Market Briefing Note

Financial Value and System Benefits assessment for Generation Infrastructure in Tender Round 8

Introduction

This Market Briefing Note sets out information relating to the assessment of Merit Criterion 1 (MC1) – Financial Value and System Benefits in Tender Round 8 for Generation Infrastructure.

What you need to know when preparing your Bid

MC1 assesses costs and benefits of the Project associated with Bids for a Long-Term Energy Service Agreement (**LTESA**). The Bid Variables (**Bid Variables**) drive forecast costs, and a Project's physical characteristics (**Project Parameters**) inform costs and benefits. The MC1 assessment uses financial value metrics (**Metrics**) for scoring Bids from high merit to low merit.

How Bids are assessed – In the MC1 assessment, costs and benefits are considered across Wholesale Market Benefits, Net LTESA Cost, System Strength Remediation Cost and System Security Services (collectively '**Components**'). Wholesale Market Benefits and Net LTESA Cost are modelled across Electricity Market Scenarios (collectively '**Scenarios'**). The Components are used to calculate Metrics for MC1 scoring. The Metrics are expected to be Wholesale Market Benefit-to-Cost Ratio (**BCR**), System Strength Contribution and System Security Services.

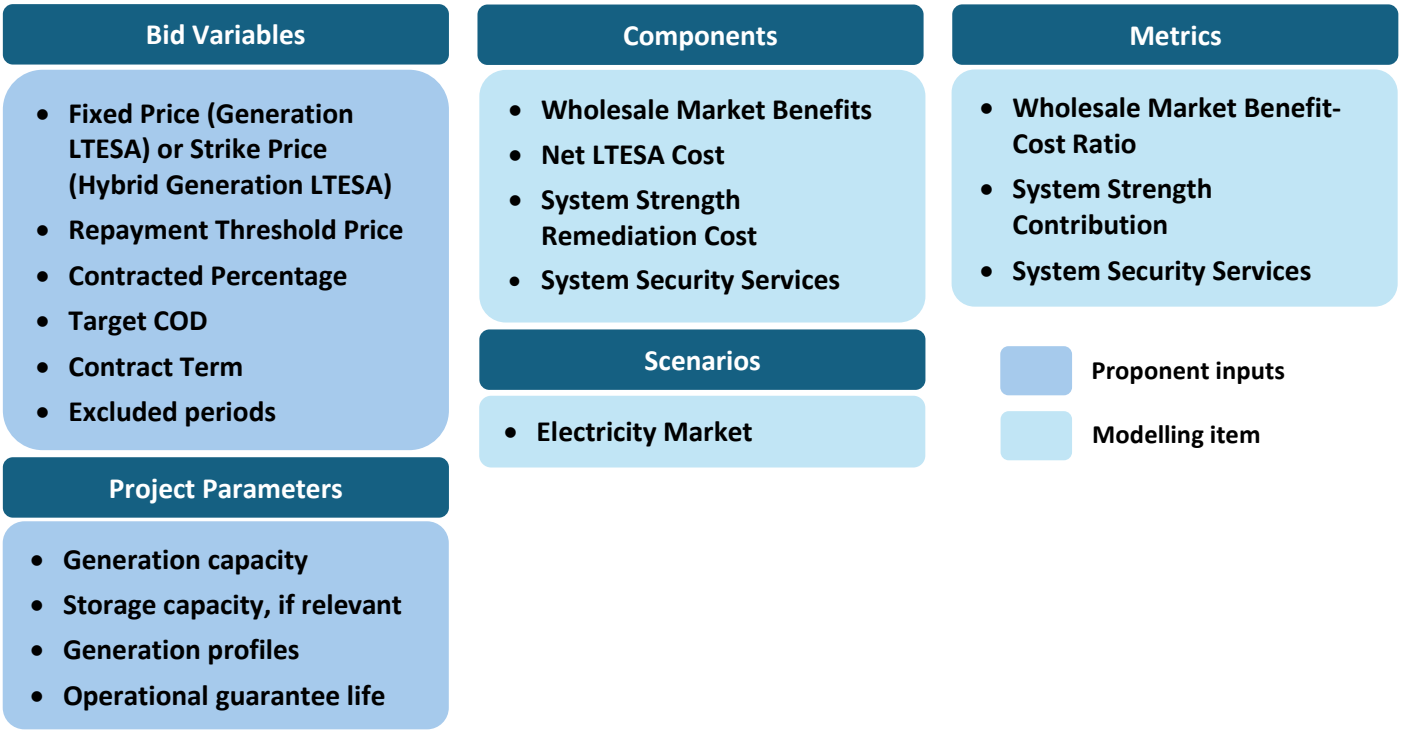
What makes a competitive Bid – A Project with a high contribution to reducing wholesale market costs, low LTESA costs, low System Strength Remediation Costs, and capable of providing system security benefits. All else being equal, characteristics of a competitive Bid are expected to include: a low Fixed Price (for Generation LTESA bids) or Strike Price (for Hybrid Generation LTESA bids); a valuable generation profile; and being located in a strong network location, enabling the Project to meaningfully reduce wholesale market costs. An early Commercial Operations Date (**COD**), where assessed as credible, can improve benefits.

