31 August 2023

Capacity Investment Scheme Team
Department of Climate Change, Energy, the Environment and Water
GPO Box 3090
Canberra ACT 2601

Sent via email: **CapacityInvestmentScheme@dcceew.gov.au**

Dear Salim Mazouz

RE: Capacity Investment Scheme Public Consultation

Shell Energy Australia Pty Ltd (**Shell Energy**) welcomes the opportunity to respond to the Capacity Investment Scheme consultation being undertaken by the Commonwealth.

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 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.

General comments

Shell Energy is supportive of the widescale adoption of clean technologies such as variable renewable energy (**VRE**) generators, battery energy storage systems (**BESS**), demand response, and behind the meter consumer energy resources. Therefore, we are supportive of the need to encourage greater investment in dispatchable capacity from these, or similar, resources coming into the market, which the Capacity Investment Scheme (**CIS**) is looking to facilitate. However, Shell Energy has concerns around the vehicle and technologies the

[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.

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Commonwealth has proposed to support in doing this. In particular, Shell Energy has concerns with aspects of the core design elements of the CIS, the eligibility criteria, and the model of the commercial structure. This submission has been divided into three sections to address each of these topics individually.

Summary of Shell Energy Recommendations

Section	Recommendation
Core design elements	Clarification on how transparency will be adhered to and where industry and potential investors will have the opportunity to view key components of the process
	Further consultation with industry in establishing state-based targets
	1. Clarification on the measure of reliability, and; 2. Further consultation with industry if this will differ at the individual state level
	Further commentary highlighting how competing priorities between the Commonwealth and individual states will be addressed
Eligibility criteria	Renewable energy zones should not form part of the eligibility criteria
	Amend 'zero scope 1 emissions' to refer to net zero emissions technologies while retaining specific exclusions (e.g. coal)
	Registered controller of an eligible plant to be able to participate in the CIS
	Support demand side resource participation
Commercial structure	Either: 1. Lower the 97% availability requirement if maintenance timeframes have been factored into this percentage; or 2. Specify the availability requirement as 97% during any declared LOR period And: Further clarify the measurement period for availability and the implications of non-compliance
	Either: 1. Remove the 50% storage capacity performance requirement with 2-hours notice of a declared LOR3 event; or 2. Amend the required notice period from 2-hours to either 4 or 6-hours
	Either: 1. Amend the collar design of the commercial structure to reduce the amount of support required to develop the new capacity by selling low strike puts which developers will pay a premium for; or 2. Align the model closer to the LTESA

1. Core design elements of the CIS

1.1. Transparency

Shell Energy supports the core design elements of the CIS, particularly as the consultation paper homes in on the principles of being transparent, fair and objective in its independence from state and territory targets, and in its resource selection, which is to be clean technology agnostic.

Transparency in particular is highlighted under both the key features and principal design elements as a means to meeting the objective of the CIS. However, despite its status as the front runner for both, it appears that transparency is limited only to the forecasting of the reliability shortfall requirements. This appears superficial given that the regional reliability shortfall requirements will be established based on AEMO's publicly available ESOO and ISP. This outcome seems inconsistent to areas in the paper which specifically refer to jurisdictions being consulted on assumptions and methodologies, and state and territory governments being consulted on to inform the reliability targets and modelling.

While acknowledging it is appropriate for these consultations to take place, Shell Energy urges the Commonwealth to not take the principle of transparency at its face value and to be clear in how it plans to adhere to this. For example, transparency with industry and potential investors around how reliability and capacity may differ at the state level, and how these state-based targets will be established would give greater confidence in the Commonwealth being true to conducting a transparent process. This transparency should extend to consulting with all stakeholders on the appropriate means of establishing state-based targets as a further means to granting investment certainty for future proponents.

1.2. Reliability

Alongside transparency, reliability and minimum duration are both core elements of the CIS. It is understood that the Commonwealth has relied on these elements to support the objective of the scheme.

