21 December 2022

Anna Collyer
Chair
Energy Security Board

Dear Ms Collyer

RE: Transmission Access Reform

Shell Energy Australia Pty Ltd (Shell Energy) welcomes the opportunity to respond to the Energy Security Board's (ESB) Transmission Access Reform Directions Paper.

About Shell Energy in Australia

Shell Energy is Shell's renewables and energy solutions business in Australia. Shell Energy delivers business energy solutions and innovation across a portfolio of electricity, gas, environmental products and energy productivity for commercial and industrial customers. Our residential energy retailing business Powershop, acquired in 2022, serves more than 185,000 households and small business customers in Australia. The company's generation assets include 662 megawatts of gas-fired peaking power stations in Western Australia and Queensland, supporting the transition to renewables, and the 120 megawatt Gangarri solar energy development in Queensland. Further information about Shell Energy and our operations can be found on our website here.

General comments

Shell Energy has actively engaged in the Australian Energy Market Commission's (AEMC) and ESB's consultation processes on transmission access reform as it has evolved from the original coordination of generation and transmission investment (COGATI) framework involving locational marginal prices (LMP) and financial transmission rights (FTR) to the Congestion Management Model (CMM) and now the dual investment and operational timeframes approach. We proposed a connection fees model which bears numerous similarities to the congestion fee model outlined in the Directions Paper.

Through these consultations, the ESB has recognised and largely addressed a number of stakeholders' key concerns. Chiefly, the ESB has paid attention to the major concern of disaggregating generation and non-scheduled load settlement points around the NEM, which would have posed major difficulties for contract market liquidity. The ESB has also recognised the implications for contracts markets in further iterations of transmission access reform.

The ESB's proposed reform approach – the Congestion Relief Market (CRM) and either the priority access or congestion fee model – may improve the locational signals to new generators connecting to the transmission network. Some changes are still required to deliver sharper incentives and avoid damaging contracts markets.

While the ESB's proposed approach model may create incentives for batteries and other forms of flexible load to consume more energy to avoid curtailing renewable low-cost renewable generation, it will not physically alleviate congestion and allow more generation to reach consumer load centres. As such, we recommend generators that invest in transmission network augmentations that alleviate congestion receive improved

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transmission network access in the form of property rights. This would remove the need for consumers to pay for all transmission augmentation and places the investment risk on generators rather than consumers.

The CRM model as described in the Directions Paper and through the ESB's consultation with stakeholders, remains short on detail as to how it would operate in practice. This is essential to understanding the full impact of the reform. The detail provided so far suggests there could be risks that generators do not in fact have guaranteed access to the Regional Reference Price (RRP) as currently defined. Without guaranteed access to the RRP, there is a real risk generators will be unable to make the same level of financial market contracts available. This would undermine the ability of non-vertically integrated retailers to offer efficient prices to customers. The ESB needs to ensure that generators can access the RRP where there is no congestion or if they do not wish to access LMPs. The CRM opt-out provision is central to this.

Finally, one of the key stakeholder concerns in previous versions of transmission access reform has been the potential for short-term transmission rights to be made available. It is critical that generators can secure rights for the life of their assets, linked to the generator closure dates. This will improve investment certainty for both existing and new generators. The suggested approach of auctions for transmission rights was strongly rejected by industry and a number of consumer representatives during consultations on the original COGATI proposal.

In conclusion, Shell Energy recommends that the following changes are required to deliver a transmission access model that provides the rights signals to investors, protects contracts markets and avoids placing unnecessary risks on energy users:

1. Participation in the CRM remains voluntary;
2. Ensure generators can access RRP as it is currently defined is maintained;
3. Provide property rights to generators that invest in transmission network augmentations; and
4. Allow access rights to endure for the life of a generator based on its notice of closure date.

This submission sets out Shell Energy's responses to a range of the ESB's questions posed in the Directions Paper. For more detail on our submission, please contact Ben Pryor, Regulatory Affairs Policy Adviser (ben.pryor@shellenergy.com.au or 0437 305 547).