When bidding for an LTESA, it is expected that Proponents consider the level of revenue support required to ensure their Project is commercially viable and can be delivered. Proponents are expected to aim to offer the most competitive Bid Variables that reflect the Project's financing and delivery requirements, and still provide sufficient value to the Project i.e., reasonable contract length and Bid Variables. Section 3 provides more detail on features of competitive Bids in MC1.

What to provide – Proponents are required to complete the MC1 Returnable Schedule with Bid Variables and Project Parameters. Proponents should focus on providing a competitive set of Bid Variables to achieve the lowest Net LTESA Cost relative to the Project's benefits.

The figure below provides an overview of the MC1 process.

Figure 1: MC1 assessment approach overview



Please note, the description of the financial value assessment in this Market Briefing is not an exhaustive or comprehensive summary of the assessment process. It is provided for information purposes only and is not intended as advice. Scoring against Merit Criteria is a key input considered by ASL. Under the *Electricity Infrastructure Investment Act 2020* (NSW) (**EII Act**) ASL may only recommend a Bid where it considers that the recommendation would be in the long-term financial interests of NSW electricity customers (having regard to the assessment as a whole), and the recommendation satisfies or is consistent with all relevant statutory requirements and duties. ASL retains discretion in how it scores and assesses Bids and how it makes recommendations. It will not be held to a rigid assessment formula or policy. Nothing in this Market Briefing should be construed as binding on ASL or limiting its statutory discretion. To the extent of any inconsistency between this Market Briefing and the Tender Guidelines, the Tender Guidelines will prevail.

1. Purpose of this Document

This Market Briefing aims to help Proponents understand the assessment process for MC1. It provides an overview of factors expected to impact this assessment and provides examples of what was assessed as being competitive in previous Tender Rounds. This information is provided to support Proponents in preparing competitive Bids.

The Tender Guidelines are the single source of information for Proponents seeking to understand how ASL (acting as the Consumer Trustee under the EII Act) will evaluate Bids.

Competition and assessment methodologies evolve with each Tender and as such, examples of competitive Bid characteristics provided in this Market Briefing are provided for information purposes only and are not indicative of the characteristics that may constitute a winning Bid.

This Market Briefing refers to the LTESAs for Tender Round 8. Two types of LTESA Products are available: the Generation LTESA and Hybrid Generation LTESA. Projects will be assessed against the same Components and Metrics in MC1 except where specified. Please refer to Section 2 of the Tender Guidelines for additional details.

In this Market Briefing:

- Section 2 provides an overview of the MC1 assessment process.
- Section 3 outlines the characteristics of high performing Bids in previous Tenders.
- Appendix provides further details on how the Components are calculated.

This Market Briefing should be read in its entirety. For information on submitting a Bid, please see the Tender Guidelines.

2. MC1 assessment overview

2.1 Objectives

The basis for conducting NSW Roadmap Tenders is underpinned by the Infrastructure Investment Objective (**IIO**) Reports, which sets the infrastructure development pathways to achieve NSW Roadmap objectives.

This MC1 assessment approach is designed to identify Projects that can best contribute to meeting the IIOs for Generation Infrastructure, which includes minimising costs to NSW electricity customers. Please refer to the Tender Guidelines for the tender target and IIO minimum objectives.

Competitive Bids in MC1 are expected to have a low Fixed Price or Strike Price, low Repayment Threshold Price, other competitive Bid Variables, valuable generation profiles, and be located in a strong network location. Projects are also expected to be available to the market in-time to meet the minimum IIO targets.

2.2 Components

The Components consider a range of benefits and costs, and drive the Metrics used for scoring MC1, as outlined below and in Section 2.4.

