Modified Generation LTESA for solar-hybrid projects

Consultation Paper

January 2026

Important notice

DISCLAIMER

This document or the information in it may be subsequently updated or amended. This document does not constitute legal or business advice, and should not be relied on as a substitute for obtaining detailed advice about the Electricity Infrastructure Investment Act 2020 (NSW), National Electricity Law, the National Electricity Rules, or any other applicable laws, procedures or policies. AusEnergy Services (ASL) has made every effort to ensure the quality of the information in this document but cannot guarantee its accuracy or completeness.

Accordingly, to the maximum extent permitted by law, ASL and its officers, employees and consultants involved in the preparation of this document:

- make no representation or warranty, express or implied, as to the currency, accuracy, reliability or completeness of the information in this document; and
- are not liable (whether by reason of negligence or otherwise) for any statements or representations in this document, or any omissions from it, or for any use or reliance on the information in it.

COPYRIGHT

VERSION CONTROL

Version	Release date	Changes
1	15/01/2026	n/a

Executive summary

ASL is committed to adapting its products to reflect the evolving needs of the market and in light of its experience conducting competitive tenders for electricity infrastructure investment. Since the establishment of the NSW Roadmap and Long-Term Energy Service Agreement (LTESA) product, the market has experienced a noticeable shift towards solar-hybrid projects. These projects have become increasingly prevalent in both the pipeline and ASL's tenders, marked by their ability to increase the value of solar generation and more readily progress through development.

ASL's 2025 Infrastructure Investment Objectives (IIO) Report is seeking 16 GW of new generation by 2030 – a stretch target well above the Minimum Objective of 12 GW. The IIO Report finds that solar-hybrids have an important role to play in meeting the stretch goals for 2030.

Tenders for Generation LTESAs will recommence in Q2 2026, with a tender plan seeking 5 GW of generation projects across two tenders in 2026 alone.

This paper seeks market feedback on the potential design of a Hybrid Generation LTESA product for NSW Roadmap tenders that will specifically support solar-hybrid projects. However, whilst this product is designed to support solar-hybrid projects, wind projects remain a clear pillar of ASL's plan for NSW's future energy system and will continue to be supported through the existing Generation LTESA product. It is also anticipated that wind projects will also be able to bid for the new product.

The two options put forward for market feedback are:

Option 1: Fixed shape-fixed volume product	Option 2: Generation-following with price risk sharing
Proponent bids against a fixed shape provided by ASL with the Scheme Financial Vehicle (SFV) (the LTESA counterparty) settling against the fixed shape and the project's fixed volume (as bid by the Proponent), subject to an annual payment cap which would be a bid variable submitted by the Proponent.	Proponents bid swap terms similar to the existing Generation LTESA, however the product would settle against **Net** Exports, being the sum of exports minus imports. Total payments will be subject to an annual payment cap which would be a bid variable submitted by the Proponent. The payment mechanism would incorporate a price risk share mechanism to incentivise proponents to operate in a revenue maximising way.

Have your say:

Submissions on this consultation paper can be made **here**. Submissions close 16 February 2026.

Box 1: Have your say - summary

Need for a modified Hybrid Generation LTESA for hybrid projects

1. Is a modified Hybrid Generation LTESA for hybrids needed to overcome barriers to investment?
2. Could changes be made to the existing Generation LTESA that would better facilitate hybrid projects compared to the proposed Hybrid Generation LTESA? If so, what are they?
3. How would a requirement to register as an Integrated Resource Provider and be classified as a scheduled bi-directional unit (BDU) with a single DUID (and as such be a DC-coupled hybrid project) impact the uptake of the modified LTESA? Could this product work with multiple DUIDs behind the single connection point (and as such allow the project to be AC-coupled)?

Option 1: Fixed shape-fixed volume product

4. Should the fixed shapes provided by ASL and tendered align with existing market products (e.g. the ASX Australian Morning Peak, the ASX Australian Evening Peak or the ASX Base Strip)?
5. Does a symmetrical absolute annual payment cap support financially viable and competitive bids? Would an alternate cap mechanism (e.g. price cap at $300/MWh) be more beneficial?
6. Are there any additional features you would like to see under the fixed shape-fixed volume product to incentivise investment in solar-hybrid projects?

Option 2: Generation-following with price risk share product

7. Would a price risk share arrangement adequately encourage projects to respond to market dispatch signals and operate in a revenue maximising way?
8. Would an alternate price risk share structure that provides greater downside protection be more beneficial? One example would be an asymmetrical structure that increases the price risk share from 50% to 80% in trading intervals where both Fixed Price > Spot price and Net Exports > 0, but is 50% otherwise.
9. Does a symmetrical absolute annual payment cap support financially viable and competitive bids?
10. Are there any additional features you would like to see under the price risk share model to incentivise investment in solar-hybrid projects?

Commercial terms

11. Which of the two options (Option 1: Fixed shape-fixed volume product and Option 2: Generation-following with price risk share product) above, or the existing Generation LTESA with hybrid drafting, would best support investment in new solar-hybrid projects in NSW?
12. Are any of the terms above prohibitive to the investment in solar-hybrid projects? If so, what adjustments would be required?

