Australian Government
Department of Climate Change, Energy, the Environment and Water

Capacity Investment Scheme

Market Briefing Note

Guidance on evaluation of Merit Criteria 5 – Financial Value

August 2024

This Market Briefing sets out information relating to the evaluation of Merit Criteria (MC) 5 – Financial value in the Capacity Investment Scheme (CIS) Tender 1 – National Electricity Market Generation (Tender 1).

What you need to know when preparing your bid

MC5 evaluates financial value. For a Financial Value Bid (Bid), it considers forecasts of the benefits of the Project ("Benefits") and the net cost to the Commonwealth of the CIS Agreement (CISA) according to the terms bid. A Project with high benefits, including Renewable Energy Contribution, Wholesale Market Benefits and Contribution to Reliability will score favourably, along with Projects with a low Net CISA Cost. The Renewable Energy Contribution is a new metric in MC5 - it measures the Project's potential contribution to the target of 82% renewable electricity by 2030. This is expected to be a key metric for Tender 1.

Many parameters for a Project will have already been committed to in Stage A (e.g. capacity, location, technology). These will be key drivers of the Project's Renewable Energy Contribution, Wholesale Market Benefit and Contribution to Reliability. As these parameters cannot be changed in Stage B, the focus in bidding should be on providing competitively low Net CISA Cost through the Bid Variables.

The MC5 assessment will consider a Bid's value across a range of benefit and cost metrics. Sections 3.0 and 4.0 of this Market Briefing provide more information on the Financial Value Components, and Section 5.0 provides more information on the characteristics of a competitive bid. In summary:

Component	Impact of Project parameters or Bid Variables
Renewable Energy Contribution	The Renewable Energy Contribution is expected to be higher for Projects that have: • A location that is unlikely to be constrained, such as being located close to load centres. • A profile that displaces more fossil fuels and generates at times of high prices.
Wholesale Market Benefit	Wholesale Market Benefit may reward Projects that can: • Commit to an earlier Commercial Operation Date (COD) as there is greater opportunity in early years for Projects to impact high forecast prices. • Have a generation profile aligned with periods of high prices. • Provide greater contribution to the market by locating in network locations that have good access to load centres. • Provide more years of benefits through longer technology asset life.
Net CISA Costs	Net CISA Costs may be reduced if the Bid or Project has the following features (all else being equal): • Low Annual Floor. • Low Annual Payment Cap. • Low Annual Ceiling. • Shorter amount of time requiring support. • High forecast Dispatch Weighted Average Price.
Contribution to Reliability	The Contribution to Reliability is expected to be higher for Projects that: • Are located close to load centres that are unlikely to be constrained during times of high demand. • Have a generation profile aligned with periods of high demand, high yield or that can shift generation as a hybrid from periods of generation oversupply to those of undersupply or high demand. Hybrid Projects with a large battery are expected to provide a higher Contribution to Reliability.

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Capitalised terms in this document have the meaning given in the Tender Guidelines, Generation CISA or in the glossary to this market briefing note.

In the case of any conflict between the Tender Guidelines and this document, the Tender Guidelines take precedence.

Note: The description of financial value in this Market Briefing is not an exhaustive or comprehensive summary of the evaluation process. AEMO retains discretion to score and assess bids and make recommendations pursuant to the Tender Guidelines.

1.0 Purpose of this document

This Market Briefing has been prepared to provide information to Proponents in the CIS Tender 1 about how their Projects may be assessed in MC5 – Financial value.

The financial value of Projects is assessed as a function of estimates for cost and benefit. These components may vary for each Project depending on several factors, including the Project technology's characteristics, network location, storage duration (where applicable) and needs of the energy market. This Market Briefing provides an overview of the factors that affect the financial value of Projects.

By sharing this information, AEMO intends to help Proponents prepare competitive Financial Value Bids for CIS Tender 1.