Yours sincerely

Greg Joiner
CEO Shell Energy Australia

About Shell Energy in Australia

Shell Energy is Shell's renewables and energy solutions business in Australia, helping its customers to decarbonise and reduce their environmental footprint.

Shell Energy delivers business energy solutions and innovation across a portfolio of electricity, gas, environmental products and energy productivity for commercial and industrial customers, while our residential energy retailing business Powershop, acquired in 2022, serves more than 185,000 households and small business customers in Australia.

As the second largest electricity provider to commercial and industrial businesses in Australia[1], Shell Energy offers integrated solutions and market-leading[2] customer satisfaction, built on industry expertise and personalised relationships. The company's generation assets include 662 megawatts of gas-fired peaking power stations in Western Australia and Queensland, supporting the transition to renewables, and the 120 megawatt Gangarri solar energy development in Queensland.

Shell Energy Australia Pty Ltd and its subsidiaries trade as Shell Energy, while Powershop Australia Pty Ltd trades as Powershop. Further information about Shell Energy and our operations can be found on our website here.

Introduction

Shell Energy has actively engaged in the Australian Energy Market Commission's (AEMC) and ESB's consultation processes on transmission access reform as it has evolved from the original coordination of generation and transmission investment (COGATI) framework involving locational marginal prices (LMP) and financial transmission rights (FTR) to the Congestion Management Model (CMM) and now the dual investment and operational timeframes approach. We proposed a connection fees model which bears numerous similarities to the congestion fee model outlined in the Directions Paper.

Shell Energy is pleased that through these consultations, the ESB has recognised and addressed a number of key concerns that stakeholders have raised. Chiefly, the ESB has paid attention to the major concern of disaggregating generation and non-scheduled load settlement points around the NEM, which would have posed major difficulties for contract market liquidity. The ESB has also recognised the implications for contracts markets in further iterations of transmission access reform. These represent improvements in the process although we still have concerns about the impacts of the current proposal on metered output hedge contracts which are the most common form of power purchase agreement (PPA) for variable renewable generators (VRE).

The ESB has also recognised industry input in recommending further development of the Congestion Relief Market (CRM), subject to an assessment of costs and benefits, ahead of the CMM. Yet the CRM option departs from the original CRM model proposed by Edify in its response to the ESB's Post-2025 Market Design Options Paper and currently lacks a detailed description in several areas. We have therefore needed to interpret the CRM based on the information provided. It appears to Shell Energy to be a parallel spot market where generators and scheduled load should in theory be incentivised to bid according to short run marginal cost (SRMC). If NEMDE determines there is a more efficient generation and scheduled load dispatch pathway for each trading interval it will dispatch it, with some generators being paid to generate more and scheduled load incentivised to increase consumption at a location specific price. The ESB claims that this outcome could incentivise other generators presumably to also alter dispatch which would result in these generators receiving

[1] By load, based on Shell Energy analysis of publicly available data.

[2] Utility Market Intelligence (UMI) survey of large commercial and industrial electricity customers of major electricity retailers, including ERM Power (now known as Shell Energy) by independent research company NTF Group in 2011-2021.

the same margin outcome even by generating less. However, the ESB then proposes additional bidding rules around CRM which, in our view, could distort this incentive.

The CRM as described does appear to create theoretical incentives for scheduled loads, pumped hydro and battery energy storage systems (BESS), to locate in areas where congestion occurs. Loads could then consume at times of congestion settled at the LMP instead of a higher Regional Reference Price (RRP). This added consumption therefore acts as a soak for additional generation that would otherwise be constrained. It would not however relieve congestion or result in higher flows across the transmission network to consumer load centres. Further, there is no guarantee that with higher consumption in this previously congested network area that LMPs don't rise to equate to the RRP. In addition, for energy storage technologies that also dispatch electricity, such as BESS or pumped hydro, charging at lower prices will not be the sole reason for choosing a location to connect to the grid. Other factors such as land access and critically, being able to dispatch at times of high energy prices, will play highly important roles in the ultimate decision of where to locate these technologies.