Contents

1 Introduction

ASL is seeking market feedback on a modified Hybrid Generation LTESA product design to specifically support solar-hybrid projects to de-risk meeting the 2030 Generation development pathway outlined in the 2025 IIO Report.

1.1 Purpose of this consultation paper

ASL, acting as the Consumer Trustee, determines the terms and conditions of Long-Term Energy Service Agreements (LTESA) for New South Wales (NSW) Roadmap tenders.[1] ASL is committed to adapting its products to reflect the needs and evolution of the market. The first iteration of the Generation LTESA was released to the market ahead of Tender Round 1 in 2022 following extensive market consultation. It has a generation-following product design that has also successfully been utilised to support solar-hybrid projects.

This consultation paper seeks market feedback on the design parameters of a Hybrid Generation LTESA product that intends to specifically support solar-hybrid projects; being co-located solar generation and battery storage assets. It is anticipated that wind projects will also be able to bid for the new product.

Have your say:

Submissions on this consultation paper can be made here. Submissions close 16 February 2026.

1.2 Background

1.2.1 ASL's approach to product design

A core pillar of ASL's business is product design and financial risk management – developing products to secure investment and limiting cost and risk to electricity consumers. This is supported by our practical experience since 2022 offering the LTESA through competitive tenders, as well as ongoing market engagement. Continuous improvements have been made to the products informed by stakeholder feedback within and outside of tender rounds.

The Generation LTESA, Long Duration Storage (LDS) LTESA, Firming Supply LTESA, and Demand Response LTESA were developed through comprehensive engagement and consultation with investors, developers, financiers, and market participants. The LTESA products are designed to be commercially viable and responsive to market needs, providing certainty for investors and value to consumers.

This consultative approach underpins ASL's commitment to adapting with the needs of the market and designing products that support investment confidence.

1.2.2 Evolution of Solar-Hybrid projects

The market has experienced a noticeable shift away from standalone solar projects to solar-hybrid projects since the commencement of Generation LTESA tenders in 2022. This has been driven by the ability of batteries to significantly increase the value of solar generation to both investors and consumers.

ASL was an early mover in supporting solar-hybrid projects in the NEM, leveraging the existing design of the Generation LTESA with accommodations to support hybrid project configurations. Previous market materials outlined how ASL assessed and contracted with these projects. Proponents that committed to building the entire hybrid project were assessed on the reliability and curtailment benefits of the full hybrid project while the LTESA contracts included optional drafting for additional metering requirements, apportionment principles, and discounting of sent out generation and swap term calculations.[2]

1. Under section 60(1) of the Electricity Infrastructure Investment Act (EIIA), ASL is appointed as the Consumer Trustee (CT). EIIA section 50(1) outlines the CT's ability to determine the terms and conditions of LTESAs.
2. See these documents at: https://asl.org.au/tenders/tender-round-4-generation-infrastructure

Successful hybrid projects in NSW Roadmap Tenders to date include:

- An LDS LTESA to a lithium-ion BESS as part of a hybrid project in NSW Roadmap Tender Round 3.
- A Generation LTESA to a DNSP-connected solar and lithium-ion BESS hybrid project in NSW Roadmap Tender Round 4.

In addition, a significant number of hybrid projects have been recommended to the Australian Government for award of a Capacity Investment Scheme Agreement (CISA) under the Capacity Investment Scheme, including:

- Eight of the 19 projects recommended for a Generation CISA in CIS Tender Round 1.
- 12 of the 20 projects recommended for a Generation CISA in CIS Tender Round 4.

1.2.3 Infrastructure Investment Objectives

The Infrastructure Investment Objective (IIO) Report is the central planning document underpinning the NSW Electricity Infrastructure Roadmap. It outlines the investment required to ensure a secure, reliable, sustainable energy system that is in the long-term financial interests of NSW electricity customers.

The 2025 IIO Report calls for an ambitious target of 16 GW of new generation by 2030, significantly above the 12 GW Minimum Objective. The generation tender plan outlined in the IIO is driven by steep investment between now and the early 2030s, with modelling typically favouring wind projects over solar projects due to wind generation's ability to put downward pressure on wholesale electricity prices. However, it also found solar-hybrid projects were becoming increasing prevalent in the development pipeline because of the market shift noted above and could be a key contributor to the 2030 targets. This is due to their ability to increase the value of solar generation and in so doing offer cost-effective generation that can be flexibly and quickly deployed.

1.3 The need for a modified Hybrid Generation LTESA and tendering two Generation LTESA products

ASL is looking to support hybrid projects through a modified Hybrid Generation LTESA in response to the changing market's needs and the development pipeline for generation projects. ASL expects the modified Hybrid Generation LTESA product to be available for Proponents to bid for in the next NSW Roadmap Generation Tender (Q2 2026 per the latest IIO Report).

This modified Hybrid Generation LTESA would sit alongside, and not replace, the existing generation-following Generation LTESA (which includes the optional drafting described above to accommodate hybrid projects). ASL considers the existing Generation LTESA remains fit-for-purpose for standalone renewable generation projects, especially standalone wind projects. ASL's appetite for wind projects remains high for future Generation LTESA tenders.

