

ESEM Contract Co-Design Consultation feedback

Submission details	
Organisation	RayGen
Date submitted	2 October 2026

Question	Response
Q1. Is the proposed contract structure suitable for a range of bulk energy technologies?	The contract structure suits any technology for which a reference fleet exists. For RayGen to participate in the provision of bulk energy products, it will be important that the definition of 'solar' is cast wide enough to encompass concentrated PV. Further we note that some aspects of the treatment of hybrid projects remain unresolved. Similar considerations apply to RayGen's technology – concentrated PV integrated with long duration energy storage behind one connection point. We agree that the ESEM financial products should allow for a hybrid plant to deliver several products in composite.
Q2. Does a cap on spot price exposure aligned to the strike price of the firming product (e.g. \$600/MWh) appropriately balance risks for sellers and buyers?	RayGen has no specific feedback on this question.
Q3. Is a negative price provision required for the proposed contract, noting it is settled against the Reference Fleet's performance and LGCs/REGOs are not included in the swap? If so, is a volume knock-out (no settlement during negative price periods) or a \$0 price floor more preferable?	RayGen has no specific feedback on this question.
Q4. Does the proposed design of the Reference Production Index appropriately balance risks for sellers	Appropriately balanced <i>Additional comment:</i>

(primarily basis risk) and buyers (long-term value of the product)?	RayGen notes that hybrid projects remain under review.
Q5. Does the proposed approach to determining charge/discharge periods on a day ahead basis, using residual demand calculation, appropriately balance operational risks/simplicity with long-term value?	Yes, RayGen agrees with the day-ahead residual demand approach. We note that the product assumes equal duration and volume of charge and discharge blocks. However, several technologies (including RayGen's) have asymmetric charge and discharge capacities. We appreciate the need for standardisation but are concerned this will effectively exclude some valuable firming capacity from participating in the ESEM. Could the Working Group assess options such as a firm discharge profile and floating charge profile or a derating index where symmetrical discharge / charge is valued at 1.
Q6. Does the use of AEMO's forecast data to determine shaping periods result in any material risks to the useability of this contract over the long-term?	No, RayGen is supportive of using AEMO forecast data.
Q7. Does the proposed approach of determining nominations at 4pm on a day ahead basis pose any material operational risks?	RayGen has no comment on the proposed approach.
Q8. Does the proposed Daily Shaping Period that commences at the Trading Interval ending at 09:05 and finishes at the Trading Interval ending at 09:00 the following day pose any material operational risks?	RayGen has no comment on the proposed approach.
Q9. Is a \$600 cap, in comparison to a \$300 cap, appropriate to support the entry of new firming assets? If not, why?	RayGen is in principle supportive of a \$600 cap subject to the following additional comments:(a) the firming analysis presented to the Working Group is based on an open cycle gas turbine. The July webinar flagged an assessment of suitability for long duration storage as further work, and RayGen asks that this be completed for a zero-emissions long duration storage asset before the final report. In particular, to ensure carbon costs are appropriately factored in.(b) RayGen notes the firming service definition remains under review and asks that the final report recommend eligibility be retained on the

	basis of demonstrated continuous dispatch duration at contracted output, consistent with the current definition and the cumulative price threshold, rather than by reference to technology type;(c) the “Fuel Supply” risk in the risk allocation table should be reworded as “energy availability” so it reads neutrally across fuel and stored energy.						
Q10. Are there any concerns with the proposed weekly settlement approach, aligned to the AEMO settlement calendar?	RayGen has no concerns with the proposed approach.						
Q11. Are alternate approaches to manage Force Majeure risk exposure (outside of the contracts) required to support the entry of new assets?	RayGen has no specific feedback on this question.						
Q12. Do the proposed contract structures achieve the Working Group’s Terms of Reference and perform well against the identified evaluation criteria?	<table> <tr> <td>Bulk energy: Regional Reference PPA</td><td>Well</td></tr> <tr> <td>Shaping: Dynamic Time of Day Block Spread Swap</td><td>Medium</td></tr> <tr> <td>Firming: \$600 cap</td><td>Well</td></tr> </table> <i>Additional comments:</i> We have rated shaping Medium because the symmetric charge and discharge design, while workable, is a better fit for grid-charged batteries than for other storage technologies. Please refer also to Q9 regarding further approaches to ensure technology neutrality for the firming product – i.e.: (a) that ahead of the final report the firming analysis for a zero-emissions long duration storage asset is undertaken, (b) that the firming product sheet includes along duration storage settlement example alongside the gas turbine example, (c) continue to express firming eligibility as continuous dispatch duration rather than technology type. We note that the objective is to support a diverse mix of services required for a reliable, renewable-based system. We also note	Bulk energy: Regional Reference PPA	Well	Shaping: Dynamic Time of Day Block Spread Swap	Medium	Firming: \$600 cap	Well
Bulk energy: Regional Reference PPA	Well						
Shaping: Dynamic Time of Day Block Spread Swap	Medium						
Firming: \$600 cap	Well						

	that in the meeting minutes from 24th June the WG identified that a cap “may not, by itself be sufficient to incentivise investment in gas firming capacity or long duration storage”. This underscores the importance of subsequent ESEM design cycles as market experience, technology and policy evolve, and of implementing further measures as necessary to promote an energy mix that balances reliability, affordability and emissions reduction, including by ensuring that long-duration storage and other firming technologies can compete on their merits alongside gas. Please also refer to our comments in Q1 where we suggest that the scheme should explicitly allow for a single project / connection point to sell more than one product type concurrently where the technology can accommodate it.						
Q13. Are there any concerns with the ability of the contract structures proposed to be subject to a Market Making Obligation (MMO) in the future?	<table> <tr> <td><i>Bulk energy: Regional Reference PPA</i></td><td>Neutral</td></tr> <tr> <td><i>Shaping: Dynamic Time of Day Block Spread Swap</i></td><td>Neutral</td></tr> <tr> <td><i>Firming: \$600 cap</i></td><td>Neutral</td></tr> </table> <i>Additional comments:</i> RayGen has no specific feedback on this question.	<i>Bulk energy: Regional Reference PPA</i>	Neutral	<i>Shaping: Dynamic Time of Day Block Spread Swap</i>	Neutral	<i>Firming: \$600 cap</i>	Neutral
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Q14. Will the proposed contract structures, in conjunction with other risk management contracts, such as flatswaps, evening peak swaps or caps, be effective for buyers (e.g. retailers, large loads, etc.) to manage financial risks?	Moving away from bulk energy + shaping, some technologies with integrated generation and storage (like RayGen’s) could alternatively offer a ‘clean firm power’ product (e.g. as a flat swap or evening peak swap). This may offer an avenue for navigating asymmetric charge and discharge capabilities. The tenor gap applies equally to the entry and financing of these technologies and hence they should also be included in the ESEM’s central buying architecture.						