BESS and other forms of energy storage have an important role to play in terms of consuming energy that would otherwise be curtailed, but they should not be the only possible solution. Crucially, we consider that the transmission access model needs to go beyond increasing consumption to act as a soak to achieve the efficient physical relief of congestion. We believe that the ESB's proposed approach can be improved by incentivising participants to physically alleviate congestion to the consumer load centres through investing in network augmentations in return for a transmission access property right. This would remove the need for consumers to pay for transmission augmentation and places the investment risk on generators rather than consumers. Such an outcome would also result in the most efficient generation and transmission option being progressed.

The ESB's two options for investment timeframes – congestion fees or priority access – share similarities in terms of having the potential to provide project developers with better incentives to locate in areas which will not increase congestion. The success and indeed impact of whichever option is ultimately introduced will depend on the precise design of the models, most importantly how the transmission access rights are allocated to current and new generators. The ESB has noted the relevant design issues including to whom transmission access rights would be allocated, how long these rights would last for, what right is attached to a congestion fee or queue position and how would any fees for these rights be used. This submission outlines Shell Energy's views on some of these questions.

That said, Shell Energy has concerns with some potential design iterations. Such as the use of auctions for priority access 'queue' positions, particularly if the rights are only for a relatively short-term period compared to the life of the asset. Such an outcome would be the same as the proposed auction of financial transmission rights under the original COGATI proposal which was unanimously rejected by industry and a number of consumer representatives. Similarly, we would be reluctant to see a design approach that is not technology neutral.

Shell Energy recommends that the final design consider the interaction of transmission access reform with the operational security mechanism. While it is clear that dispatch for the provision of essential system services would receive preference, the final design must provide clarity regarding the settlement price for generation dispatched under OSM.

Finally, Shell Energy noted some mixed messaging in the ESB's public forum on 5 December. While the ESB has indicated that LMP would only apply to participants who chose to participate in the CRM and when thermal constraints bind, other comments during the forum suggested that all generator participants could face some exposure to the LMP at certain times. Exposure to LMP adds risk to generators and can impact their ability to sell financial contracts, which underpin the retail market. We would not be supportive of an approach that exposes participants to the LMP particularly if they have opted out of the CRM. We believe the ESB needs to provide a clearer explanation of how it will operate to allow participants to better understand the potential impact of the reform.

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Detailed design choices – operational timeframes

As previously mentioned, Shell Energy believes that both the CRM or CMM could work in practice, subject to specific design decisions. The ESB is seeking views on many of these issues, but in our view, gaps remain. A clearer description of the CRM as proposed by the ESB is essential, seeing as the ESB's version differs from the original CRM proposed by Edify Energy. The results of a cost-benefit analysis of the CRM relative to the CMM which thoroughly considers the relative costs for implementation are another important piece of evidence for Shell Energy to better assess the relative merits of each option.

In terms of some of the issues the ESB raises, Shell Energy accepts the ESB's proposal that the CRM would be open to all scheduled and semi-scheduled generators, scheduled load and storage. This approach is a logical position. While the proposed approach would give non-scheduled generators guaranteed access to the RRP and by extension, risks increasing congestion at times of high prices, most non-scheduled generators currently seeking registration are generally quite low capacity. However, in our view questions remain with regards to the classification of some larger capacity generators that were by default allocated registration as non-scheduled generators prior to inclusion of the semi-scheduled generator classification. If over time there is evidence that an increase in the registration of non-scheduled generation close to the current 30 MW limit or currently registered larger capacity generators is distorting market outcomes, reassessing the threshold for non-scheduled generators may yet again need to be considered.