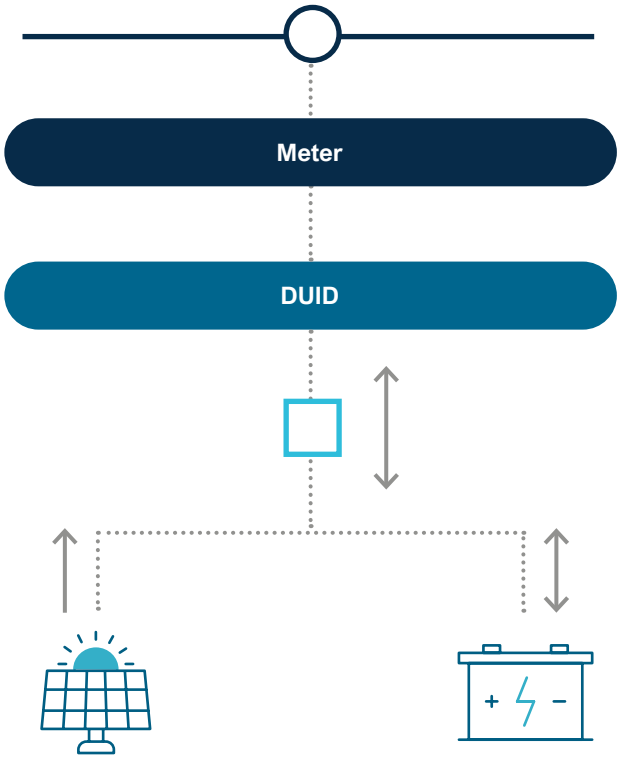
It is expected that Proponents will elect which Generation LTESA to bid for when submitting a bid, with all Projects bidding for any form of the Generation LTESA being assessed altogether. Projects with the highest merit (defined as value, incl. non-financial value, relative to costs) in this collective group of projects will be successful. All else being equal, hybrid projects bidding for the new modified Hybrid Generation LTESA are expected to have the same market benefits as those bidding as assessed hybrids for the non-hybrid Generation LTESA. However ASL expects that while hybrid projects bidding for the Hybrid Generation LTESA may have a higher LTESA fixed price compared to assessed hybrid projects seeking a non-hybrid Generation LTESA, they should achieve similar or more competitive forecast costs. This is due to the new settlement mechanism in the Hybrid Generation LTESA considering higher priced periods for settlement (e.g. evening peak) offsetting any increase in the fixed price.

The expectation is the Project must be registered as an Integrated Resource Provider and classified as a scheduled bi-directional unit (BDU) with a single DUID.[3]

This means the project will need to be configured to be a DC-coupled hybrid to be able to register and classify a project this way.

See explanation of how this configuration would be classified by AEMO in its *Classifying coupled production units* paper here.

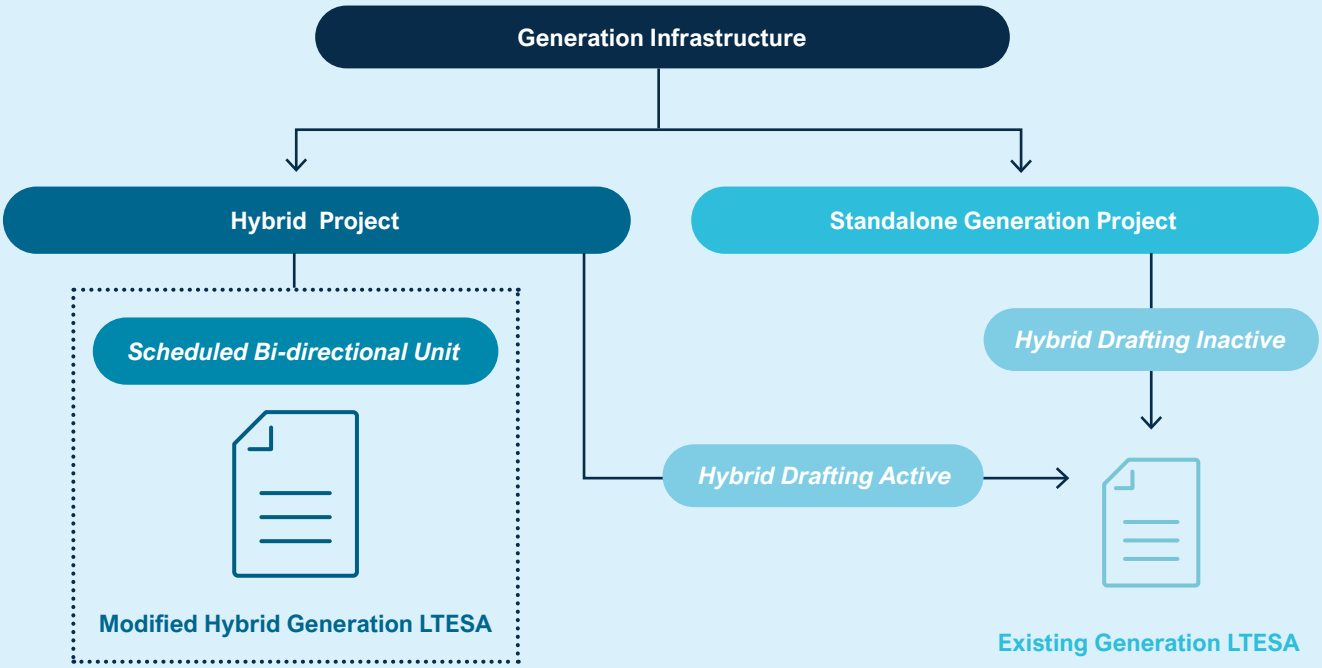
The reason for limiting the product to this configuration is that it has the strongest link between the two individual assets, effectively resulting in 'firmed generation'. The IIO generation development pathway is measured in MWh generation. For this reason, ASL is targeting projects with a large solar MW component and a medium to long-duration BESS component. According to ASL's market observations, solar hybrids are increasingly designed as DC-coupled, which is an efficient use of capital. Furthermore, the depicted configuration reduces operational complexity in the LTESA for both the LTESA operator as well as the SFV.