2.0 Tender Guidelines

The Tender Guidelines are the single source of information for Proponents seeking to understand how AEMO will assess bids in the CIS Tender 1. AEMO intends to assess bids against seven Merit Criteria under a two-step process which is summarised below:

Project Bid Stage
Assessment against four non-financial Merit Criteria. Designed to assess contribution to system reliability and system benefits (MC1), Project deliverability and timetable (MC2), Organisational capability to deliver the Project (MC3), and First Nations engagement, community engagement and benefits sharing (MC4).

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Financial Value Bid Stage
Financial Value Bids sought and assessed for financial value (MC5), Commercial departures (MC6) and First Nations and social licence commitments (MC7).

Projects that progress to the Financial Value Bid Stage will be assessed against the Financial Value Merit Criteria. Following the assessment, Financial Value Bids will be awarded with a weighted score and ranked. The Financial Value Shortlist will be developed considering this list.

Projects seeking a South West or Central West Orana Access Right and a CISA should refer to Section 2.1.3 of the CIS Tender Guidelines for information on this process.

3.0 Overview of financial value for CIS Tender Round 1

The objectives for CIS Tender 1 are:

- to deliver an additional 32 GW of new capacity by 2030;
- to support electricity generation growth and reliability in Australia's rapidly changing electricity markets, as ageing thermal power stations exit; and
- to support the delivery of the Australian Government's 82% renewable electricity by 2030 target.

The financial value of Project Bids will be assessed in Stage B. Proponents will submit details of their Project and their nominated Annual Floor, Annual Ceiling, Annual Payment Cap, COD, Support Period Start Date and Final Support Commencement Date (collectively, the "Bid Variables") in MC5 Returnable Schedule. Amongst other objectives, MC5 seeks to reward:

- Projects and Bids based on their potential to contribute to the Policy Objectives, with a focus on contribution to meet the 82% renewable energy by 2030 target.
- Competitive bidding behaviour with low Annual Floor, low Annual Ceiling and low Annual Payment Cap.

3.1. Financial Value Components

The MC5 assessment considers both a Project's Net CISA Cost and their addition to the market via Renewable Energy Contribution, Wholesale Market Benefits and Contribution to Reliability. The components analysed under MC5 are summarised in Table 1 and described further in the Financial Value Components deep dive section below.

Table 1: Components assessed under financial value in MC5

Component		Summary
Benefits	Renewable Energy Contribution	• Forecasts the Project's potential contribution to the target of 82% renewable electricity by 2030. • Modelling analysis will consider a Project's location and generation profile.
	Wholesale Market Benefit	• Forecasts the wholesale price impact of each Project in the National Electricity Market (NEM). This is modelled across several electricity price scenarios. • Considers the Project parameters and modelled operation in the energy market.
	Contribution to Reliability	• Forecasts the Project's potential contribution to reduce modelled unserved energy as existing generators are retired. • Modelling analysis will consider a Project's location and generation profile.
Costs	Net CISA Costs	• The net present value of forecast payments to and from the Australian Government under a CISA. • Considers the Bid Variables of a CISA and forecast of each Project's Net Operational Revenue under a range of scenarios.

3.2. Scenario Analysis

Benefits and costs are forecast for each Bid across scenarios. Applying scenario analysis provides robustness and ensures that the evaluation has considered a range of plausible outcomes.

Using multiple scenarios tests the ability of a Bid to demonstrate financial value across a range of market outcomes. High merit Bids should demonstrate value across a diverse range of future energy market scenarios. Lower value Bids may have low value in one or multiple scenarios.

Electricity market scenarios will be developed to represent a range of theoretical future market conditions. These scenarios may include a base case scenario supported by higher and lower price scenario that reflect plausible but extreme bookends.

Input assumptions for the scenarios may differ by:

- **Market price assumptions:** Future electricity market prices are uncertain due to rapid changes in the National Electricity Market (NEM). In previous tenders, three scenarios have been modelled to consider a range of possible future price outcomes. More detail is provided on the market price scenarios below in Section 3.2.1.

