, they could change on a semi-frequent basis, e.g. monthly, or losses could be ‘shaped’ such that they are still static but are different across times of the day. This would apply to generation as well as load, providing improved locational and operational incentives for storage, and obviously capture losses more accurately.”<sup>17</sup>*

Stakeholders recognise the potential role of MLFs in informing current investment decisions and influencing outcomes on an operational timeframe. An MLF-based solution could address the ESB's current concerns with the existing transmission access regime and market design more broadly as:

- MLFs act as an investment timeframe signal in the same way as the ESB's shortlisted congestion zone and connection fees and transmission queue models but is based on an existing mechanism that is aligned to the system physics;

<sup>14</sup> Public Interest Advocacy Centre, [Post-2025 Market Design Consultation Paper submission](#), page 38

<sup>15</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 69

<sup>16</sup> Snowy Hydro, [Transmission Access Reform Project Initiation Paper submission](#), page 1

<sup>17</sup> EnergyAustralia, [Transmission Access Reform Project Initiation Paper submission](#), page 5

- Akin to the connection fee, an MLF is a point-in-time indicator of the hosting capacity in the area under examination, not a guarantee that conditions will not change in the future;
- Modifications to the current MLF methodology could enable the MLF to more-closely reflect the output profile of different technologies, potentially allowing for greater utilisation of network capacity in operational timeframes;
- The MLF model may be able to accommodate the ESB's safety value, whereby participant investment in transmission infrastructure could be reflected in the investing participant's MLF, avoiding the free-rider problem that has bedevilled generator-funded transmission investments to date; and
- MLF affects the ability of generators to dispatch during periods of typical high coincident generation (e.g., low MLFs during the middle of the day).

A broader examination of the potential role of MLFs could reveal a superior MLF-based option. Shifting to a seasonal or monthly fixed-shape time-of-day MLF, or seasonal or monthly flat day and night MLFs, may capture the bulk of the benefits that CS Energy's fixed-shape time-of-day MLF model proposed but with lower complexity. A more fulsome assessment of MLFs as part of the current TAR process is warranted to address the range of MLF-based options proposed.

## ALIGNMENT OF THEORETICAL MODELS TO REAL-WORLD MARKETS

The ESB does not appear to have acknowledged or incorporated feedback provided by stakeholders about the electricity market and related markets and the expected impacts of the proposed TAR on those markets into its deliberations.

The qualitative descriptions of how the shortlisted models would operate that the ESB has employed in place of worked examples in the Consultation Paper appear to be based on a theoretical model of short-run economic efficiency within a single trading interval. While this is a starting point for developing a detailed model of TAR, they are simplifications and are not reflective of how these mechanisms would actually impact the energy and related markets if implemented.

### *Short-run Marginal Cost*

The ESB states one of the objectives of TAR is to “*dispatch the least cost combination of resources*” and “*remove incentives for non-cost reflective bidding*”, noting the profit maximising strategy for a generator behind a binding constraint under the CMM with universal rebates is to bid “*in line with short-run marginal cost*”.<sup>18,19</sup> The ESB's goal of short-run economic efficiency is not sustainable, because it precludes the recovery of long-term costs such as a return on the substantial investment required to underpin the ongoing transformation of the energy market.

The ESB claims one of the consequences of failing to act on access reform is that “[i]n operational timeframes, more expensive combinations of generation and storage are being used to meet demand than is necessary”.<sup>20</sup> Achieving the least expensive combination of generation and storage in dispatch is a theoretical outcome that would require theoretical

<sup>18</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 6

<sup>19</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 39

<sup>20</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 5

inputs, such as the removal of all congestion, flexible plant and zero return on capital, none of which are delivered by the shortlisted TAR models. In reality, generators face a range of plant and commercial drivers that affect bidding behaviour (such as minimum load, minimum run times, shut-down and start-up costs, ramp rates, and fuel contracts) that incentivise them to bid at prices other than SRMC.

### *Disorderly bidding*

Given none of the shortlisted TAR models remove all reasons for generators to bid below their SRMC, labelling all generation bid below assumed SRMC as “disorderly” fails to delineate between the reasons behind these bids and overstates the magnitude of the impact of “disorderly bidding” on the market and consumers. A more granular estimate of the marginal improvement in dispatch outcomes is required to demonstrate the expected rather than theoretical potential benefits of reform in this area.

### *Related markets*

The ESB’s focus on the operation of the shortlisted models on the basis of theoretical short-run economic efficiency within a single trading interval fails to accommodate or acknowledge what occurs over successive trading intervals as market conditions and generator incentives and goals change.