Components are modelled using Bid Variables and Project Parameters submitted by Proponents through the Bid Form and MC1 Returnable Schedule. ASL will review and verify Project Parameters, with input from technical advisors where required. As part of the assessment, ASL may apply standardised assumptions or undertake sensitivity analysis to test the impact of these parameters on outcomes.

A summary of these Components is provided in Table 1 and Table 2 below. Refer to the Appendices for more information on the calculation of Components.

Table 1: BCR Components

Component	Summary
Wholesale Market Benefits	• Projects incentivised to enter the market through a Generation LTESA or Hybrid Generation LTESA are expected to put downward pressure on wholesale electricity market costs, thereby reducing costs to NSW electricity customers. • Electricity market modelling is conducted to compare the wholesale cost impact of the Project (**Project-Specific Case**) against baseline scenarios of the future without the Project (**Counterfactual Case**). • Modelled across several Electricity Market Scenarios (see Section 2.3).
Net LTESA Cost	• Estimated costs to the Scheme Financial Vehicle (**SFV**) which may be incurred under an LTESA. • Calculated with the Fixed Price (Generation LTESA) or Strike Price (Hybrid Generation LTESA) and Repayment Threshold Price of the Bid, and the forecast revenues of the Project considering its Project Parameters. • There are no costs in periods where Proponents have excluded or not exercised an LTESA option (however there could be repayments from the Project to SFV) or after the final year of the Contract Term. • Modelled across several Electricity Market Scenarios (see Section 2.3).

Table 2: System Security Components

Component	Summary
System Strength Remediation Cost	• Estimated remediation cost of any general system strength impact in NSW, if applicable. • Expected to consider a Project's requirement for system strength remediation and, if relevant, the remediation option, inverter-type and Withstand Short Circuit Ratio (**WSCR**).
System Security Services	• Assessment of Project's ability to provide system security services. • System security services include voltage management and frequency management.

2.2.1 Hybrid Projects

This section provides a short summary of the MC1 evaluation approach of Hybrid Projects. Hybrid Projects are eligible to bid for both the Generation LTESA and the Hybrid Generation LTESA. Please refer to the Tender Guidelines for the detailed explanation of how Hybrid Projects can participate in Tender Round 8.

Hybrid Projects may be Assessed or non-Assessed Hybrids bidding for a Generation LTESA, or an Assessed Hybrid bidding for a Hybrid Generation LTESA, and the selected Project and LTESA combination will affect the MC1 Components.

The MC1 Components for:

- **A non-Assessed Hybrid which is bidding for a Generation LTESA** will only relate to the Generation Project.
- **An Assessed Hybrid which is bidding for a Generation LTESA** will relate to the Generation Project and Associated Project for Wholesale Market Benefits, System Strength Contribution and System Security Services, but the Net LTESA Cost will be based on the payment mechanics for the Generation Project (aligned with the Generation LTESA payment mechanics).
- **An Assessed Hybrid which is bidding for a Hybrid Generation LTESA** will relate to the Generation Project and Storage Project for Wholesale Market Benefits, Net LTESA Cost (aligned with the Hybrid Generation LTESA payment mechanics), System Strength Contribution and System Security Services.

Proponents should refer to Section 3.2.3 of the Tender Guidelines for a description of Default Bid and Alternative Bid combinations available to Assessed Hybrids, and 3.2.4 for how the Bid Variables may be adjusted between these.

2.3 Scenario based analysis

Wholesale Market Benefits and Net LTESA Cost are modelled across Electricity Market Scenarios to test for robustness of outcomes.

Future electricity market prices are uncertain due to rapid changes underway in the National Electricity Market (**NEM**). Wholesale Market Benefits and Net LTESA Cost will be tested across Electricity Market Scenarios, which represent a range of possible future market outcomes. This tests how Projects perform against multiple potential future pathways and helps to understand potential risks.

The Electricity Market Scenarios are expected to reflect constraints on annual renewable (and specifically wind) build-out, which may result in higher marginal Wholesale Market Benefits and forecast revenues for Assessed Projects of a constrained technology type. This effect may be more evident for wind and solar-hybrid Projects with generation profiles aligned to higher-price, higher demand, non-solar periods.

The Electricity Market Scenarios will consider a range of price and volatility outcomes. Competitive Bids are expected to have relatively high value to NSW electricity customers across the Electricity Market Scenarios.

Scenarios used in previous Tender Rounds have generally aligned with the narratives below:

- **Central Scenario:** Intended to represent the most likely future state, built on assumptions from the latest

Input Assumptions and Scenarios Report by AEMO and the IIO Report by ASL but updated to reflect investor sentiment. This Scenario has previously considered delays to new generation development and possible delays to coal retirement.

