



Australian Government

Department of Climate Change, Energy,  
the Environment and Water

# Capacity Investment Scheme

## Market Briefing Note

Guidance on evaluation of WEM Tender 2 Merit  
Criteria 4 – Financial Value and Capacity Credits

October 2024



# Introduction

This Market Briefing sets out information relating to the evaluation of Merit Criteria (MC) 4 – Financial Value and Capacity Credits in the Capacity Investment Scheme (CIS) Tender 2 – Wholesale Electricity Market (WEM) Dispatchable Capacity.

The description of MC4 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.

## What you need to know when preparing your Financial Value Bid (Bid)

MC4 is assessed as part of the Financial Value Bid Stage. MC4 seeks to evaluate the financial value of a Project and Bid, and the ability of the Project to receive Capacity Credits under the Reserve Capacity Mechanism (RCM) as a measure of its contribution to system reliability and benefits.

Financial Value will be evaluated in terms of the ability of a Project to provide:

- System Benefits: which will be considered through the Project's ability to receive Capacity Credits in relation to its Peak Certified Reserve Capacity. As such, the WEM Dispatchable CIS Agreement (CISA) will be paid on a \$/MW per Capacity Credit basis;
- Market Benefits: by reducing market costs in the WEM; and
- Low Net CISA Cost: by having a low net cost to the Commonwealth Government for its CISA.

To score favourably in MC4, a Project is expected to be assessed to achieve high Systems Benefits and Market Benefits, and a competitively low Net CISA Cost.

Proponents must submit details of their Project and their nominated Annual Floor, Annual Ceiling, Annual Payment Cap, Commercial Operations Target Date (COD Target Date), Final Support Commencement Date and Final Support End Date (collectively, the "Bid Variables") in the MC4 Returnable Schedule for assessment.

Project parameters which affect Market Benefits and System Benefits are already committed to under Stage A (e.g. technology type, duration). The focus in bidding for Stage B should be on providing a Dispatchable CISA that is assessed to have a competitively low Net CISA Cost. All else being equal, a lower Annual Floor and Annual Payment Cap will be assessed as more competitive.

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

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## 1.0 Purpose of this document

This Market Briefing has been prepared to provide information to Proponents in the CIS Tender 2 about how their Projects may be assessed in MC4 – Financial Value and Capacity Credits. By sharing this information, AEMO intends to help Proponents prepare competitive Financial Value Bids.

This Market Briefing provides an overview of the factors that are expected to be considered in MC4's assessment of Market Benefits, System Benefits and forecast Net CISA Cost.

These components may vary for each Project depending on several factors including the Project technology's characteristics and network location, and on how the proposed CISA's Bid Variables are set.

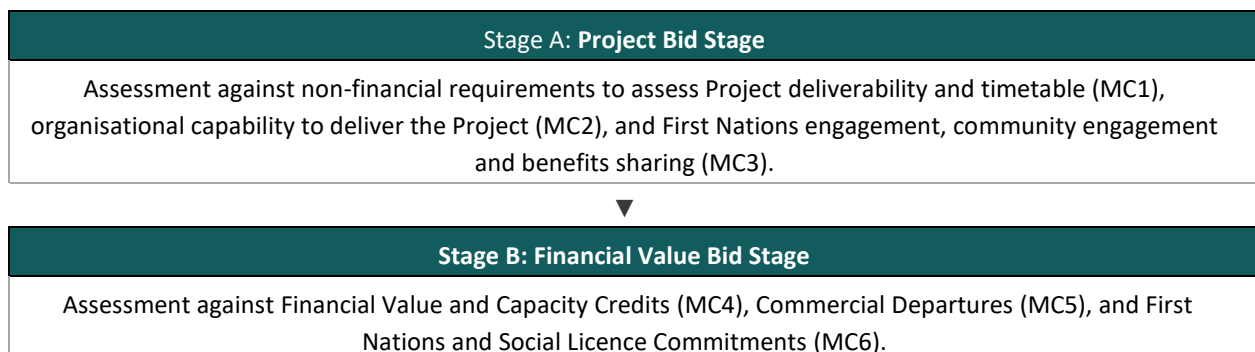
In this Market Briefing:

- Section 2.0 summarises the staging of assessment against the 6 Merit Criteria.
- Section 3.0 provides an overview of the MC4 assessment approach.
- Section 4.0 provides more information on System Benefits, Market Benefits and Net CISA Cost.

Capitalised terms in this document have the meaning given in the Tender Guidelines, CISA or in the glossary to this Market Briefing.

## 2.0 Tender Guidelines

[Tender Guidelines](#) are the single source of information for Proponents seeking to understand how AEMO will assess Bids in the CIS Tender 2. AEMO intends to assess bids against the six Merit Criteria in the Tender Guidelines under a two-step process, as summarised below.