- **Weather reference years:** As weather variations impact both renewable generation output and consumer demand, multiple historical reference years may be used to reduce the risk of basing evaluation on particular patterns of any individual year.

Scenario-based outcomes are weighted. The weighting may consider the importance of each scenario for evaluation, and the expected probabilities of a scenario occurring.

3.2.1. Market Price Assumptions

Previous tenders have used three market price scenarios for evaluation. These scenarios have been designed to reflect a balanced market view of central forecast market outcomes, and two supporting scenarios with assumptions designed to lead to extreme low and high forecast market. Scenarios developed for this tender could be variations of:

- **Central scenario:** A balanced, market-investor view of future energy market outcomes. This would generally align with assumptions from the latest Input Assumptions and Scenarios Report by AEMO and the Infrastructure Investment Objectives Report by AEMO Services. This scenario would aim to consider the financial value of Bids with the most likely benefit and cost outcomes.

- **Low scenario:** Reflective of a NEM where many levers coincide to drive low wholesale prices including low fuel costs and new renewable and storage projects benefiting from government programs. It would aim to consider the financial value of Bids where there are low benefits and very high CISA costs to the Australian Government.

- **High scenario:** Reflective of a future with high capex and high fuel costs, leading to higher prices and higher volatility than a central scenario. It would aim to consider the financial value of Bids where there are high benefits and very low expected CISA costs to the Australian Government.

Scenarios are ascribed a weighting which will consider their relative importance for assessment.

Weightings for the scenarios are expected to be as follows:

1. Most heavily weighted: Central scenario.
2. Second weighted: Low scenario.
3. Lowest weighted: High scenario.

3.2.2. Financial Value Metrics

Financial Value Metrics are used to translate the analysis from MC5 into useful information for making recommendations. The MC5 assessment will seek to score Bids highly if they perform well against the metrics listed in Table 2 below.

Table 2: Key Financial Value Metrics for MC5 assessment

Metric	Unit	Description	Preferred outcome
Renewable Energy Contribution-Cost Ratio (RECCR)	*MWh/$*	*Renewable Energy Contribution* per dollar of *Net CISA Cost.* Considers both the Project's Contribution to the 82% target as well as its Net CISA Cost.	A higher value is preferred.
Scenario-Weighted Benefit-Cost Ratio	*Ratio*	*Wholesale Market Benefit* per dollar of *Net CISA Cost*. It is calculated by dividing Scenario-Weighted Wholesale Market Benefits by Scenario-Weighted Net CISA Cost.	A higher value is preferred.
Reliability-Cost Ratio	*Contribution/$*	*Contribution to Reliability* per dollar *of Net CISA Cost*. This considers both the Project's Contribution to Reliability as well as its Net CISA Cost.	A higher value is preferred.
Scenario-Weighted Net CISA Cost	*$/MWh*	*Net CISA Cost*, weighted across scenarios.	A lower expected cost is preferred.
Scenario-Weighted Wholesale Market Benefits	*$/MWh*	*Wholesale Market Benefits*, weighted across scenarios.	A higher value is preferred.

Further Financial Value Metrics or a combination of the metrics above which are developed to assess the cost, financial risks and benefits of Bids may also be considered. These may be less aggregated, e.g. per scenario, or scenario-weighted, and may be based on one or several of the components identified.

4.0 Financial Value Components Deep Dive

4.1. Contribution to Renewable Energy

A key Policy Objective of CIS Tender 1 is to incentivise the deployment of 32GW of renewable and clean dispatchable capacity by 2030. The CIS aims to replace aging coal power stations as they retire to support the Australian Government's goal of achieving 82% renewable electricity by 2030. The Commonwealth's CIS Tender 1 is seeking an indicative 6 GW capacity of renewable energy generation across the NEM.

4.1.1. Calculating Renewable Energy Contribution

A Project's 'Contribution to Renewable Energy' will be calculated on the basis of its ability to output high amounts of electricity to load centres and displace fossil fuels. Modelling will compare the variable renewable energy output with the Project against baseline scenarios of the future without the Project. Key drivers are expected to be how additive a Project's generation profile is compared to others in the market, a Project's location in less constrained parts of the network, and a Project's ability to displace fossil fuels and reduce potential curtailment of renewable energy projects.