For example, under the CMM with universal rebates, in the event of a binding constraint, a generator would theoretically (i.e. putting aside the other factors that incentivise a generator to bid capacity at prices other than their SRMC) be incentivised to bid at their SRMC, and be compensated for withdrawing from the market to allow a lower-cost generator to run via congestion rebates.

However, this is only the theoretical short-run (i.e. within a single Trading Interval) economically efficient outcome that does not take into account the intertemporal linkages within the energy market and related markets (e.g., the contract market). Within the energy market, some generators (e.g. coal-fired generators) face significant physical constraints (e.g. return-to-service times) and financial implications (e.g. return-to-service costs, hedge contract payments) when turning units on and off, meaning they consider expected market conditions beyond just the current dispatch interval when determining bidding and dispatch behaviour. If a generator was being dispatched strictly according to their assumed SRMC while subject to a binding constraint, they may be unable to cover their contract position in Trading Intervals following the binding constraint releasing if the wholesale price rises.

Contracting is a vital risk management tool for generators and retailers, but the inability of some generators (including those providing significant contract volumes) to ramp instantaneously to any output level at their discretion (e.g., no physical plant or fuel constraints) would mean the proposed market reform would be expected to incentivise those generators to either:

- Reduce their contracting activity; or
- Bid capacity into the energy market at prices greater than would be suggested by a theoretical short-run economically efficient model (i.e., above SRMC), in order to increase the likelihood they are able to physically back their contract position in the event the wholesale price rises.

There is also the issue of the potential implementation of new markets for non-energy services. CS Energy seeks clarification as to whether the ESB has considered how the

potentially competing incentives offered in the energy market versus non-energy services markets may influence the behaviour of generators and frustrate the ESB achieving its goals for TAR.

#### *Investment timeframe signals versus operational timeframe signals*

The ESB does not appear appears to acknowledge the considerable interactions between investment and operational timeframe signals.

Potential investors understand the market design and can forecast the market conditions their potential project will face in operational timeframes, which can influence investment decisions. The investment decision is not made without regard to how the unit is expected to operate, the incentives it will face or the expected realised energy (and potentially non-energy services) prices it would receive. As highlighted by the ESB in the paper, operational incentives can guide locational decisions:

*“The model creates new business opportunities for batteries and other type of storage to be paid to alleviate transmission congestion, which encourages them to locate where these services are most needed”.*<sup>21</sup>

Accordingly, CS Energy does not agree with the ESB’s argument against an information-only locational signal:

*“Some stakeholders have suggested that better information provision is sufficient to promote efficient locations decision by generators. Recent experience in the NEM suggests that congestion will not necessarily stop investors from investing. For instance, the problems arising the West Murray Zone are well publicised and yet there are still a substantial number of connections in progress.”*<sup>22</sup>

CS Energy suggests the continued connections that progress in locations on the network that appear “full” (such as the West Murray Zone) may be driven by current and expected Government policy (including jurisdictional REZ schemes and their associated transmission investment expenditure) which serve to support further future capacity in the region. Continued investment also remains rational because of the ability for new entrants to be dispatched ahead of incumbents. It is not an issue of investors wilfully ignoring evidence that the existing network in the region has likely reached its capacity to host large-scale inverter-connected generation.<sup>23</sup>

The interconnectedness between the investment and operational timeframe signals raises the question of whether a mechanism is required at investment timeframes, or if further information to guide locational decisions (e.g. congestion zones, a Transmission Statement of Opportunity, a fixed-shape time-of-day MLF) coupled with an operational signal that removes the incentive to locate in areas of the network that are reaching their hosting capacity may be sufficient to address the purported issues with the current market design.

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<sup>21</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 43

<sup>22</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 30

<sup>23</sup> Australian Energy Market Operator, [Network Connections - West Murray](#), accessed 27 May 2022

## Nest steps

Given the complexity of the topic and the constricted timeframe, it is imperative that the ESB establishes a transparent and collaborative process going forward to assess potential TAR models, including:

- **Appropriate qualification of the challenges being addressed** – The breadth and magnitude of issues the ESB is attempting to address (i.e. the cap on potential consumer benefits) needs to be adequately defined. Quantifying expected benefits serves several purposes. It is important in absolute terms to contextualise the challenge or challenges at hand and can help prioritise the reform process, while in relative terms it is essential for assessing whether the potential benefits exceed the expected costs of the reform;
- **Appropriate assessment criteria** – Assessment criteria need to align with the key deliverables of the proposed reform, consistent with a well-defined problem statement. Failure to do so will result in market reform being developed while the goalposts are moving;
- **Appropriate level of analysis** – The magnitude and far-reaching implications of TAR warrant appropriate technical and industry expertise to ensure potential models not only address the ESB’s purported issues with the current market design but avoid potential unintended consequences that arise when a model is applied to the realities of the market; and
- **Consideration of other markets and reforms** – TAR cannot be considered in isolation of the broader market and its frameworks. In addition to transmission planning and investment frameworks, the potential interactions with the contracts market and any potential non-energy service markets eventuating from the essential system services workstream must be explicitly considered and addressed.