While supportive of reliability being a core design feature, Shell Energy first seeks clarification on how a project's reliability will be measured, and further consultation with industry if this measure of reliability will differ at the individual state level. A key to attracting investment through the CIS will be through limiting discrimination of project types based on location in different states. Clarification on this process will give proponents greater certainty on where investments may be better placed.

Second, where there are competing priorities between benefits to the Commonwealth versus benefits to the state, Shell Energy seeks clarification on how this situation would be addressed, including whether this would fall into the realm of transparency. For example, where the Commonwealth sees the benefit of a lower minimum duration requirement – due to the value for money being greater where a revenue floor is less likely to receive a top up, but jurisdictions seek a longer duration capacity – due to concern around potential tail risks associated with low probability power system events associated with higher penetration renewable systems, is there a proposed system or methodology that would decide which view would prevail over the other?

Shell Energy therefore seeks clarification and transparency around such a process, given the impact this may have on investment decisions proponents may have relative to the CIS.

1.3. Minimum Duration

It is understood that the Commonwealth has a preference for eligible technologies to have a minimum firm operation duration period of 4-hours. Shell Energy considers that a minimum duration requirement is appropriate and notes that a key consideration should be for all technologies to be treated the same with respect to their ability to contribute to reliability outcomes. For example, demand side, hydrogen generation, or other clean, dispatchable technologies must be subject to the four continuous hour minimum requirement to avoid distorting the outcomes of the scheme. Alternatively, we would support reliability being measured in MWh rather than a required duration.

Shell Energy also considers that in order to further maintain reliability, a 2-hour system should be able to bid in at half capacity for a 4-hour CIS.

2. Eligibility Criteria

2.1. Renewable Energy Zones

Although not directly addressed in the consultation paper, the topic of the CIS requiring technology to be located within Renewable Energy Zones (REZ) to qualify has been highlighted by the Commonwealth several times.

Shell Energy opposes this becoming part of the eligibility criteria. Renewable energy technologies needing to locate where the resource is available is an issue for the wider sector, as well as environmental planning provisions within the states and jurisdictions. VRE resources would make up the vast majority of resources located within a REZ, with a large focus on wind and solar. These technologies are largely excluded from the CIS as eligibility requires dispatchability and a storage component, which wind and solar plants alone cannot generate.

This therefore means that the scope of eligible technologies for the CIS would be reduced, with the only viable technologies seeming to be those which co-locate with VRE resources within a REZ. This is likely to be specific to a battery component attached to a renewable fuel source to allow for storage and dispatchability.

Incorporating a 'within a REZ location' requirement as part of the eligibility criteria narrows down the scope of included projects significantly. Shell Energy considers that the eligibility criteria as set out in the consultation paper establishes the scope to be inclusive of any dispatchable renewable technologies. Placing another layer on top of this would be contradictory to the objective of the scheme in encouraging and stimulating a wide range of new investment.

In order to support network congestion more broadly across the NEM and WEM, CIS projects should be allowed to locate across a broader geographical area than only within a REZ. This should create positive network gate keeper outcomes where locating a CIS project would boost network transfer capacity from supply side resources to consumer load centres. Stipulating that a CIS project must locate within a REZ may reduce network access for generators located in the REZ and is unlikely to result in any improvement in network transfer capability. We consider that a CIS project simply acting as a soak for VRE generation output that would otherwise be spilt may not be the most economically efficient outcome, nor could it serve system reliability in the way which resources distributed around the NEM would.

However, Shell Energy considers that it would be a separate matter to give an eligible plant a positive weighting where it's proposed to be located within a REZ. This option still achieves the objective of creating a reliable system without restricting the technologies eligible for inclusion within the CIS.

2.2. Demand Side Resources

As stated above, Shell Energy owns a diverse portfolio of generation assets which includes significant capacity in demand side resources. As Australia steps further into electrification and the transition to renewables, such assets are expected to grow exponentially by 2030. We therefore submit that it is imperative that demand side resources are not excluded from meeting the eligibility criteria, given the growth potential of these assets. We consider that the same eligibility criteria as that which applies to a supply side resources, including minimum duration and capacity reduction requirements and dispatchability should also apply to a demand side resource.