The RECCR evaluation metric (MWh/$) is assessed by dividing the Renewable Energy Contribution by Net CISA Costs.

4.2. Wholesale Market Benefits

Projects that bid in the Tender are added to a counterfactual Energy Market Model to develop Project-specific modelling. Any reduction in load cost (i.e. cost of meeting demand) in the Project-specific modelling when compared with the counterfactual is attributed as a benefit of the Project. This modelling considers the Project Parameters to model a dispatch profile for each Project across scenarios.

Projects will be rewarded through the Energy Market Model for lowering load cost, improving supply adequacy, and reducing potential curtailment.

4.2.1. Calculating Wholesale Market Benefits

Projects entering the market through a Generation CISA are expected to put downward pressure on wholesale electricity prices. Modelling considers the impact of Projects on wholesale electricity prices across the NEM as benefits may be shared, particularly where Projects are located near regional interconnectors.

Formulaically, Wholesale Market Benefits may be represented as below:

$$\Sigma_{s=1}^{n} W_s \times (ALC - ALC')$$

for each Region in the NEM, all Scenarios and over the Project's asset life.

Where:

- W_s is the weighting of each modelled scenario and n is the number of modelled scenarios.

- ALC is the annual load cost in a region and scenario before the addition of the Project being assessed.
- ALC' is the annual load cost in a region and scenario following the addition of the Project being assessed.

4.3. Net CISA Cost

4.3.1. Forecasting Net Operational Revenue

An Energy Market Model is run for each Project to forecast Net Operational Revenue considering the Project's Parameters. Revenues are Project and scenario-specific and will take on a range of values.

Net Operational Revenue is estimated by the sum of forecast merchant revenues considering:

- Dispatch-Weighted Average Price (DWAP) for each project can be forecast using generation output profiles provided by Proponents.
- Green product revenues as a source of revenue for a project.

4.3.2. Calculation of Net CISA Cost

Net CISA Costs are a function of the Project's Net Operational Revenue and Bid Variables. Formulaically, the calculation of annual CISA cash flows is the net present value of the CISA cashflow over the Bid's Support Period. This may be represented as below[1]:

$$Annual\ CISA\ Cashflows = \begin{cases} SP, & if\ NOR_{year} < ARF \\ 0, & if\ ARF < NOR_{year} < ARC \\ -RS, & if\ NOR_{year} > ARC \end{cases}$$

$$SP = minimum\ (90\% \times (ARF - NOR), APC)$$

$$RS = minimum\ (50\% \times (NOR - ARC), APC)$$

Where[2]:

- NOR is Net Operational Revenue.
- SP is the Annual Support Amount paid to the Project.
- RS is the Annual Revenue Sharing Amount paid by the Project.
- ARC is the Annual Revenue Ceiling.
- ARF is the Annual Revenue Floor.
- APC is the Annual Payment Cap.

[1] Note the displayed formula is used for annual modelling in the MC5 assessment and may not directly match the contract. Please refer to the CIS Agreement for information on support payment calculations.

[2] For more information on terms please refer to the CIS Agreement.

4.4. Contribution to Reliability

A key Policy Objective of the CIS is to support system reliability, and the impact that a Project has on system reliability will be considered as a Financial Value Component within MC5. Reliability will be assessed through the modelled contribution that a Project has in reducing potential unserved energy.

4.4.1. Calculating Contribution to Reliability

As part of MC1 ('Contribution to system reliability and system benefits'), projects are assessed on their ability to reduce unserved energy, using modelling approaches and assumptions in line with AEMO's Update to the 2023 Electricity Statement of Opportunities.

A measure of reliability benefit for a Project is calculated as the contribution the Project makes to reduce unserved energy relative to a counterfactual case that has no additional projects. This is compared to unserved energy reduction from a dispatchable, energy unlimited theoretical project that is optimally located for reliability.