Failure to engage openly on the proposed model through an iterative public consultation process risks implementing reform that does not address the ESB’s concerns with the current market design but introduces additional complexity, risk and cost at a time when investment certainty is crucial to support the transformation of the energy industry.

## ESB’S SHORTLISTED TRANSMISSION ACCESS REFORM MODELS

The stages of development of the shortlisted models are such that CS Energy is unable to provide detailed feedback. Instead, CS Energy offers high-level comments and notes issues that would need to be addressed before robust public consultation on these shortlisted models could occur.

### *Insufficient detail*

The extremely high-level models discussed in the Consultation Paper have fundamental design choices still to be resolved which limits the ability of stakeholders to provide detailed feedback. The way the open questions are resolved will materially affect stakeholders’ views of the proposed models and the expected impact of the shortlisted models on individual stakeholders and stakeholder groups.

While CS Energy appreciates the ESB is working to a tight deadline, it is concerned that the detailed design work required to inform meaningful assessment of the proposed alternative

models may not be completed in time to be considered and consulted upon before the ESB's preferred investment timescale and operational timescale models are released in Quarter 3 2022.

The primary example of this is the continued uncertainty about the allocation method of congestion rebates under the CMM with universal rebates, which is central to what the goal of the mechanism is and how it will impact stakeholders and the market. CS Energy contends that if there was a clear problem statement, clear theoretical underpinning for TAR and a clear commitment to permitting the market to operate as designed, it would be clear which of the broad range of allocation metrics canvassed in the Consultation Paper should be pursued.

Another key open question is the purpose and form of the connection fee under the shortlisted congestion zone with connection fees model. The Consultation Paper notes the ESB is considering whether to design a congestion zone model that adopts aspects of the recent system strength reforms, under which connection fees paid by participants would pay for transmission infrastructure but “*receive benefits in return*”.<sup>24</sup> This contrasts with the potential uses for connection fee revenue if the reform is closer to the “as proposed” model, in which case the ESB suggests the connection fee revenue could be used to fund transmission expansions contemplated in the ISP and selected via the transmission planning process. It is not clear whether these investments would benefit the new projects directly or indirectly or whether this addresses the “free-rider” issue affecting participant-funded transmission investment under the current access regime.

Further public consultation is required to develop these models to a state where substantive comment and feedback can be sought. The ESB will be doing all stakeholders and consumers a disservice if the next step doesn't involve public, iterative consultation to demonstrate the superiority of the models the ESB intends to recommend in order to avoid unintended consequences stemming from the provision of an incomplete model for Energy Ministers' approval.

### *Central planning*

CS Energy is concerned that the ESB appears to be moving the NEM further towards central planning as though this is the only option for transmission access reform (for example, “[f]or the market design to provide accurate congestion signals, LMPs are required”).<sup>25</sup> While the role for central planning in developing and operating remains critical within the market-based NEM, Edify Energy's CRM demonstrates that a market-based approach to providing accurate congestion signals is possible. The challenge market bodies face is delineating between those functions and outcomes best delivered via central planning and those functions and outcomes best delivered by market mechanisms when developing significant market reforms.

Any models based on central planning are subject to central planner error. While forecasts are not perfect, the magnitude and incidence of the costs associated with under- and over-forecasting need to be explicitly considered when assessing the shortlisted models, as well as any potential for inadvertent bias in these forecasts stemming from the different priorities, incentives and incidence of costs caused by incorrect forecasts facing the central planner versus other stakeholders.

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<sup>24</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 28

<sup>25</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 30

## **Shortlisted investment timeframe models**

Both shortlisted investment timeframe models provide a locational signal to potential new projects, but both the connection fees and transmission queue position only confer benefit to generators via the benefits they provide within the operational timeframe mechanism (i.e., right to sell congestion relief under the CRM, the allocation of congestion rebates under the CMM with universal rebates). CS Energy questions the marginal benefit provided by the two shortlisted models beyond that offered by improved locational information about the hosting capacity of the network coupled with the locational signal provided to potential new projects by expected operational timeframe outcomes at different locations on the network.

## ***Congestion zones and connection fees***

CS Energy agrees that improved information provided by congestion zones would augment existing locational signals and could be beneficial for potential projects. However, it is not clear at this stage that connection fees will provide benefits to consumers that offset the potential delays to the connection process and complexity the model could introduce to the market (at a time when investment is critical to underpin the transformation of the energy industry) or the higher wholesale energy bids from new projects seeking to recoup the connection fees paid.