- **Low Scenario:** A Scenario where market prices and volatility are low. This Scenario is driven by timely coal closures, low gas prices, low capex prices, timely transmission build and rapid renewable uptake. This Scenario expects lower Wholesale Market Benefits and higher Net LTESA Costs for Bids, compared with the Central Scenario.
- **High Scenario:** A scenario where there is high volatility through increased average volatility or extended duration of volatility events. This scenario is driven by high demand, high gas prices, early coal retirements, increased thermal generator outages, high demand growth, slow transmission build, slow renewable uptake and renewable energy droughts. This Scenario expects higher Wholesale Market Benefits and lower Net LTESA Cost for Bids, compared with the Central Scenario.

Weather variations impact both renewable generation output and consumer demand. Multiple historical reference years may be used to reduce the risk of basing the assessment on the weather patterns of a particular year.

A weighting is assigned to each Electricity Market Scenario based on relative importance for assessment. This can consider the Scenario's likelihood of occurrence (for example, a high weighting for the Central Scenario if it is considered the more likely) or risk-tolerance (for example, a high weighting on the Low Scenario to reflect preference for reducing Net LTESA Cost).

ASL retains discretion to consider additional Scenarios in assessment beyond those listed above.

2.4 Metrics

The information in Components is translated into Metrics used for scoring. Metrics that are expected to inform scoring are outlined in the tables below. BCR is expected to be the primary Metric for MC1 scoring, supported by System Strength Contribution and System Security Services.

Table 2: Components for MC1 assessment

Components	Unit	Description	Direction of preference
Wholesale Market Benefits	$, net present value	Reduction in wholesale electricity market costs of meeting NSW demand.	Higher
Net LTESA Cost	$, net present value	Forecast costs to the SFV which may be incurred under an LTESA.	Lower
System Strength Remediation Cost	$ per MVA	Calculates the Project's remediation cost for its impact to system strength.	Lower
System Security Services	Number of services	Project's ability to provide essential system security services.	Higher

Table 3: Metrics for MC1 assessment

Key Metrics	Unit	Description	Direction of preference
BCR	$/$	Calculated by dividing the scenario-weighted Wholesale Market Benefits by scenario-weighted Net LTESA Cost.	Higher
System Strength Contribution	$	Calculates the Project's remediation cost for its impact to system strength.	Lower
System Security Services	Number of services	Project's ability to provide essential system security services.	Higher

Components and Metrics may be considered on an absolute or a per unit (i.e. per MW or per MWh) basis, with the assessment expected to not bias towards smaller or larger Project capacities (in MW).

Further Metrics than those listed above may also be considered, or a combination of the Metrics above, where they are developed to assess the benefits, cost and financial risks of Bids. These additional Metrics may be less aggregated (e.g. per Scenario, or Scenario-weighted) and may be based on one or several of the Components identified.

3. Characteristics of high performing Bids in previous Tender Rounds

Competitive Bids are expected to be tailored to the Proponent's needs while minimising LTESA costs to NSW electricity customers. There is significant flexibility embedded in how a Bid for a Generation or Hybrid Generation LTESA can be structured to allow it to balance providing necessary support to Projects, while unlocking value for NSW electricity customers. Proponents may use this flexibility across their Default and Alternative Financial Value Bids as outlined in Section 3.2.3 and Section 3.2.4 of the Tender Guidelines.

This section draws on insights into the factors that made Generation LTESA Bids competitive in previous tenders, as well as characteristics we expect to see in high performing bids for the new Hybrid Generation LTESA tender. This section is informed by previous Market Briefing Notes (relating to financial value assessments and outcomes). Please refer to these documents for further information.

Table 4: Characteristics of high performing Bids in the LTESA assessment from previous tender rounds