Arbitrage opportunities between the energy market and CRM for out-of-merit generators

The Directions Paper sets out a case for where out-of-merit generators could seek to arbitrage the energy market and CRM in order to effectively be paid an inefficient amount for not generating. We share the ESB's view that if this were to actually occur this would not be a positive outcome of the reform, and as such, consideration must be given to addressing this issue. There are several potential outcomes for such behaviour. Firstly, provided that the CRM allows for participants to dynamically opt-in and opt-out via rebids, participants observing out-of-merit generators seeking to arbitrage the CRM and energy market, could withdraw from the CRM, removing any inefficient arbitrage payment for the out-of-merit generator. This would act as a strong disincentive for further inefficient participation by out-of-merit generators. As such, the risk may be relatively minor, provided the CRM is structured in such a way as to allow participants to dynamically opt-out. Therefore, it is possible no change to bidding rules around participation in the CRM is necessary and that these risks will naturally dissipate.

This rationale applies equally to the treatment of storage and scheduled load. Shell Energy does not consider that a different approach should apply to storage acting as a generator, compared to other generation technologies. A technology neutral approach should be a fundamental principle of this policy.

Calculation of RRP

Shell Energy recognises the CRM could introduce a different set of dispatch and pricing calculations for settlement in the energy and FCAS markets. The CRM would also create in effect, multiple marginal prices within each region in the market – one for the RRP in each region on which energy dispatch would be settled and others for the various locational prices associated with each pocket of network congestion which would apply to CRM dispatch. Based on the ESB's arguments, we do not agree there is a need to alter the way the Regional Reference Price (RRP) is calculated.

Changing the calculation of RRP from the existing definition to one based on the CRM, which in effect creates a kind of LMP, would undermine the intent of the opt-out provisions in the CRM. The ESB states that the purpose of the opt-out provision is to accommodate existing contractual arrangements. Yet, changing the definition of RRP to one based on CRM outcomes risks penalising generators who choose to opt-out. Shell Energy questions the purpose of an opt-out provision if there is a penalty associated with doing so.

Further, we consider the ESB has made an error in assessing the need for doing so. The ESB suggests that calculating the RRP in its current form would create an arbitrage opportunity for unconstrained generation to sell part of its output at the RRP and the remainder at the LMP. However, if the generator is unconstrained then we cannot understand why there would be an LMP applicable to the unconstrained generator in place at that time. Our understanding is that LMPs would only apply in the event that network congestion binds and would only be applicable to generation which had offered CRM bids and which were located in the congested network pocket.

We are also concerned that the proposed calculation method would allow the leakage of what could be low CRM bids into the proposed RRP_{CRM} which would in our view result in the inefficient calculation of the marginal price at the regional reference node. As such, we do not see any need for the RRP to be calculated in any other way than the status quo.

Settlement of metered output

With regards to the settlement of metered output, we advise the ESB that it needs to be mindful of the impact on Frequency Control Ancillary Services (FCAS) markets and the provision of incentives for mandatory narrow band primary frequency response (MNBPFR). If the ESB were to proceed with option two, where metered output for the provision of frequency control could be paid at the LMP, this may create a disincentive for generators including BESS to participate in FCAS markets and changes to unit operation that would minimise the provision of MNBPFR, as it would at times receive the (presumably) lower LMP rather than the RRP.

As the purpose of FCAS and MNBPFR is in effect the real time balancing of supply and demand, the proposed change would also lead to an imbalance between market customer (load) and generation settlement amounts which may not balance over time and require ongoing settlement adjustments by AEMO to correct this inefficiency.

Taking the suboptimal outcomes incentivised by the proposed change into consideration we suggest the following.

1. All CRM dispatch for both generators and scheduled load be settled at the LMP based on the dispatch target.
2. The balance of metered dispatch or consumption following the subtraction of the CRM dispatch target volume is settled at the RRP. This mirrors the current settlement outcome.