In MC5, the Contribution to Reliability is the same modelled reduction in unserved energy as in that component of MC1.

5.0 Impact of Project Parameters and Bid Variables

The parameters of a Project and Bid Variables will have varying impacts on the MC5 evaluation. This section aims to provide visibility on how these parameters may affect the MC5 assessment. The flexibility of the Generation CISA aims to provide proponents the ability to develop their bids in a targeted way that suits their use-cases and minimises the Net CISA Cost to the Australian Government.

Table 3 below shows the expected impact of various project characteristics and Bid Variables in the MC5 evaluation.

Table 3: Expected characteristics of competitive projects

Key	Potential Impact in MC5 (all else equal)
Net CISA Cost	Competitive projects are expected to have a low Net CISA Cost relative to less competitive projects. Projects may reduce their Net CISA Cost with the following features: • A low Annual Floor. • A low Annual Payment Cap. • A low Annual Ceiling. • Choice of support years (see below). • Having a high forecast DWAP. Projects with the above features are expected to reduce the assessed cost and risk to the Australian Government, per the Net CISA Cost equation provided in Section 4.0 above.
Support years	Competitive projects may reduce their Net CISA Cost by bidding: • Fewer support years during periods when DWAP is forecast to be lower. • Support years during periods when DWAP is forecast to be higher.
Network connection point	A Project connected at a location that would unlikely be constrained (such as being close to load centres) is expected to provide higher Renewable Energy Contribution, Wholesale Market Benefit and Contribution to Reliability.
Generation profile	A Project that can generate at times of high prices is likely to have a higher Renewable Energy Contribution, higher Wholesale Market Benefits and higher contribution to reducing unserved energy, in absolute terms. This can also be achieved by shifting generation as a hybrid. All else equal a Project with a valuable generation profile is more likely to earn higher DWAP and put downward pressure on Net CISA Cost.
Commercial Operation	Earlier COD such that Projects may be able to contribute towards reducing high wholesale market price forecast in early modelled years.

6.0 Hybrid Projects

Hybrid Projects are eligible to participate in the CIS Tender 1. This section provides a short summary on the evaluation approach of Hybrid Projects.

6.1. What is a Hybrid Project?

Hybrid Projects are defined in the Tender Guidelines as co-located generation and energy storage assets. Both assets must have:

- the same connection point; and
- be owned by the same special purpose vehicle.

A combined generation asset (e.g., wind and solar) that shares a connection point is not considered a Hybrid for the purposes of the MC5 evaluation. Cost and benefits will be assessed as one combined generation Project.

As outlined in the Tender Guidelines, Proponents with Hybrid Projects were required to bid their Hybrid Project as either an Assessed Hybrid Project Bid, a Non-assessed Hybrid Project Bid or a Generation Project Bid.

6.2. Assessment of Hybrid Project in MC5

For Assessed Hybrid Projects[3] the generation Project and Associated Project will be evaluated in MC5. This means the following will be assessed:

- Benefits: The Benefits components will be assessed by considering the time-shifted dispatch of the Associated Project.
- Net CISA Cost: The Net CISA Cost component considers the dispatch and DWAP of the generation Project only. The time-shifted dispatch and DWAP of the Associated Project are not considered.

6.3. Benefits of a Hybrid Project in MC5

An Assessed Hybrid Project may provide additional Renewable Energy Contribution and Wholesale Market Benefits compared to a Generation Project by shifting generation to times of tight supply demand balance and high prices. For example, a solar and storage hybrid may allow for less congested renewable energy contribution, and allows price suppression at times when solar is not generating and prices are generally higher. An Assessed Hybrid Project may be able to provide greater system reliability and other system benefits.