3. Noting that while a Project can register and classify under these categories at 5MW, the Project will still need to comply with the 30MW eligibility requirement of Roadmap Generation LTESA tenders.

Figure 1 outlines the products expected to be available in the next Generation LTESA tender. This modified Hybrid Generation LTESA will sit alongside the existing Generation LTESA and Proponents can elect which they will bid for, pending their project characteristics.

Figure 1: Generation LTESAs expected to be available during Generation infrastructure tenders



Box 2: Have your say – Need for a modified Hybrid Generation LTESA for hybrid projects

1. Is a modified Hybrid Generation LTESA for hybrids needed to overcome barriers to investment?
2. Could changes be made to the existing Generation LTESA that would better facilitate hybrid projects compared to the proposed Hybrid Generation LTESA? If so, what are they?
3. How would a requirement to register as an Integrated Resource Provider and be classified as a scheduled bi-directional unit (BDU) with a single DUID (and as such be a DC-coupled hybrid project) impact the uptake of the modified LTESA? Could this product work with multiple DUIDs behind the single connection point (and as such allow the project to be AC-coupled)?

1.4 Interactions with the NEM Review and the Electricity Services Entry Mechanism

ASL notes the recommendation of the NEM Review Panel for a contract co-design group and trial tender to be conducted in 2026 for the Electricity Services Entry Mechanism (ESEM). Tenders under the NSW Roadmap will continue to be conducted whilst work on the ESEM is underway. ASL is committed to continuing to support projects to progress their development.

In developing the two options outlined below, ASL has considered the recommendations of the NEM Review Panel while still meeting its obligations as the Consumer Trustee under the Electricity Infrastructure Investment Act (EII Act), in particular ensuring these products are considered to be in the long-term financial interest of NSW customers.

2 Hybrid Generation LTESA design

2.1 Design principles for modified Hybrid Generation LTESA

The EII Act specifies requirements that must be followed by ASL when determining the terms and conditions of LTESAs. Additionally, the product design principles outlined below consider the long-term financial interest of NSW customers.

1. **Incentivise solar-hybrid projects in NSW:** Incentivise investment in new hybrid generation projects in New South Wales by providing a protection mechanism against low wholesale electricity prices. When wholesale prices are high, customers should share in the upside. The financial incentives should reflect the changing needs of the electricity system.
2. **Operational signals are maintained:** NEM market signals should remain the main signal the project reacts to in operational timeframe, and contract market participation is incentivised.
3. **Maximises tender competitiveness:** The product's design should stimulate tender competition. This includes incentivising new market entrants to invest in NSW in accordance with EII regulation 26 (1).
4. **Efficient risk allocation:** Achieve an efficient risk allocation between projects and NSW electricity consumers. The outcome of an efficient risk allocation is expected to be investors providing low-cost capital to fund projects while limiting risks to consumers.
5. **Product is simple and operational, and compliant with the EII Act:** The product needs to be efficiently designed, marketed, tendered by ASL (acting as the Consumer Trustee), and executed and operationalised by the SFV, as well as for proponents and financiers to understand for these purposes by Q2 2026 and beyond. Product needs to comply with section 50 EII Act and relevant regulations.
6. **Consistency with existing products:** It is expected the Project Development Agreement (PDA) and general clauses[4] in both the Generation LTESA and Hybrid Generation LTESA will be consistent and are not subject to feedback.

As outlined above, ASL has also considered and incorporated elements of the NEM Review Panel recommendations where possible when considering these design options.

2.2 Option 1: Fixed Shape-Fixed Volume overview

This variation requires a Proponent to bid against a fixed shape as part of its Bid. During periods of exercise, the Scheme Financial Vehicle (SFV), who is the LTESA counterparty, settles against the project's fixed shape subject to a symmetrical absolute payment cap based on payments under the derivative. This payment cap would be a competitive bid variable provided by Proponents. The Project may regularly (e.g., on an annual basis or every second year), be called on to demonstrate it can physically defend its shape and/or the generation component of the Project will have a minimum annual generation requirement.