	Key	Outcomes
Financial	**Net LTESA Cost**	A low Net LTESA Cost is a key driver for Bid success. Previous assessments have seen these following features improve Bid competitiveness through lowering the Net LTESA Cost: • Competitive Fixed Price (for Generation LTESA bids) or Strike Price (for Hybrid Generation LTESA bids) relative to the benefits delivered by the Project. • Low Repayment Threshold Price. • Low Contracted Percentage. • Reduced Contract Term or excluding multiple Swap Periods. All else being equal, these features are expected to reduce both cost and risk to the SFV on behalf of NSW electricity customers.
	Bid Prices	While both low Fixed/Strike price and Repayment Threshold Price contribute to competitiveness, it is expected that the Fixed/Strike Price has a greater influence on Net LTESA Cost and MC1 outcomes (all else being equal), compared with the Repayment Threshold Price.
	Excluded periods	Some Bids have been able to exclude at least one Swap Period. This has indicated that a Project will not be reliant on LTESA payments in that period. Excluded periods can be assessed as being more competitive for the same Fixed/Strike Price, compared with if those Swap Periods were not excluded, as they can reduce Net LTESA Costs. The extent to which forfeiting a particular Swap Period lowers Net LTESA Cost is dependent on the forecast wholesale market price for that period.
	Contracted Percentage	A Contracted Percentage of less than 100% can reduce Net LTESA Cost, all else being equal. A low Contracted Percentage would not always lead to a low Net LTESA Cost, for example if a Proponent bids a low Contracted Percentage but comparatively high Fixed Price/Strike Price.
Physical	**Generation profile**	Different generation technologies and Projects are expected to have different Wholesale Market Benefits and forecast revenues based on their likely generation profile and annual energy output. It is expected that the following features of a technology and Project could put upward pressure on absolute Wholesale Market Benefit and forecast revenues: • Have an underlying renewable resource which is likely to increase its annual capacity factor (i.e. increased expected annual energy generation). For example, generally a wind-only Project will have a higher capacity factor than solar-only. • Have a generation profile that is more often aligned with high wholesale electricity prices, correlated with tight supply-demand balance in NSW or has a low correlation with solar output. For example: a wind profile with higher evening generation; or a Hybrid Project of solar with a battery can shift energy from lower-priced midday periods to higher-priced evening periods, improving its forecast revenues compared with a solar-only Project.

Key		Outcomes
		A generation profile is expected to be more valuable if it offers greater diversity against the majority of existing or new renewable projects, which currently show a stronger weighting towards solar capacity (both rooftop and utility-scale) and midday generation. A Project's generation profile and capacity factor may be affected by its underlying resource pattern which can differ by geographical location. This is expected to be reflected in modelling.
	Network location	Connection to strong parts of the NSW electricity network is a key driver of Wholesale Market Benefits as it enables efficient transfer of generation to load centres during periods of highest demand. It may also be assessed to improve System Strength Contribution. Projects located further from regional interconnectors (e.g. interconnectors between NSW and either Victoria or Queensland) are generally more additive to NSW supply, whereas Projects electrically closer to interconnectors are more likely to be displacing interconnector flows due to transmission constraints. This can have the effect of reducing their impact on wholesale price suppression and overall benefits to NSW electricity customers.
	Technology	All else being equal, the following technology-specific parameters would increase Wholesale Market Benefits and improve System Strength Contribution: • Technologies that are assessed to have longer asset lives would be more competitive, all else equal, as they can earn Wholesale Market Benefits over a longer period. • Technologies or Projects with a lower Withstand Short Circuit Ratio (WSCR) could be more competitive as they can minimise System Strength Remediation Cost.
	COD	An earlier COD, where considered credible, has been assessed favourably where it allowed the Project to capture more market opportunities arising from early wholesale market volatility and fewer competing Projects. For instance, if there are fewer renewable energy projects operating in the NEM in earlier years, there may be a greater opportunity to provide Wholesale Market Benefits and earn higher revenues which could lower the Net LTESA Cost, making the Project more competitive.
	Storage Project	*Applicable only for Projects bidding as an Assessed Hybrid under the Generation LTESA or Hybrid Generation LTESA:* All else being equal: • Committing to build a storage asset together with the standalone generation asset is expected to increase its Wholesale Market Benefits. • Longer storage durations for storage assets are expected to be more beneficial to reducing wholesale market costs across extended periods of high price and volatility, all else being equal. • Higher capacity in MW for storage assets may also improve Wholesale Market Benefits, all else being equal, if it can reduce curtailment and increase the capacity available to be dispatched in peak periods.

Appendix A: Net LTESA Cost

A1. Net LTESA Cost

The Net LTESA Cost is the forecast net costs to the SFV which may be incurred under an LTESA. This is calculated using the Bid Variables, the Project's generation and revenues (including the Storage Project for a Hybrid Generation LTESA Bid), and modelled LTESA option exercise behaviour. There are no forecast costs during excluded periods or after the Contract Term.