### Issues/concerns

#### *Forecasts*

CS Energy is concerned about the reliance on forecasts in setting congestion zones and connection fees. The challenges of condensing a new project's impact on congestion across the network into a single fee and balancing the trade-off between accuracy of the locational signal and the simplicity of the process used to calculate the fee noted by the ESB are significant, and CS Energy questions whether these will be addressed before selection of the ESB's preferred models.

Of particular concern is the potential impacts of inaccurate forecasts of network capacity and congestion will have on generators (both the operation of incumbent generators and the locational decisions of new projects) and consumers. If the impact on congestion is under-forecast, it would be expected to draw greater new capacity to that area of the network than would have occurred otherwise, resulting in an inefficient level of congestion. If the impact on congestion is over-forecast, it would be expected to result in under-utilisation of the network. CS Energy seeks greater clarity about how these risks would be managed if this model were implemented.

#### *Long-Run Marginal Cost of Congestion*

The Consultation Paper acknowledges the difficulty in setting “*a single fee to reflect a project's future impact on congestion, especially given the dynamic market conditions associated with the energy transition*”, and suggests a scaling factor could be applied depending on the new project's output profile, but does not detail how this would be accomplished.<sup>26</sup> CS Energy seeks clarification of the methodology for determining the long-run marginal cost of congestion stemming from a potential new project, how the output profile of a potential project would be calculated, and how the scaling factor would be calculated and applied.

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<sup>26</sup> Energy Security Board [Transmission Access Reform Consultation Paper](#), page 27

As currently described, the model appears to be rapidly moving away from the ESB's expectation that a published schedule of connection fees would provide a "clear, upfront signal that can be easily understood by investors".<sup>27</sup>

### *Connection fees*

CS Energy notes that there may be an intertemporal issue with the locational signals provided by congestion zones and connection fees, whereby the congestion zone indicates there is available network capacity when a potential new project is still in the exploratory stage but the connection fee is determined later in the investment process. While the ESB has flagged the potential for tranches and/or a batching scheme to ensure potential investors have clarity about the increase in fees as additional capacity joins the network, CS Energy queries whether these would give investors sufficient confidence to undertake the considerable work required to reach the point in the investment process where the connection fee is determined.

Turning to storage, the ESB notes "storage providers that commit to operating in ways that alleviate congestion could be exempted from the obligation to pay a connection fee, or even offered a negative fee".<sup>28</sup> CS Energy is unsure of how storage would make this commitment or why a commitment would be necessary. If this model was implemented as part of a hybrid solution, CS Energy would expect the operational timeframe model to establish a framework that incentivises storage to operate in ways that benefit the broader system (as per the ESB's goals) so no explicit commitment would be required.<sup>29</sup> This invites the question of whether in the absence of such a commitment that storage may act in its own interests rather than those of the broader system regardless of which shortlisted operational timescale model is implemented.

### *End-of-life generators*

While CS Energy supports the ESB's intent of excluding end-of-life generators from zone status, there are a couple of issues that would need to be resolved to ensure this would not adversely affect investment and operational decisions by incumbents and new projects.

First, clarity would be required about the number of years before an announced retirement of a plant nearing end-of-life would be excluded from the zone status. Given how fast some technologies can be deployed, there is a risk an incumbent's access could be adversely affected before the retiring capacity is withdrawn from the market.

Second, on the assumption excluding retiring plant from connection fee calculations would result in lower connection fees (which would encourage new investment to replace the retiring capacity), there may be a risk of a lull in investment ahead of this expected change in connection fees, which could increase Government and market body concern about whether the retiring capacity would be replaced and the timing of any replacement capacity.

### *Potential modifications*

CS Energy believes the case against information-only locational signals has not been made. The ESB's example of information not currently being sufficient to dissuade new investment in areas of the network that have no spare hosting capacity ignores the potential role of the ESB's proposed operational timeframe model in providing locational signals for rational,

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<sup>27</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 27

<sup>28</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 27

<sup>29</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 11

forward-looking investors. A congestion zone-only investment timeframe model coupled with an operational timeframe model that meets the ESB's goals may be sufficient to address the ESB's concerns with the current market design.

### ***Transmission queue***

Given the material open questions and lack of detail about the transmission queue model, CS Energy is unable to provide substantive comments about this model or even indicate preliminary support. Instead, CS Energy provides some high-level observations of the model as it currently stands for the ESB's consideration.