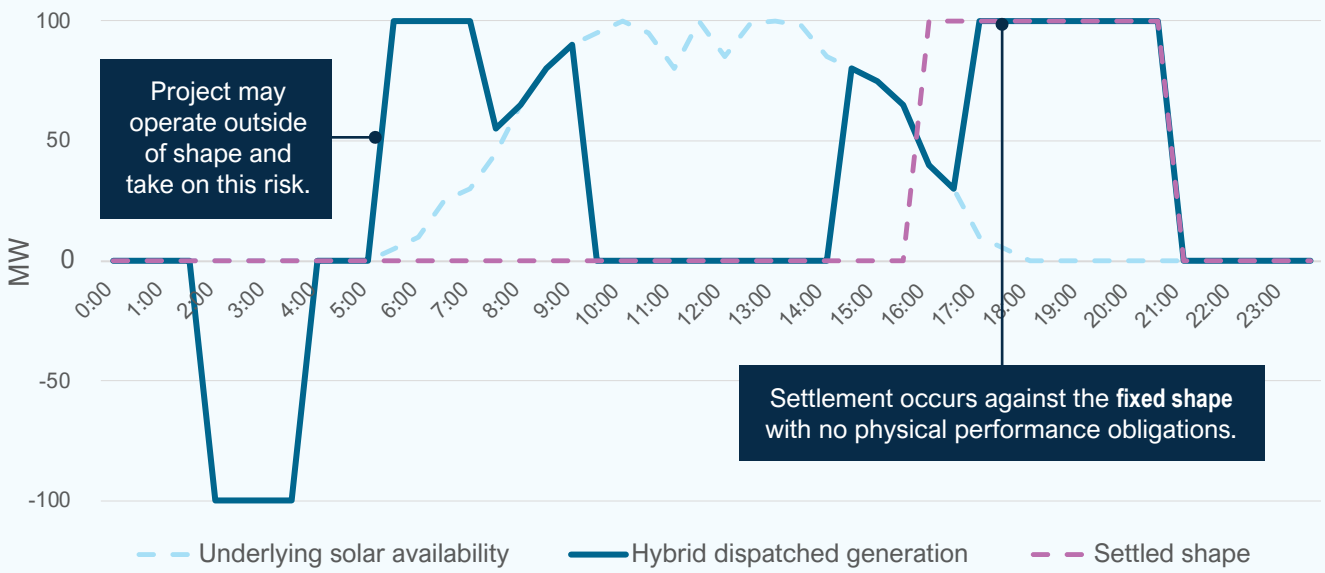
The product would settle monthly with a quarterly reconciliation against the payment cap (to account for the seasonal variation of production) and an end of year true up. It will settle based on:

- During the fixed shape period (e.g. 16:00-21:00): Swap payment (subject to a symmetrical absolute payment cap) = (Fixed price – Spot price) x fixed volume (irrespective of actual energy dispatched) with a zero-dollar spot price floor.
- Outside of the fixed shape period: Swap payment = 0.

This product is similar to the time-of-day block swap in the NEM Review Supplementary Materials[5] discussed by the pilot contract co-design group and seeks to maximise alignment with products on offer in Australian Securities Exchange (ASX) and those commonly traded in over-the-counter (OTC) markets, whilst remaining linked to the project as required by the EII Act. However, in noting this, ASL expects the swap itself to be largely purely financial once exercised (that is, not linked to the physical dispatch of the project) and 'relief' due to circumstances, such as Force Majeure, could trigger the swap to cease (rather than reductions in liability under the swap for the LTES Operator). ASL considers these items, such as Force Majeure, to be essential in supporting projects to achieve financing at a lower cost than otherwise available – consistent with the NSW Roadmap's objectives.

4. General Generation LTESA clauses include, but is not limited to, social licence commitments, force majeure, major casualty event, change in law and market disruption event.
5. Page 119 of NEM Review: Supplementary Materials

Figure 2: Illustrative day of the Fixed shape-fixed volume option



Box 3: Have your say – Option 1: Fixed shape-fixed volume product

4. Should the fixed shapes provided by ASL and tendered align with existing market products (e.g. the ASX Australian Morning Peak, the ASX Australian Evening Peak or the ASX Base Strip)?
5. Does a symmetrical absolute annual payment cap support financially viable and competitive bids? Would an alternate cap mechanism (e.g. price cap at $300/MWh) be more beneficial?
6. Are there any additional features you would like to see under the fixed shape-fixed volume product to incentivise investment in solar-hybrid projects?

2.3 Option 2: Generation-following with price risk share overview

This variation would have Proponents bid swap terms similar to the existing Generation LTESA, however would include an adjusted settlement mechanism to reflect the flexibility in the operation of the BESS. During periods of exercise, the SFV settles against the project's sent out net exports subject to a price risk share arrangement, such that:

$$Payment_{Month} = PRS \times (Fixed\ Price - DWAP_{Month}) \times NQ_{Month}$$

where *PRS* is the price risk share percentage, currently proposed at 50%

$DWAP_{Month}$ is the Project's Dispatch Weighted Average Price and NQ_{Month} is Notional Quantity