This settlement of CRM volumes provides efficient outcomes for both high and low generation and consumption outcomes relative to the dispatch target for both generation and load. It mirrors the outcomes that would currently occur in the settlement system and maintains equilibrium between generator and market customer settlement.

We consider that this approach would adequately maintain the incentive for participation in FCAS markets and provision of MNBPFR, while also preventing financial rewards for generators that miss their dispatch targets.

Alternative distributions of congestion risk in the energy market

While Shell Energy understands the ESB's desire to more equitably distribute the risk of congestion across multiple generators in a network congestion pocket via the rounding and alignment of generator coefficients in constraint equations, it is unclear that the proposed change would deliver the outcome presented in the Paper. We recommend the ESB also consider the impact of generator ramp rates, constraint violation penalty factors and changes to constraint equation safety margins in addition to small differences in constraint equation coefficients. We also note that rounding coefficients to the nearest (selected) decimal place may still create substantial differences in dispatch where coefficients are close but separated across the midpoint, (e.g. 0.744 rounds to 0.74 while 0.746 becomes 0.75; or 0.749 rounds down to 0.7, while 0.753 rounds up to 0.8.

This analysis should also include what impacts to transmission losses in the system would also occur as a result of this change. Shell Energy would be interested to understand the potential negative outcomes for the overall system that could result from the proposed change.

Settlement price for generators that improve network transfer capability

Shell Energy considers that where operation of a specific generator increases the ability of the network to transfer energy, i.e., a positive gatekeeper role, this outcome should be identified by AEMO and where warranted operationalised via the use of a network support and control ancillary services contract. We believe this would be preferable to the ESB's other proposed approach of capping LMP at the RRP.

Treatment of interconnectors

Shell Energy is concerned by the lack of detail in the Paper regarding what in effect could be the transfer of intra-regional settlement residues to inter-regional settlement residues under the CRM proposal. Such a change could also result in generators who have opted out of the CRM being exposed to the LMP at settlement. Alternatively, the proposed changes could allocate a queue position to an interconnector for a share of the access right. We request the ESB provide greater clarity regarding proposed changes in this area.

Detailed design choices – priority queue access

The ESB asks whether the priority access approach should allocate queue positions on a tiered basis (to minimise the number of positions) or to provide as many unique positions as possible. Shell Energy considers that it would be preferable for there to be as many unique positions as possible in order to provide stronger incentives for generators connecting to the network sooner than others. That said, we consider that all incumbent generators should receive the same collective queue position. In addition, there is also a case for generators finalising connection agreements in the same part of the network at a similar time (e.g. same month or quarter) should be able to receive a common queue position. In effect, this would require a tiered approach of sorts, but one that is able to add unique numbers for more generators as they sequentially connect to the grid.

Shell Energy does have some concerns around whether increased numbers of queue positions would slow the issuing of dispatch instructions through the National Electricity Market Dispatch Engine (NEMDE). We also note recent advice from the ESB regarding a concept to implement queue positions via allocation of lower market floor prices to generators based on their queue position. Regarding this, we also note that if implemented these lower floor prices would be allowed to flow through to the RRP calculation, which in our view would distort the calculation of the RRP. In addition, it is currently unclear if a queue position would be allocated to an interconnector if its connection point is within a congested network packet. Such a change would alter the allocation access rights for remote local generators and could have a negative impact on the financial contracts market. We don't agree with the ESB's view in the Paper that CRM if implemented would simply reduce or remove the current incentives that lead to counter-priced flows across interconnectors. We recommend the ESB assess and provide additional details regarding these issues as part of their considerations.