### **Issues/concerns**

#### ***Impact on connection process***

CS Energy fears the transmission queue model will introduce additional hurdles for new investment that will lengthen the connection process at a time when new investment is required to underpin the transformation of the energy market. As noted in the Consultation Paper, it may be challenging to implement and run Expressions of Interest (with six-month windows for investors to submit their interest) and auctions without disrupting timely investment in new generation and storage capacity.<sup>30</sup>

#### ***Forecasts***

As noted by the ESB, the reliance on forecasts to determine the available transmission capacity is open to central planning error. While underutilisation of the network stemming from central planning error would be concerning, of even greater concern would be errors when a generator was seeking to fund transmission investment to offset the additional congestion they cause. In the event this impact on congestion and/or the transmission investment required to offset their additional congestion was under-estimated, it may adversely affect the access of other generators in the transmission queue.

Clarification is required of whether other generators in a transmission queue are advised when one generator intends to invest to improve their position in the transmission queue. To avoid inefficient piecemeal transmission network investments by participants, CS Energy suggests exploration of whether an Expression of Interest conducted after one participant advises it intends to seek to augment the transmission network to improve its queue position to determine the interest amongst all transmission queue participants to invest in transmission augmentation would be valued by participants.

#### ***Auction revenue***

The ESB notes there are a number of potential uses for any surplus revenue generated by the tender process, including that it *"should be returned to customers in the form of a reduction in network charges, or used in other ways, such as paying for programs that will increase the social license of proposed transmission investments"*.<sup>31</sup>

CS Energy seeks clarification of whether the ESB is using *"surplus revenue should be returned to customers in the form of a reduction in network charges"* to mean *"offset transmission use of service charges paid by consumers by funding transmission expansions contemplated in the ISP and selected via the transmission planning process"* as under the

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<sup>30</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 37

<sup>31</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 33

congestion zone with connection fee model, or if the intention is to reduce the transmission charges paid by consumers.<sup>32,33</sup> If the latter, CS Energy questions why the tender revenue would not be used to augment the existing network or invest in new transmission capacity potential connecting generators have demonstrated they value through their auction bids.

### *Timeliness of investment*

While CS Energy acknowledges the intent of the ESB in ensuring “*advantageous queue positions are not awarded to generations that won’t reach financial close, which could deter other genuine investment*”, it questions how this could be achieved in practice.<sup>34</sup> There is an interdependence between a new projects’ transmission queue position and the investment case. The ability of a project to demonstrate it will reach financial close will be influenced by what point in the investment process a transmission queue position is granted, acknowledging the potential risks of progressing too far into the investment process without knowing the new project’s transmission queue position. CS Energy seeks clarity about new projects could demonstrate they will reach financial close to the ESB’s satisfaction.

CS Energy also believes further work is required on how the ESB envisages operationalising the requirement that projects “*would have to commence construction within 2 years of being allocated a queue position*”.<sup>35</sup> Key issues to be resolved include the defining “commence construction”, if there is any requirement to complete construction, what happens in the event that the delay in construction is beyond the control of the project investor (and in that instance, how to differentiate between what is within and what is beyond investors’ control), and what happens in the event that construction doesn’t commence within 2 years. Acknowledging the ESB’s concerns about the potential for this process to be used to dissuade other investment, CS Energy suggests handing the transmission queue position back would not provide a sufficient deterrent for this behaviour, and the ESB should consider additional penalties.

### *Access rights*

CS Energy appreciates there are a number of open questions with the implementation of the transmission queue model, but even at this early stage of development there are some critical questions regarding what any access rights delivered via the transmission queue model actually confer to the holder, including:

- Incumbent access rights: The ESB states “*[i]ncumbent generators are treated as equal first in the connection queue (or pro-rated according to the current rules if incumbent generation exceeds transmission capacity)*”.<sup>36</sup> CS Energy was under the impression that pro-rating transmission capacity under the current rules was an issue with the current market design that the proposed TAR was attempting to address, so questions how relying on the current rules would align with the ESB’s goal for TAR.
- Firmness of rights: The ESB states “*[t]he queueing system is not fully firm given the complexity of the meshed network*”.<sup>37</sup> The firmness of the queueing system is critical for both the investment decisions it is intended to inform and its impact on operational decisions. Further clarity is required about how transmission capacity is allocated amongst generators when a transmission outage results in the aggregate transmission queue position zero generation capacity exceeding the available transmission capacity.

<sup>32</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 33

<sup>33</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 28

<sup>34</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 37

<sup>35</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 33

<sup>36</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 36

<sup>37</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 37

CS Energy questions the value to investors of a model that confers access rights that are not firm during times when firm access rights are needed most.