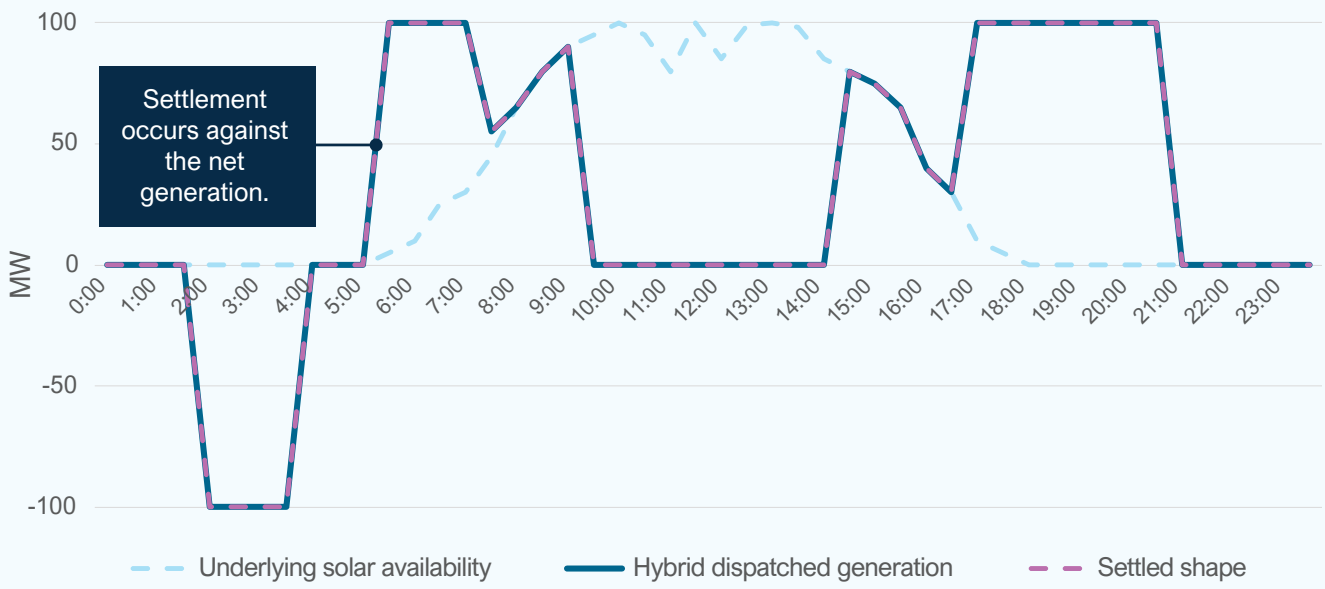
and $DWAP_{Month}$ is based on Sent Out Net Exports (Sum of exports minus sum of imports) for the Trading Interval

and $DWAP_{Month}$ is based on a $0/MWh price floor for all periods where Net Exports > 0.

Settlements are expected to occur on a monthly basis, to align with how the Project is settling with the spot prices, with quarterly adjustments (subject to the symmetrical annual payment cap) and an annual true up.

This design intentionally considers the hybrid Project's **exports and imports**, rather than the Project's exports only. ASL considers this best meets the underlying objectives of the Generation LTESA to support more generation entering the market. Where a hybrid project pursues an additional cycle of the storage component (that is, one charged with from energy from the spot market rather than the generation component) it should do so when the market incentives are favourable. While the settled Notional Quantity would decrease as a result of including imports, the project's DWAP should increase, thereby supporting an additional cycle. Additionally, including imports incentivises the Project to pursue more efficient operations.

Figure 3: Illustrative day of the Generation-following with revenue share option



Box 4: Have your say – Option 2: Generation-following with price risk share

7. Would a price risk share arrangement adequately encourage projects to respond to market dispatch signals and operate in a revenue maximising way?

8. Would an alternate price risk share structure that provides greater downside protection be more beneficial? One example would be an asymmetrical structure that increases the price risk share from 50% to 80% in trading intervals where both Fixed Price > Spot price and Net Exports > 0, but is 50% otherwise.

9. Does a symmetrical absolute annual payment cap support financially viable and competitive bids?

10. Are there any additional features you would like to see under the price risk share model to incentivise investment in solar-hybrid projects?

2.4 Comparison of options: Key contractual terms

Initial positions on contractual key terms for both options are outlined below for ease of comparing the products differences and for stakeholder feedback.

Table 1: Key commercial terms for additional Hybrid Generation LTESA product

Key term	Option 1: Fixed Shape-Fixed Volume product	Option 2: Generation-following with price risk share
Maximum contract term	20 years, Project will need to maintain certain asset characteristics over the term.	
Project registration requirements	The expectation is the Project must be registered as an Integrated Resource Provider and classified as a scheduled bi-directional unit with a single DUID.	
Fixed Price	The fixed price per MWh of the swap payment triggered on exercise of the option. Bid: either a single $/MWh price for the full contract term or a schedule of distinct fixed prices for each option exercise period.	
Notional Quantity	The calculation of Notional Quantity is expected to be as follows: $NQ_{TI} = SP_{SP} \times FV_{TI}$ Where: NQ_{TI} = Notional Quantity for the Trading Interval (MWh) SP_{SP} = Swap Percentage for the Swap Period in which the Trading Interval Occurs. (This is similar to the SP in the existing Generation LTESA to provide proponents flexibility over the term as to volume of the fixed shape being exercised in the swap). FV_{TI} = Fixed Volume bid for interval $_{TI}$. (Noting the Fixed Volume, may vary between quarters to account for seasonal variation in solar production). Note that NQ_{TI} = 0 outside of the fixed shape period.	The calculation of Notional Quantity is expected to be as follows: $NQ_{TI} = SP_{SP} \times SONE_{TI} \times MLF_{TI} \times DLF_{TI}$ Where: NQ_{TI} = Notional Quantity for the Trading Interval (MWh) SP_{SP} = Swap Percentage for the Swap Period in which the Trading Interval Occurs $SONE_{TI}$ = Sent Out Net Exports for the Trading Interval (in MWh) (note this could be a negative number if the project is importing for the entire Trading Interval); and MLF_{TI} = Marginal Loss Factor for the Trading Interval DLF_{TI} = Distribution Loss Factor for the Trading Interval (where applicable to the Project).
Contractual volume	A fixed volume to be bid by the Proponent, which may vary by quarter to account for seasonal variation in solar production. It is expected that both the generation and storage components of the Hybrid Project are sufficiently sized to physically meet requirements under fixed shape fixed volume contract.	Volume is not fixed, swap is settled against net sent-out exports (i.e. the Notional Quantity). Minimum generation commitment aligned with current Generation LTESA will apply to energy generated by the solar component of the project (excluding energy charged and discharged from/ to the grid).