One of the key issues for Shell Energy is the duration of any rights allocated under the priority access model. The ESB asks how long rights should last and highlights options including the life of an assets, a fixed duration, or a fixed duration with a glide path. Shell Energy highlighted the risks associated with shorter-term access rights as part of our submission on the post-2025 Market Design Options Paper in June 2021. In our submission, access rights lasting less than the life of an asset would likely increase uncertainty and risk to generators, as there would be less long-term certainty over average prices over the asset's lifetime. At the time, we highlighted our concerns around the use of auctions and fixed duration access rights. We are therefore surprised that after seemingly acknowledging these risks and moving away from the LMP-FTR model, the ESB has returned these design options to transmission access reform. In our view, it is important that any access right last for the life, or assumed life of a generator. That said, we argue that an exception should apply where a participant has funded network augmentation to improve transmission access. In this case, the access right remains the property of the participant who may trade this access right to another participant.

Further, queue positions should be allocated on a first-come, first-serve basis. A first-come, first served model provides the strongest reward for parties who connect sooner, rather than alternative options such as auctions. In addition, we agree that care will need to be taken to ensure that queue positions are allocated as late as possible in the connection agreement process, to avoid participants 'banking' queue positions. On a related note, 'use it or lose it' provisions may also be required to ensure projects are developed in a timely fashion. Combined, this process would fairly allocate queue positions to those who genuinely intend to proceed with a generation project.

In practical terms, auctions for priority access positions would act in a very similar way to congestion fees with generators paying to limit the risks of congestion. The key difference is that presumably an auction for access positions would lead to a competitive market-driven value to insulate a generator from congestion, while congestion fees could represent to the project proponent the projected impact of congestion – higher in areas with congestion and lower in areas of the grid with hosting capacity available. There has to date been little discussion of what any revenue raised through auctions for access or congestion fees would be used for.

In either case, Shell Energy believes that both these proposals ignore the prospect of actually alleviating congestion through network augmentations. As we note in our connection fees model, the fee itself should represent the cost of alleviating a constraint for all generators located in a congested network pocket when a new generator connects in that part of the network. This outcome ensures that a new generator adds to overall supply to consumers and does not merely displace another supply resource. If that cost is high, then a generator may choose to pay it to avoid congestion for itself and others, or seek an alternative location with a lower connection fee. Alternatively, an integrated projected involving storage and generation (e.g. wind or solar) could represent a lower-cost option overall. A design where fees are used for network augmentation places the risk of poor locational decisions on the connecting generator(s) rather than on consumers. We consider this would be of overall benefit to the market and consumers. Similarly, under the priority access model, Shell Energy considers that generator investments in transmission augmentation should provide the relevant generator with the primary position (or equivalent) in the access queue.

The discussion paper asks about the treatment of incumbent generators under the priority access model. The ESB outlines a range of different approaches that could be taken for allocating queue positions to incumbent generators. In many respects, limiting the availability of priority queue positions to incumbent generators on a time basis or technology basis has an impact on operational timeframes. This would be similar to the way congestion rebates may have been allocated under the CMM. As such, there is a risk that adopting an approach that limits or biases priority access for incumbent generators seeks to influence generator behaviour in operational timeframes – the same as the CRM or CMM – as well as on investment timescales. Shell Energy queries whether this is the ESB's intention in proposing such limits on priority access positions and urge the ESB to consider the range of unintended consequences that could arise from such a choice.

Shell Energy considers that of the options the ESB sets out, two offer significantly better signals for both existing and potential investors. The first is that positions allocated to incumbents expire at a certain date. Shell Energy could accept this approach, provided that the expiry date was tied to a generator's closure date as registered with AEMO as part of the generator notice of closure requirements. This is consistent with our view that access rights should last for the life of a generator. Taking this approach would give new investors a clear signal of when access to more transmission capacity would become available in a transparent and predictable fashion. It would also prevent harming existing investments. Absent this, any change would offer only a very weak locational signal. A participant that then sought to extend the life of a generator could do so but would not maintain their original priority access position unless hosting capacity was available or agree to fund the necessary network augmentation.