- Duration of rights: The Consultation Paper indicates duration of access rights will be considered as part of the detailed design process, although this is a fundamental design choice of the proposed model. Stakeholders require clarity about whether incumbents' queue rights will also expire, what happens when queue rights expire (e.g., are the available queue rights auctioned) and whether there is a limit on how many queue rights stakeholder can hold (e.g., potential limits on who could hold rights and how many they could hold was discussed as part of the consideration of Financial Transmission Rights under CoGaTI). CS Energy questions whether there is a tenor that will satisfy the ESB's dual goals of enabling new project financing and retaining a level playing field, as well as the value new projects would place on different tenors of access rights.

### *Impact on contract market*

CS Energy agrees that “[t]here is a risk that queueing may limit or damage contract market liquidity”.<sup>38</sup> While the transmission network augmentation undertaken by a generator seeking to improve their transmission queue position is intended to fully offset their impact on other generators, there is the possibility that the prescribed investment is insufficient to offset the generator's actual impact on congestion and thus potentially adversely affect access for other generators. There does not appear to be any recourse of affected generators in this way, which may weigh on generators' contracting activity.

CS Energy suggests there may be increased contracting in the short-term (i.e., in the period before network augmentations could feasibly be undertaken) as the transmission queue would increase generators' understanding of the congestion they would expect to face (but crucially depending on the finalisation of key issues such as what access the transmission queue confers and what occurs in instances where outages result in aggregate transmission queue position zero capacity exceeding network capacity). However, uncertainty about whether network augmentation undertaken by other generators to improve their transmission queue position will adversely affect contracting generators access (particularly during times when access would be critical, such as network outages) may dissuade longer-dated contracting. Further work is required to determine the expected impact on contracting behaviour and the potential impact of a shift to shorter-dated contracting would have on retailers and consumers.

### Potential modifications

Further options for this model that could be explored as part of ongoing public consultation include:

- Allowing access conferred by queue position to be segmented: CS Energy suggests there may be potential benefit in segmenting the access granted to generators under this model. For example, a generator could have a proportion of its capacity (set with reference to the generators' minimum load) granted transmission queue position zero and be compensated for having its remaining capacity granted a higher transmission queue position. Greater certainty over dispatch at minimum load may address the ESB's concerns with race to the floor bidding.
- Allowing access conferred by position queue to be traded: There are circumstances where generators will not require the access conferred by their transmission queue

<sup>38</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 37

position (e.g., planned outages). The ESB could investigate ways in which generators could trade this access to increase transmission network utilisation.

### **Shortlisted operational timeframe models**

On the information released to date, both models entail significant changes to the current market design, however the CRM offers the advantages of a voluntary, market-based model which provides the opportunity for participants to trade congestion relief and thus reveal the commercially efficient level of congestion for binding constraints.

The CMM with universal rebates does not address stakeholder concerns with the CMM with REZ Adaptation, and its implementation would introduce considerable complexity, cost and risk to the market in pursuit of marginal improvements to operational signals.

### ***Congestion Management Model with universal rebates***

CS Energy does not support the CMM with universal rebates. While the simplified, theoretical models of the CMM with universal rebates appear to achieve the ESB's goals for generators' operational timeframe decisions and market outcomes, the potential for the model to introduce considerable complexity and risk has not been addressed by the ESB.

The ability to adjust efficient locational signals to incentivise investment in specific parts of the network (e.g., REZs) under either of the shortlisted investment timeframe models means it is unclear how this model addresses investor concerns with the CMM with REZ Adaptation.

### **Issues/concerns**

#### ***Short-Run Marginal Cost bidding***

CS Energy's concerns about the appropriateness of pursuing short-run economically efficient dispatch have been detailed earlier in this submission. As this model does not address all reasons for generators bidding at prices other than their SRMC, assuming it will capture the entirety of the theoretical "benefits" stemming from short-run economically efficient dispatch overstates the potential impact on the market and consumers.

#### ***Race to the floor bidding***

CS Energy disagrees with the ESB's assertion that "*[g]enerators are disincentivised from bidding to the market floor price because they risk incurring high congestion charges*".<sup>39</sup> While the model may provide a disincentive, there is a range of incentives and drivers of generator bidding behaviour that the CMM with universal rebates does not change.

Worked examples of the model are required to demonstrate how the proposed model would influence generator bidding behaviour and whether generators would be disincentivised from bidding to the market floor because of the risk of incurring high congestion charges (i.e., if generators made largely whole by congestion rebates, depending on the allocation metric used, would have regard for the magnitude of the congestion charge).

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<sup>39</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 39

### *Rebate allocation metric*

CS Energy agrees with the ESB that “a key outstanding matter for consideration is the allocation metric used to determine each generator’s share of the congestion rebates. Generators require clarity on this feature of the CMM so that they can assess how the model affects them”.<sup>40</sup> The allocation metric is the critical design choice of this model, and CS Energy is perplexed that the ESB has not selected its preferred allocation metric this late in the reform development process.