2.3. Scope 1 Emissions

Shell Energy would like to see greater consideration and clarification around the use of the phrase 'zero scope 1 emission's'.

Shell Energy supports the CIS limiting scope 1 emissions through its eligibility criteria. However, it is concerned that the use of 'zero scope 1 emission's' could be limiting to biofuel or renewable gas technologies which the CIS is seeking to enable. There is also concern around whether the 'zero' relates to either net zero or absolute zero, as

there are nuances between the two which may unintentionally exclude targeted technologies. Shell Energy supports a technology neutral approach that would see net-zero emissions technologies able to participate in the scheme. To facilitate this, we recommend the commonwealth refer net zero emissions technologies while retaining specific exclusions (e.g. coal).

2.4. Registered Controller

Shell Energy considers that eligibility for a party to be a recipient of the CIS should extend to parties that are registered as the 'Controller' of the asset and not require the party to be the owner or operator. This ensures that parties who take the market risk or have the authority to make commercial decisions about the plant can be included regardless of the capital funding structure.

3. Commercial Structure

3.1. Performance Requirements

Two operational requirements which the Commonwealth are considering are:

- The plant must have 97% availability.
- 50% of the project's storage capacity must be available for any declared Lack of Reserve Level 3 (LOR3) event which is forecast more than 2-hours ahead of time.

3.1.1. Availability

It is understood that 97% is the warranted availability of typical storage technologies, such as batteries. However, Shell Energy seeks clarification on whether this availability includes allowance for scheduled maintenance periods or outages which can be controlled and planned around market conditions. Shell Energy would prefer this percentage to be lower if maintenance timeframes have been considered in the proposed percentage. Alternatively, we consider that it would be an improvement to specify the availability requirement as 97% availability during any declared LOR period.

Shell Energy also seeks clarity on the measurement period for availability and the implications of non-compliance. We do not support penalties for in-service availability outcomes lower than 97%. Market revenues provide sufficient incentive for projects to perform at the highest level of availability. However, it may be appropriate to reduce support payments at the end of a quarter if availability performance has materially impacted project revenues. We recommend that this should be limited to the amount of lost revenue caused by availability below the specified level. In either case, further context is necessary before Shell Energy can support this performance requirement.

3.1.2. Storage Capacity

Shell Energy questions the practical application of a requirement that 50% of a project's storage capacity must be available within two hours of a forecast LOR3 event as a blanket requirement for all participating plant in the CIS. This requirement also appears to conflict with the requirement that a CIS project must operate at times of high wholesale spot market prices. Depending on the project's capacity and the level of support it has been providing for reliable supply to consumers or power system security in the lead up to a forecast event, two hours' notice may not be enough of a time buffer period to meet the performance requirement. Such an obligation may lead to an outcome where in order to meet the 50% storage capacity requirement with only two hours' notice, a BESS ceases generating energy and commences charging, leading to an actual LOR3 event in *dispatch*. This would ultimately be a concern where a battery charges solely from the grid and has been supporting the market in the lead up to a declared forecast LOR3.

In the first instance, Shell Energy recommends that this performance requirement is removed in its entirety from the CIS.

If the Commonwealth is not amenable to our first recommendation, Shell Energy then seeks that the required notice period prior to the commencement of a declaration of a forecast LOR3 event be a minimum of at least four hours with a strong preference for a six-hour notification period. This will enable greater participation in the market both in the lead up to and during any period where a LOR2 or LOR3 or similar event is declared. Even with this change, it must be noted that generation from a BESS may not always meet the requirement to generate at times of high wholesale spot market prices, where such plant have depleted its resources in the lead up to a declared event. This change will also not see larger storage capacity plant essentially penalised for not meeting the performance requirements where this is not practicable within the proposed timeframe.

3.2. Collar Design

3.2.1. Put Option

Shell Energy is supportive of encouraging investment in new reliable plant within the market. However, Shell Energy recommends that there is an alternative approach for stimulating investment from a diverse range of proponents.