Key term	Option 1: Fixed Shape-Fixed Volume product	Option 2: Generation-following with price risk share
Contractual shape[6]	For the term of the contract, the proponent could elect one of the three options (for example) as outlined below. Fixed shape fixed volume based on peak load profile. Where peak load is defined as the Wholesale Electricity Pool Market peak load from: • Option A: 16:00 hours to 21:00 hours • Option B: 06:00 hours to 09:00 hours • Option C: 21:00 hours to 06:00 hours (not an ASX product) Monday to Sunday over the Contract Term during swap periods. The Hybrid Generation LTESA product is expected to offer a fixed shape fixed volume contractual shape that is flat across all contracted hours. This aims to incentivise shifting generation from the middle of the day to peak times.	When an option is exercised, swap is settled against the sent out net exports (ie the Notional Quantity). No fixed shape requirements apply.
Settlement	Settlement during option exercise as follows: $Payment_{Month} = \sum NQ_{TI} \times (Fixed\ Price_{TI} - Spot\ Price_{TI})$ Subject to a zero dollar spot price floor. Note that $NQ_{TI} = 0$ outside of the fixed shape period. Settlement will include quarterly reconciliation against the payment cap (to account for the seasonal variation of production) and an end of year true up.	Settlement during option exercise as follows: $Payment_{Month} = NQ_{Month} \times PRS \times (Fixed\ Price - DWAP_{Month})$ Where: *PRS* is the Price Risk Share percentage. $DWAP_{Month}$ is Dispatch Weighted Average Price for the Project during the month and is based on Net Exports (Sum of exports minus sum of imports). $DWAP_{Month}$ assumes a $0/MWh price floor when Net Exports > 0. NQ_{Month} is the total notional quantity for the month. Settlement will include quarterly reconciliation against the payment cap (to account for the seasonal variation of production) and an end of year true up.
Negative price provisions	The minimum spot price in swap payment calculations is set to zero. Note that performance obligations are expected to apply, such as an annual minimum generation obligation and/or requirement to demonstrate the Project can defend its contracted shape.	Where the Notional Quantity is positive (i.e. the project is exporting), minimum spot price in DWAP calculations is set to zero. Where the Notional Quantity is negative (i.e. the project is importing), there is no minimum for the spot price in the DWAP calculation.
Annual Maximum Payment Cap	This would be a bid variable provided by Proponents in their bids. It is expected to be an absolute dollar figure and symmetrical for payments to and from the SFV and will be adjusted by the Swap Percentage.	

6. For Option 1, the Hybrid Generation LTESA may contain provisions for periodical reviews to adjust the shape in future to meet evolving market needs subject to mutual agreement between the LTESA Operator and the SFV.

Key term	Option 1: Fixed Shape-Fixed Volume product	Option 2: Generation-following with price risk share
Green rights and other products	'Bundled' during option exercise periods for electricity and all current and future green products. Consistent with Generation LTESA. Includes green products earned during generation and/or dispatch.	
Repayment mechanism	A Repayment Mechanism will apply; the aim will be for all Generation LTESA products to have the same, if not similar, repayment mechanisms which may be refined by the Consumer Trustee ahead of the next Generation LTESA tender.	

Box 5: Have your say – Commercial terms

11. Which of the two options (Option 1: Fixed shape-fixed volume product and Option 2: Generation-following with price risk share product) above, or the existing Generation LTESA with hybrid drafting, would best support investment in new solar-hybrid projects in NSW?

12. Are any of the terms above prohibitive to the investment in solar-hybrid projects? If so, what adjustments would be required?

A1. Worked examples

The following worked **purely illustrative example** on an hourly basis rather than a 5-minute interval basis illustrates the settlement for a Hybrid asset under:

F. Non-exercise, where the Project receives the AEMO pool revenues;
G. Current Generation LTESA, where the Project has a Fixed Price of $65/MWh for settlement against the solar profile;
H. Option 1 (Fixed Shape-Fixed Volume) with a Fixed Price of $90/MWh for a 40MW, 9pm – 6am profile; and
I. Option 2 (Generation-following with price risk share) with a Fixed price of $100/MWh and a 50% price risk share.