CS Energy’s specific comments on the proposed allocation metrics are detailed below:

- *Maintaining status quo outcomes:* The ESB claims this allocation metric would result in outcomes similar to the CRM, but greater detail of the model is required for stakeholders to test the veracity of this statement and whether there are differences in dispatch outcomes versus financial outcomes of the two models under this allocation metric.
- *Sharing of risks:* The current level of detail on a risk sharing methodology does not permit even a superficial assessment of this proposed allocation metric. Considerable work is required to develop a transparent, consistent risk sharing goal and methodology for further consultation.
- *Similarity to actual dispatch:* CS Energy does not support any allocation metric under which a “regulatory process would be established to infer each generator’s short-term marginal cost. Rebates would be allocated based on what the economic dispatch would have been if generators offered these inferred costs.”<sup>41</sup> A more accurate title for this option would be “theoretical assumed short-run economically efficient dispatch outcomes”. CS Energy considers this option the antithesis of an energy market. Before expending resources considering this model further, the ESB needs to consider key issues with its implementation (beyond the inappropriateness of SRMC bidding as a goal for TAR) including who would be responsible for estimating generators’ SRMC, how frequently generators’ SRMC would be updated to reflect changing input costs, the impact on both generators and the market if estimated SRMC were incorrect, how the investment required to underpin the transformation of the energy market earns an economic return, and the impact of the proposed allocation metric on the contract market.
- *Increased certainty for generators with priority access rights:* CS Energy questions whether this is actually the ESB’s preferred option, as both shortlisted investment timescale models deliver access rights that only confer value to their holders via the benefits they grant in operational timeframes.
- *Simplicity and transparency i.e. availability:* CS Energy does not share the ESB’s concern about gas fired generators receiving a rebate when they would not have wanted to be dispatched at the prevailing Regional Reference Price (**RRP**). As the ESB acknowledges, there are trade-offs in designing the models.<sup>42</sup> The potential methodologies for precluding generators from congestion rebates presented in the Consultation Paper are based either on generators’ bids (which reintroduces the “perverse” incentive on bidding behaviour the ESB is attempting to address) or an arbitrary RRP threshold for select generators. Further work is required from the ESB to develop a transparent, robust methodology of their proposed arbitrary rule for excluding

<sup>40</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 44

<sup>41</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 40

<sup>42</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 13

some generators from rebates under particular market outcomes for continued public consultation.

### *Impact on generators*

The ESB's assertion that "[a]ll generators receive rebates irrespective of where they locate, so this model does not provide a signal to locate in places where the generator does not increase congestion" is true but potentially misleading. While this model does not provide a locational signal, both shortlisted investment timeframe models that could be implemented alongside this operational timeframe model can guide investment to specific locations on the network (e.g., REZs).<sup>43</sup> The ESB needs to be direct about how it envisages the CMM with universal rebates would be implemented and how the shortlisted hybrid models address investor concerns with the CMM with REZ Adaptation given the CMM with universal rebates can deliver the same outcomes.

That "a key focus of the ESB's next stage of work will be to model the impacts so that market participants can better understand how they are likely to be affected by various options for transmission access reform" comes extremely late in the consultation process.<sup>44</sup> As discussed earlier in this submission, the ESB is looking to engage consultants to model the impacts of the shortlisted models on stakeholders but has not indicated whether that modelling will be released before or after the ESB selects its recommended models. CS Energy questions the value of undertaking this modelling exercise if it isn't to inform public discussion and consultation of the reform options.

### *Impact on contract market*

CS Energy agrees with respondents to the Project Initiation Paper that "suggested that the CMM would impact the contract market".<sup>45</sup> Independent of the impact of the rebate allocation metric on generators' contracting activity, the CMM with universal rebates introduces basis risk (which is more difficult for generators to manage than volume risk), which would be expected to adversely impact generators' contracting activity.

### Potential modifications

Further work is required on this model, principally on the selection of rebate allocation metric and development of the allocation methodology, before it reaches a state of development that permits stakeholders to meaningfully engage with the ESB and provide feedback on this option.

### **Congestion Relief Market**

CS Energy sees considerable appeal in the voluntary, market-based mechanism through which participants can manage their congestion risk offered by the CRM. A thorough investigation of the expected costs (both implementation and on-going costs for the market operator and participants), rather than vague allusions to cost estimates prepared for a different mechanism under CoGaTI, is required to inform public consultation on this model.

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<sup>43</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), pages 41-42

<sup>44</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 42

<sup>45</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 42

## Issues/concerns

### *National Electricity Market Dispatch Engine processing time*

CS Energy seeks assurances from the ESB and market operator of the impact of the proposed model on the National Electricity Market Dispatch Engine (**NEMDE**) processing time. This is particularly important given both the recent move to Five-Minute Settlement and ensuring the benefits of new technologies (e.g., battery storage) can be fully realised.