Competition in the process is expected to require Bid Prices to be set competitively relative to the value of the Project's benefits to demonstrate high Financial Value in MC1

The Fixed Price/Strike Price, Repayment Threshold Price and other Bid Variables are key determinants of a Bid's Net LTESA Cost. Proponents are expected to aim to offer competitive Bid Variables that still provide sufficient value to the Project to support the Project's commercial viability, financing and delivery. Financial value considers both costs and benefits of Projects and the Bid, and a higher requirement for support (i.e. higher Net LTESA Cost) could be offset by higher benefits across the other Components.

The Fixed Price/Strike Price may not be immediately comparable across Projects or between the Generation LTESA and Hybrid Generation LTESA. A higher Fixed Price/Strike Price could relate to a lower Net LTESA Cost if the Project has a more valuable generation profile or more competitive combination of other Bid Variables, and a higher Net LTESA Cost can be offset by higher Wholesale Market Benefit (primarily, but also higher System Strength Contribution and System Security Services).

The Fixed Price/Strike Price is expected to have a higher impact on Net LTESA Costs than Repayment Threshold Price, as it determines LTESA payment and support requirements and is more likely to lower LTESA costs to the SFV and NSW electricity customers.

A lower Contracted Percentage may also reduce Net LTESA Cost and could improve the competitiveness of a Bid, subject to being part of a competitive combination of Bid Variables. Contracted Percentage is a Bid Variable that sets the percentage of a Project's total output that the LTESA payments relate to. For example, a Bid could commit to the construction of a 500 MW Project, but the LTESA support could relate to 50% (or 250 MW) of the total Project by nominating a Contracted Percentage of 50%. This could be done, for example, where a Project is expected to have an offtake agreement for the remaining 50% and wants to have this alongside exercised LTESA Swap Periods. In this example, the Net LTESA Cost would relate to 50% of the Project's generation, and the Wholesale Market Benefits would relate to the full 500 MW Project.

Net LTESA Cost is driven by both Bid Variables and Project Parameters

Energy market modelling is undertaken which considers the Project's Parameters to determine the Project's generation and revenues, and this is considered against the Bid Variables to calculate Net LTESA Cost.

$$Net\ LTESA\ Cost\ = Present\ Value\ (\sum CostEstimate_{year} - \sum RepayEstimate_{year}\ )$$

$$for\ all\ years\ of\ Contract\ Term\ and\ for\ all\ scenarios$$

When exercised, the Generation LTESA offers a Fixed Price for energy sent-out by the Project and the Net LTESA Cost is the top-up required between market revenues and Fixed Price

$$CostEstimate_{year} = \sum (NotionalQuantity \times (FixedPrice - FloatingPrice))$$

$$for\ all\ trading\ intervals\ in\ an\ exercised\ Swap\ Period, \quad and$$
$$FloatingPrice\ is\ the\ NSW\ spot\ price\ (with\ the\ minimum\ spot\ price\ taken\ to\ be\ \$0/MWh)$$

The formula shown above involves simplifications. Proponents should refer to the Generation LTESA for the payment mechanics and full definition of terms, including for Notional Quantity and Floating Price.

When exercised, the Hybrid Generation LTESA offers Strike Price for energy sent-out by the Project and the Net LTESA Cost is the net cost of the risk sharing between market revenues and Strike Price.

$$CostEstimate_{year} = \sum (NotionalQuantity \times 50\% \times (StrikePrice - FloatingPrice))$$

$$for\ all\ trading\ intervals\ in\ an\ exercised\ Swap\ Period, \quad and$$
$$NotionalQuantity\ is\ taken\ to\ be\ zero\ when\ spot\ price\ is\ less\ than\ \$0/MWh$$

The formula shown above involves simplifications. Proponents should refer to the Hybrid Generation LTESA for the payment mechanics and full definition of terms, including for Notional Quantity and Floating Price.

In non-exercise periods, the Project may have to make repayments, which may be reduced where the Project has entered into an eligible contact and are capped by Historical Net Payments.

The Repayment Mechanism applies similarly in both the Generation LTESA and Hybrid Generation LTESA.

$$RepayEstimate_{year} = Minimum\left[\sum 50\% \times (NotionalQuantity \times (FloatingPrice - RepaymentThresholdPrice)),\ HistoricalNetPayments\right]$$

$$calculated\ at\ the\ end\ of\ non-exercised\ repayment\ years\ across\ the\ trading\ intervals\ ,and$$
$$is\ only\ applied\ if\ RepayEstimate\ is\ positive.$$

The formula shown above involves simplifications. Proponents should refer to the Generation LTESA and Hybrid Generation LTESA for the payment mechanics (including Repayment Mechanism) and full definition of terms, including for Historical Net Payments and Notional Quantity.