Hour	Pricing ($/MWh)	Profile (MW)				Settlement calculation ($)			
	AEMO Spot Price	Solar	BESS	Net export	Fixed Shape	AEMO pool	Current LTESA	Option 1	Option 2
	A	B	C	D = B + C	E	F = A x D	G = B x (Fixed - A) Fixed price = $65/MWh	H = E x (Fixed - A) Fixed price = $90/MWh	I = 50% x D x (Fixed - A) Fixed price = $100/MWh
1	50	0	0	0	40	-	-	1,600	-
2	50	0	0	0	40	-	-	1,600	-
3	50	0	0	0	40	-	-	1,600	-
4	50	0	0	0	40	-	-	1,600	-
5	100	0	0	0	40	-	-	-400	-
6	150	0	0	0	40	-	-	-2,400	-
7	100	0	0	0	0	-	-	-	-
8	100	40	0	40	0	4,000	-1,400	-	-
9	50	70	0	70	0	3,500	1,050	-	1,750
10	50	90	0	90	0	4,500	1,350	-	2,250
11	50	100	-100	0	0	-	1,500	-	-
12	50	100	-100	0	0	-	1,500	-	-
13	50	100	-100	0	0	-	1,500	-	-
14	50	100	-100	0	0	-	1,500	-	-
15	50	90	0	90	0	4,500	1,350	-	2,250
16	50	70	0	70	0	3,500	1,050	-	1,750
17	100	40	0	40	0	4,000	-1,400	-	-
18	100	0	100	100	0	10,000	-	-	-
19	100	0	100	100	0	10,000	-	-	-
20	100	0	100	100	0	10,000	-	-	-
21	100	0	40	40	40	4,000	-	-400	-
22	50	0	0	0	40	-	-	1,600	-
23	50	0	0	0	40	-	-	1,600	-
24	50	0	0	0	40	-	-	1,600	-

The fixed prices used in the examples above are illustrative only and were chosen to demonstrate the operation of each Option and result in similar overall project revenues. They are not indicative of any price expectations in the market and do not reflect expected tender outcomes.

Total settlement from AEMO ($)	**58,000**	**58,000**	**58,000**	**58,000**
Total settlement from SFV ($)		**8,000**	**8,000**	**8,000**
Project combined revenues ($)	**58,000**	**66,000**	**66,000**	**66,000**

The following additional **purely illustrative example** demonstrates the impact of the Project conducting an additional cycle by charging from the grid. All other inputs are as per the original worked example above. As seen below, the marginal revenue of the additional cycle is generally positive under:

F. Non-exercise, where the Project retains all the additional revenues under the additional cycle;
G. Current Generation LTESA, where all additional revenues are also retained as the BESS operations are not factored into the settlement;
H. Option 1 (Fixed Shape-Fixed Volume), where all additional revenues are also retained as the settlement is based on a Fixed Shape and does not consider operations; and
I. Option 2 (Generation-following with price risk share), where a proportion of the additional revenues are retained by the project under the price risk share.

Hour	Pricing ($/MWh)	Profile (MW)				Settlement calculation ($)			
	AEMO Spot Price	Solar	BESS	Net export	Fixed Shape	AEMO pool	Current LTESA	Option 1	Option 2
	A	B	C	D = B + C	E	F = A x D	G = B x (Fixed - A) Fixed price = $65/MWh	H = E x (Fixed - A) Fixed price = $90/MWh	I = 50% x D x (Fixed - A) Fixed price = $100/MWh
1	50	0	0	0	40	-	-	1,600	-
2	50	0	-100	-100	40	-5,000	-	1,600	-2,500
3	50	0	0	0	40	-	-	1,600	-
4	50	0	0	0	40	-	-	1,600	-
5	100	0	0	0	40	-	-	-400	-
6	150	0	85	85	40	12,750	-	-2,400	-2,125
7	100	0	0	0	0	-	-	-	-
8	100	40	0	40	0	4,000	-1,400	-	-
9	50	70	0	70	0	3,500	1,050	-	1,750
10	50	90	0	90	0	4,500	1,350	-	2,250
11	50	100	-100	0	0	-	1,500	-	-
12	50	100	-100	0	0	-	1,500	-	-
13	50	100	-100	0	0	-	1,500	-	-
14	50	100	-100	0	0	-	1,500	-	-
15	50	90	0	90	0	4,500	1,350	-	2,250
16	50	70	0	70	0	3,500	1,050	-	1,750
17	100	40	0	40	0	4,000	-1,400	-	-
18	100	0	100	100	0	10,000	-	-	-
19	100	0	100	100	0	10,000	-	-	-
20	100	0	100	100	0	10,000	-	-	-
21	100	0	40	40	40	4,000	-	-400	-
22	50	0	0	0	40	-	-	1,600	-
23	50	0	0	0	40	-	-	1,600	-
24	50	0	0	0	40	-	-	1,600	-

The fixed prices used in the examples above are illustrative only and were chosen to demonstrate the operation of each Option and result in similar overall project revenues. They are not indicative of any price expectations in the market and do not reflect expected tender outcomes.

Total settlement from AEMO ($)	**65,750**	**65,750**	**65,750**	**65,750**
Total settlement from SFV ($)		**8,000**	**8,000**	**3,375**
Project combined revenues ($)	**65,750**	**73,750**	**73,750**	**69,125**

www.asl.org.au