### *Short-run Marginal Cost bidding*

CS Energy does not necessarily agree with the ESB's position that "[t]he trading of congestion relief would enable low-cost participants to be dispatched over high-cost participants through a compensation process. This would lead to more efficient dispatch with lower cost generation being dispatched".<sup>46</sup> This may be true under a theoretical short-run economically efficient model, but needs to be tempered by the fact that the model does not address the multitude of reasons that generators may bid capacity at prices other than SRMC. The potential for theoretically mutually-beneficial congestion relief deals to not be pursued by generators affected by a binding constraint would not be evidence of any shortcomings of this shortlisted model or its ability to enable lower-cost generation to be dispatched.

### *Volume of congestion relief*

The ESB notes "[s]ome stakeholders have expressed concern that the voluntary nature of the scheme may not result in sufficient congestion relief".<sup>47</sup> CS Energy queries from which stakeholder's or stakeholder group's perspective the volume of congestion relief delivered through a voluntary, market-based mechanism could be viewed as insufficient. In the event that a low volume of congestion relief was transacted, CS Energy posits that would indicate either congestion is not a material issue for generators or there are few economically-viable opportunities to trade congestion relief services, rather than an "insufficient" level of congestion relief was being procured.

### *Costs*

CS Energy questions the value of including indicative, preliminary costs for a similar set of system changes investigated in 2020 with unevidenced assurances that an undefined proportion of the costs of that similar set of system changes would likely be applicable to the CRM in the Consultation Paper.<sup>48</sup> Once the designs of all shortlisted models are finalised, the ESB should conduct a thorough assessment of the expected implementation and ongoing costs for both the market operator and generators to ensure accurate an accurate cost-benefit analysis is undertaken and publicly consulted on.

## Potential modifications

CS Energy is keen to see worked examples of how this model would be implemented and the expected impacts on congestion and market participants.

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<sup>46</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 45

<sup>47</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 48

<sup>48</sup> Energy Security Board, [Transmission Access Reform Consultation Paper](#), page 46

## Conclusion

CS Energy’s assessment of the shortlisted models against the ESB’s assessment criteria, based on the high-level information provided to the ESB to date, is shown in Table 3.

	Congestion zones with connection fees	Transmission queue	Congestion Management Model with universal rebates	Congestion Relief Market
Efficient market outcomes – investment	Connection fee can be modified to guide investment to REZs	Queue positions can be modified to guide investment to REZs.	Does not provide upfront locational signals in isolation.	New projects can see congestion relief activity at chosen location.
Efficient market outcomes – dispatch	New projects recover connection fee via bids.	Assigns rights/rebates under operational timeframe model.	Does not alter factors that see generators bid at non-SRMC prices.	Price and volume of congestion relief set via a market.
Appropriate allocation of risk	High reliance on central forecasts of congestion, network capacity.	Parties that cause congestion face higher congestion risk.	Clarity required about how non-energy markets affect efficacy.	Higher coefficient generators can offer to buy congestion relief.
Manage access risk	Inaccurate central modelling leads to inefficient level of congestion.	Provides certainty for duration of access rights. Firmer, not firm.	Depends on what rebate allocation metric is selected.	Facilitates participants ability to manage access risk.
Effective wholesale competition	Clarity required about what new projects receive in return for fee.	Duration of queue rights to be determined.	Potential for rebate allocation metric to distort outcomes.	Congestion relief payments reflect access benefits in return.
Implementation considerations	Potential for considerable complexity.	Impact of EOI and actions within investment decision process.	Requires changes to settlements.	Cost of establishing new ancillary market to be determined.
Integration with jurisdictional REZ schemes	Connection fees can be modified to guide investment to REZs.	Queue positions can be modified to guide investment to REZs.	Supports REZS by ensuring network used efficiently.	Supports REZS by ensuring network used efficiently.

Table 3: Assessment of shortlisted models against the ESB’s assessment criteria

While CS Energy acknowledges there are trade-offs between the assessment criteria and not all components of a hybrid solution will address all assessment criteria, the ESB’s congestion zones with connection fees and CMM with universal rebates models fare particularly poorly.

Given the importance of this reform, CS Energy implores the ESB to request an extension to the current deadline for presenting a model to Energy Ministers to ensure there is sufficient time to undertake iterative public consultation on the shortlisted models and a more fulsome examination of the alternative models proposed by stakeholders. There will be a long-lived impact of the proposed reform on the market and consumers, so it is incumbent on the ESB to ensure their first priority is delivering a coherent, consistent reform package that addresses clearly articulated objectives and provides a net benefit to consumers, not meeting a deadline.