Shell Energy questions the level of investment that the CIS will attract under the proposed model where proponents are required to share revenue which may exceed the level of support provided under the scheme. The key issue with the proposed approach is that it dampens the ability of a project to hedge upside price risk. Limiting the upside revenues from a storage project reduces its effectiveness as a hedge against market price volatility. This is likely to distort wholesale contract markets as projects may not offer as high a portion of the project's capacity in contract markets. A key principle behind the design of the scheme is to limit the impact on these markets so we note that the current proposed profit-sharing mechanism may not be appropriate.

We also note that the proposed upside sharing approach has the potential to operate with no support provided to the project by the government at all. This appears to be well beyond the intended scope of the scheme and we suggest that the government explore more robust incentive mechanisms that are less distortionary.

Shell Energy recommends that the CIS support mechanism be based on the government selling a revenue put contract to project proponents. Utilising a revenue put contract structure should attract greater investment as it gives upside revenue certainty to proponents whilst also retaining the current wholesale market contracting incentives. An additional benefit for proponents would be that a fixed premium and fixed strike price would create a clearer understanding of the businesses financial position each year, which is important for risk systems and hedging. The proposed collar structure would require a higher base level of support as any upside needs to be returned to the Commonwealth.

Our recommendation also considers the Commonwealth's need to protect its own financial exposure. Revenue puts would provide regular fixed premium payments to the government which would occur in advance regardless of spot price outcomes. In low market price conditions, the Commonwealth still provides assistance payments based on the contract floor (put) revenue top up to the proponent as per the original scheme design. However, the costs of these payments are offset by the ongoing premium payments received from the project proponent. There are several options which the Commonwealth could consider in establishing the put structure and how premiums are paid; for instance, this could be done through a reduction in what is paid upfront to the project from the CIS, or through a series of 1-year options that could trigger under individual circumstances.

Shell Energy considers that the main benefit of this option over the proposed collar approach is that this will ensure a more stable grid with greater consumer benefits in the long run. One-sided put contracts allow the project to make more contracts available in the market, thereby supporting liquidity. Consumers will benefit from more stable contract markets as these form the basis of retail offerings.

If the above recommendation is not accepted, Shell Energy would be more supportive of a model which is aligned to the LTESA than what is currently proposed, where any contract cap payment is capped by the amount of payment received from the project associated with the contract floor. In the case where no contract floor payments

have been made to a CIS project, no contract cap payments would be payable. This approach avoids some of the distortionary impacts on markets and investments noted above.

Conclusion

Shell Energy supports the Commonwealth facilitating greater investment in dispatchable energy resources entering the market. However, in order to garner greater support for the scheme, we consider that there are several points throughout the paper that require further clarification.

Shell Energy would like to understand the steps the Commonwealth is planning to take in adhering to the principle of transparency, so that industry can feel more confident in making investment decisions that will impact commercial decisions relevant to their businesses. Further clarification is also required in relation to reliability, particularly where competing priorities may arise between the Commonwealth and individual states.

In relation to the eligibility criteria, Shell Energy is supportive of this section within the paper for the most part. However, we have concerns that the messaging around limiting scope 1 emissions has unintentionally excluded technologies which the paper has specifically sought to include. The Commonwealth has also discussed the idea of eligibility being limited to REZ's. While supportive of plant locating in a REZ if chosen by a proponent, Shell Energy opposes the idea that eligibility would be limited to only those plant which are proposed to locate in such areas.

Shell Energy is also supportive of demand side resources being included for participation within the CIS so long as they meet the eligibility criteria, as well as eligibility being open to a registered controller of a plant who makes commercial decisions for the project.

Shell Energy does not support the proposed collar arrangement for the commercial structure, and instead would prefer to see the establishment of a put structure. However, Shell Energy would also be amenable to a structure which is more aligned to the LTESA.

If you have any questions in relation to this submission, please do not hesitate to contact Shelby Macfarlane-Hill at **shelby.macfarlanehill@shellenergy.com.au**.

Yours sincerely

Libby Hawker
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