Exercise behaviour affects the calculation of Net LTESA Cost

As LTES Operator's intention to exercise, or not exercise, future option periods is not known during assessment (except in the case of excluded Swap Periods), two option-exercise scenarios may be considered in assessment:

- **Perfect Foresight**, whereby the LTES Operator has perfect foresight of revenues with and without exercise for the upcoming period and exercises only in years where exercising results in a higher payoff (market revenues plus support under the LTESA), compared to not exercising.
- **Always Exercise**, whereby the LTES Operator is assumed to exercise every available LTESA option.

The option-exercise scenarios are expected to have a substantially higher weighting for Perfect Foresight and lower for Always Exercise, given that Always Exercise is generally expected to be less likely to occur. The two option-exercise scenarios would be expected to be applied across all Electricity Market Scenarios.

Appendix B: Further details on Wholesale Market Benefits

B1. Wholesale Market Benefits

Wholesale Market Benefits are measured based on the difference in the cost of meeting NSW electricity demand (load cost) between a Project-Specific Case and Counterfactual Case. This is modelled across the Electricity Market Scenarios and weighted by their respective weightings. Any reduction in wholesale electricity market costs is attributed as a benefit of the Project. As such, Wholesale Market Benefits are expected to occur where a Project lowers load-weighted prices, for example, by reducing intra-day price spreads and volatility, or by improving supply adequacy and reducing curtailment of low-cost generators.

The renewable energy generation of a Project could be assumed to be dispatched according to its generation profile, which can provide Wholesale Market Benefits. Hybrid Projects are assumed to dispatch based on modelled price signals – charging any storage during low market price periods and dispatching when prices are high, as well as dispatching their renewable energy generation. Modelled dispatch may also take into account any relevant dispatch constraints for the Project.

ASL may consider generation profiles provided by AEMO or its advisors for the assessment in addition to the generation profile submitted by the Proponent.

For an individual Electricity Market Scenario, both the Counterfactual Case (see **ALC** in the equation below) and the Project-Specific Case (see **ALC'** in the equation below) are based on the same forecast of market developments including NSW demand growth and wholesale spot prices. The only difference is that the Project-Specific Case includes the Project being assessed.

Wholesale Market Benefits are represented by the following calculation:

$$Wholesale\ Market\ Benefits = \sum_{s=1}^{n} W_s \times Present\ Value\ (ALC - ALC')$$

for the NSW region in the NEM, all Electricity Market Scenarios and over the Project's expected operational life

Where:

- **W_s** is the weighting of each modelled Electricity Market Scenario,
- **S** is a particular Electricity Market Scenario,
- **N** is the number of modelled Electricity Market Scenarios,
- **ALC** is the annual load cost in NSW in a scenario before the addition of the Project being assessed,
- **ALC'** is the annual load cost in NSW in a scenario after the addition of the Project being assessed.

Projects with a status of 'In Service' in AEMO's NEM July 2025 Generation Information (Gen Info) page will be assessed as not providing Wholesale Market Benefits. The July 2025 Gen Info page is the latest version issued prior to the release of the most recent biennial IIO Report (being the 2025 IIO Report published August 2025).

Appendix C: Further details on System Strength Contribution and System Security Services

C1. System Strength Remediation Cost

System Strength Contribution considers the potential cost of remediation for a Project's system strength impact on NSW. The need for additional system strength solutions in NSW is necessary as thermal generators, which currently provide substantial fault levels to the system, retire.

The System Strength Remediation Cost of the Project considers the Project's locational factors with respect to system strength nodes, WSCR and System Strength Unit pricing.

C2. System Security Services

Projects capable of providing system security services will be assessed favourably in MC1. Projects will be assessed on their ability to provide the following essential system services:

- Voltage management
- Frequency management

Appendix D: Glossary

Term	Definition
Alternative Bid	As described in Section 3.2.3 of the Tender Guidelines.
ASL	AusEnergy Services Limited
Assessed Hybrid	A hybrid generation facility comprising of an Associated Project co-located with a generation system where the Proponent elects for the Generation Project and Associated Project to be assessed against the Merit Criteria in respect of which a Generation LTESA is being sought.
Associated Project	As described in Section 2.2 of the Tender Guidelines.
BCR	Wholesale Market Benefit-to-Cost Ratio. One of the Metrics used in the MC1 assessment. Calculated by dividing Wholesale Market Benefits by Net LTESA Costs (both scenario-weighted and discounted).
Bid	Bid submitted by Proponents in a Tender Round.
Bid Prices	Refers to Fixed Price, Strike Price and Repayment Threshold Price.
Bid Variables	Nominated inputs from a Project in the MC1 Returnable Schedule. Includes Fixed Price (for Generation LTESA), Strike Price (for Hybrid Generation LTESA), Repayment Threshold Price, Contract Term, excluded periods and Target COD.
COD (or Target COD)	Target Commercial Operations Date. Target COD is a Bid Variable.
Components	As defined in the Introduction of this Market Briefing.
Consumer Trustee	As defined in the Tender Guidelines.
Contract Term	Under a Default Bid, the Contract Term is fixed at 20 years. Under an Alternative Bid, the Contract Term is a Bid Variable. Please see Tender Guidelines Section 3.2.4 for more detail.
Contracted Percentage	Allows the LTES Operator to bid only a portion of the capacity of the Project to be covered by the LTESA, providing flexibility to LTES Operator.
Counterfactual Case	The no-Project, baseline case for calculating Components for Electricity Market Scenarios.
Default Bid	As described in Section 3.2.3 of the Tender Guidelines.
Electricity Market Scenarios	Scenarios used for Electricity Market modelling.
EII Act	Electricity Infrastructure Investment Act 2020 (NSW).
Fixed Price	The fixed price (in $/MWh) of the swap payment triggered on exercise of the option. This is a Bid Variable for the Generation LTESA.
Floating Price	As defined in the Generation LTESA and Hybrid Generation LTESA.
Generation Project (or Generation Infrastructure)	A physical electricity generation facility built in respect of which a Hybrid Generation LTESA is being sought (alongside the Storage Project) by the Proponent, including any proposed supporting network remediation and connection assets
Historical Net Payments	As defined in the Generation LTESA and Hybrid Generation LTESA.
Hybrid Project	As defined in Section 3.2.5 of the Tender Guidelines.
IIO	Infrastructure Investment Objective.
LTESA (or Generation LTESA or Hybrid Generation LTESA)	Long-Term Energy Service Agreement. There are two types of Generation Infrastructure LTESA available in this Tender Round; Generation LTESA and Hybrid Generation LTESA.
MC1	Merit Criterion 1 - Financial Value and System Benefits.
Metrics	Metrics including BCR, System Strength Contribution, and System Security Services that are used to evaluate Projects.
NEM	National Electricity Market.
Net LTESA Cost	As defined in Section 2.4 and Section A1 of this Market Briefing.
Notional Quantity	As defined in the Generation LTESA and Hybrid Generation LTESA.
Project Parameters	Project's physical characteristics.
Project-Specific Case	The Project-Inclusive, Project case for calculating Components for Electricity Market Scenarios.
Repayment Mechanism	As described in 2.2 and 2.3 of the Tender Guidelines.
Repayment Threshold Price	The threshold price (in $/MWh), that is greater than or equal to the Fixed Price or Strike Price, that is used to calculate potential repayments.
Scenarios	Electricity Market Scenarios.
SFV	Scheme Financial Vehicle - the counterparty to the LTESAs and responsible for administering payments pursuant to section 62 of the EII Act.
Storage Project	A physical energy storage facility built in respect of which a Hybrid Generation LTESA is being sought (alongside the Generation Project) by the Proponent, including any proposed supporting network remediation and connection assets.

Strike Price	The Strike Price (in $/MWh) of the swap payment triggered on exercise of the option. This is a Bid Variable for the Hybrid Generation LTESA.
Swap Period	As described in Section 2.2 and 2.3 of the Tender Guidelines, as appliable.
System Security Services	As defined in Section 2.4 and Section C2 of this Market Briefing.
System Strength Contribution	As defined in Section 2.4 and Section C1 of this Market Briefing.
System Strength Remediation Cost	As defined in Section 2.4 and Section C1 of this Market Briefing.
Tender Guidelines	Please see Tender Guidelines on the ASL website.
Wholesale Market Benefits	As defined in Section 2.4 and Section B1 of this Market Briefing.
WSCR	Withstand Short Circuit Ratio.

Please see the Tender Guidelines, Generation LTESA, Hybrid Generation LTESA, or Project Development Agreement (all of which can be found on the ASL website), for any definitions that are not included in this glossary.

This publication has been prepared using information available at 14 May 2026 and does not include any changes since the date of publication.