The second option Shell Energy considers represents a viable approach is that initial higher priority queue positions allocated to incumbents would not be automatically adjusted to reflect transmission expansions. As the ESB notes, this would avoid windfall gains associated with improving a generator's transmission access beyond the starting point when new access arrangements are implemented. Such an approach would allow for newer generators to move up in queue position and thus gain better access to the transmission network if expansions occur while maintaining the original access rights that incumbent generators hold. Under our preferred design, such an outcome would not prevail when the network augmentation was generator-funded, in which case the access right would be allocated to the funding generator(s).

Detailed design choices – congestion fees

The ESB indicates one risk of the congestion fee model is that a deep-pocketed investor could pay a large congestion fee and increase congestion for existing generators in that part of the network. Shell Energy agrees that this would not be a desirable outcome. It would maintain the same problems that this reform project is designed to avoid. However, the problem of new generators increasing congestion for existing projects is largely resolved if congestion fees are used to physically augment the network.

Both the congestion fee and priority access models could be designed in such a way as to encourage direct investment in transmission infrastructure. Under the connection fee model that Shell Energy proposed in response to the ESB's call for alternative models in November 2021 the connection fee (which the ESB refers to as a congestion fee in its equivalent model) would represent the cost of augmenting the network to avoid material harm to existing generators.

Augmentations can be a variety of approaches including runback schemes, raising the height of transmission towers, flow control devices, temperature and wind speed monitoring, replacing secondary systems etc, all of which could increase the flow capability of the network. These kinds of augmentations may increase the transfer limits by moderate amounts (e.g. 50-100MW) which may be sufficient to provide capability for the new generator to connect and also benefits to other generators in the part of the network. It does not simply have to be large, new infrastructure.

Under the congestion fee model, investments in network augmentation should entitle the party who made the investment to a property right allowing them to maintain access to the network to a certain degree.

We recommend that the ESB should ensure that this reform process encourages generators to invest in transmission infrastructure. Such an approach would reduce the risk to consumers of inefficient transmission investments. Additionally, it would ensure that congestion is actually reduced rather than relying purely on large loads such as BESS, pumped hydro or hydrogen electrolysers to 'soak up' additional generation.

Such a design could also allow for a range of responses, such as a generator agreeing to be constrained at certain times in exchange for a lower congestion fee. This would be tantamount to a lower queue position under the priority access model. The CRM could then offer an avenue for that generator to still generate, albeit settled at the LMP, during times of congestion.

This design also avoids determining what should be done with the revenue received from congestion fees. We understand that two of the more common approaches suggested are that it could be used to compensate generators affected by congestion, or to reduce transmission use of system (TUOS) charges for consumers. We do not consider that either approach provides the right or optimal incentives for generation and transmission investment.

Shell Energy sees that the congestion fee should be a relatively bespoke process taking into account factors such as location, type of generation (e.g. BESS, gas, wind, solar), the other types of generators in the network and the extent to which a generator may agree to be constrained off. A wind generator that agrees to a lower agreed access right during higher solar PV output periods in an area with large amounts of solar may have less of an impact on congestion – and as such a lower congestion fee – than adding another solar generator in the area. Congestion fees should reflect these dynamics.

Detailed design choices – enhanced information provision

Shell Energy considers the enhanced information provisions to be a no regrets addition to transmission and generator planning, regardless of which access model(s) are chosen. Similar to what we describe above as the factors that should form part of the calculation of congestion fees, a range of information should be provided to the market on hosting values. A single value is of limited use to the market as different technology types such as solar, wind, thermal have different generation profiles. Ideally, hosting capacity values should be differentiated in terms of technologies to provide more granular information to the market.

The ESB queries whether only committed network augmentations, generation and load should be used to calculate hosting values or whether anticipated projects should also be included. Given that anticipated projects are included in analysis for the Integrated System Plan (ISP) we consider that it would be reasonable to include anticipated projects in hosting capacity analysis. Information on hosting capacity is effectively a planning tool, similar to the ISP, whereas reliability outlooks only include committed projects. There is a risk that if only committed projects are included, it could paint a more optimistic picture of the level of hosting capacity that is available.