[3] See the Tender Guidelines for information on Hybrid Projects

Appendix 1 – Definitions

Term	Definition
Annual Payment Cap	Maximum support amount provided to, or revenue sharing provided by, the Project Operator over a financial year
Annual Revenue Ceiling	Maximum Net Operational Revenue before CISA revenue sharing is required by the Project Operator
Annual Revenue Floor	Minimum Net Operational Revenue before no CISA support payment is made to the Project Operator
Access Right	South West or Central West Orana Renewable Energy Zone Access Right
Assessed Hybrid Project	Has the meaning given to it in Tender Guidelines
Asset Life	Operational guarantee life of the Project facility
Associated Project	Has the meaning given to it in Tender Guidelines
Benefit-Cost Ratio	Wholesale Market Benefit per dollar of Net CISA Cost
Benefits	Include Renewable Energy Contribution, Wholesale Market Benefit and Contribution to Reliability
Bid	The documentation submitted by a Proponent in relation to the Project in response to Stage B – Financial Value Bid of the Tender (including any Default Financial Value Bid and Alternative Financial Value Bid), including, Returnable Schedules, together with any additional information submitted by the Proponent
Bid Variables	The Annual Revenue Floor, Annual Revenue Ceiling, COD and Support Years to be nominated by a Proponent in their Bid for a CISA
CIS	Capacity Investment Scheme
CISA	Capacity Investment Scheme Agreement
COD	Date at which the Project facility achieves Commercial Operation (with conditions outlined in the long-form contract)
Commonwealth	The Australian Government (Commonwealth of Australia) represented by DCCEEW
Contribution to Reliability	Forecast of a Project's potential contribution to reduce modelled unserved energy as existing generators are retired
DCCEEW	Department of Climate Change, Energy, the Environment and Water
Dispatch-Weighted Average Price or DWAP	The average wholesale electricity price received by a Project for its dispatch, calculated by dividing wholesale energy market revenue by the volume of energy dispatched across a given period
Energy Market Model	An energy market model is used to forecast each Project's impact on forecast power prices, and Project revenue
Financial Value Bid	The document submitted by a Proponent in relation to a Project, as described in Section 2.3 of the TGs comprising one or both, depending on the context, of: (a) a Default Financial Value Bid; and (b) an Alternative Financial Value Bid, including any Returnable Schedules, together with any additional information submitted by the Proponent
Financial Value Evaluation Framework (or 'Framework')	Framework to evaluate financial value
Financial Value Metrics	Metrics such as Scenario-Weighted Project Benefit, Scenario-Weighted Net CISA Cost, Reliability-Cost Ratio and BCR
Hybrid Project	Has the meaning given to it in Tender Guidelines
Maximum CISA Cost	Maximum CISA payments modelled under the agreement
NEM	National Electricity Market
Net CISA Cost	The net present value of forecast payments to and from the Australian Government under a CISA
Net Operational Revenue	All revenue that can be attributed to the Project facility. Estimated only as the sum of uncontracted spot market revenue and uncontracted green product revenue for MC5 modelling purposes
Policy Objectives	This refers to the CIS Policy Objectives outlined in the Tender Guidelines
Project	The project described in a Generation Project Bid or a Hybrid Project Bid
Project Operator	A Proponent that enters a CISA

Term	Definition
Project Parameters	Facility information sought from Proponents to support evaluation
Proponent	An entity that registers to participate in the Tender Process including those entities that submit, or intend to submit, a Project Bid or any Financial Value Bid
Reliability-Cost Ratio	Metrics which are used to represent the potential value or cost of a Project's modelled contribution to reliability
Renewable Energy Contribution-Cost Ratio (RECCR)	The Project's Renewable Energy Contribution divided by Scenario-Weighted Net CISA Cost. This aims to measure a Project's contribution to the CIS Policy Objective of 82% renewable energy by 2030
Scenario-Weighted	Indicates that the metric uses weighted outcomes from multiple scenarios
Support Period	The period commencing on the Support Period Start Date and ending on the Final Expiry Date
REZ	Renewable Energy Zone
Wholesale Market Benefit	Any forecast reduction in load cost (i.e. the cost of meeting demand) from the addition of the assessed Project against a counterfactual of load cost without the Project