Projects that progress to the Financial Value Bid stage will be assessed against MC4 to MC6. Following the assessment, Financial Value Bids will be given a weighted score and ranked. The Financial Value Shortlist will be developed considering this list.

## 3.0 MC4 overview for CIS Tender 2

### 3.1. Objectives

The objectives for the CIS are:

- to encourage new investment in renewable and clean dispatchable capacity to support delivering 32 GW of new capacity by 2030;
- to support electricity generation growth and reliability in Australia’s rapidly changing electricity markets; and
- to support the delivery of the Commonwealth Government’s target of achieving 82% renewable electricity by 2030.

These policy objectives have been considered in the design of the MC4 assessment approach which seeks to reward:

- Projects and Bids based on their potential to contribute to the CIS policy objectives; and
- Bids showing competitive bidding behaviour with low Annual Floor, low Annual Ceiling, and low Annual Payment Cap.

### 3.2. Components

The MC4 assessment considers three key components. These are System Benefits, Market Benefits and Net CISA Cost. The components are quantified for each Bid and inform assessment. A summary is provided in the table below.

**Table 1: MC4 Components**

Component	Description
System Benefits	<ul style="list-style-type: none"> <li>• Involves a Network Access Quantity (NAQ) assessment including assessing the Project’s Peak Certified Reserve Capacity and ability to receive Capacity Credits under the Reserve Capacity Mechanism (RCM).</li> <li>• Analysis will consider a Project’s location and Project parameters.</li> </ul>
Market Benefits	<ul style="list-style-type: none"> <li>• Forecasts the reduced wholesale market costs of adding the Project to WEM markets, which may include a potential reduction to the Real Time Market (RTM) prices and Reserve Capacity Price.</li> <li>• This is modelled across several electricity price scenarios.</li> <li>• Analysis will consider the Project parameters and modelled operation in the energy market.</li> </ul>
Net CISA Cost	<ul style="list-style-type: none"> <li>• The net present value of forecast payments to and from the Australian Government under a Dispatchable CISA.</li> <li>• Considers the Bid Variables of a Dispatchable CISA and forecast of each Project’s Net Operational Revenue (NOR) under a range of scenarios.</li> <li>• A Project’s NOR may include forecasts of revenues across RTM, RCM and Essential System Services (ESS).</li> </ul>

### 3.3. Scenarios

Assessment will consider a range of electricity market scenarios to test Bids for their ability to demonstrate value across a range of future market outcomes. Scenarios will be developed to represent a range of theoretical future market conditions.

Considering multiple scenarios provides more robustness to assessment and ensures that the evaluation has considered a range of plausible outcomes. High merit Bids should demonstrate value across a range of future energy market scenarios. Lower merit Bids may only demonstrate value in a specific scenario.

Input assumptions for the scenarios may differ by:

- **Market developments:** Future electricity market prices are uncertain due to rapid reform and growth in the WEM. In previous tenders run by AEMO Services, multiple scenarios have been modelled to consider a range of possible future price outcomes. Section 3.3.1 provides further detail on the assumptions of potential market developments.
- **Weather reference years:** 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 weather patterns of a particular year and their effect on the operation of dispatchable Projects.

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

### 3.3.1. Market developments

Scenarios may differ across several input assumptions but in general they reflect different paces to the energy transition. Scenarios developed for this Tender could be variations of:

- **On Target:** A balanced view with inputs predominantly aligned with assumptions in the latest WEM Electricity Statement of Opportunities published by AEMO. In this scenario, there is a faster pace to the transition which may be reflected in earlier thermal retirements, timely network augmentations and a faster build of new renewables and clean dispatchable capacity which meets policy targets on-time in accordance with Commonwealth Government targets. This scenario is expected to have higher Net CISA Cost.
- **Investor View:** A private-investor view of potential future energy market outcomes which may involve a slower pace of energy transition. This could include changes to coal retirement dates compared with the other scenario, delayed delivery of network augmentations and a slower build of new renewables and clean dispatchable capacity which represent a delay to meeting policy targets. This scenario is expected to have lower Net CISA Cost.

### 3.4. Scoring Metrics

Scoring Metrics translate the analysis from MC4 into information that can be used for making recommendations regarding Bids. The MC4 assessment is intended to result in higher MC4 scores for Bids which perform well against the metrics listed in Table 2 below.

**Table 2: Scoring Metrics**

Scoring Metrics	Unit	Calculation	Direction of preference
<b>Components</b>			
<b>System Benefits</b>	MW	Reflected through assessment of a Project’s Peak Certified Reserve Capacity and potential Capacity Credits.	Higher value is preferred, all else being equal
<b>Market Benefits</b>	\$, net present value	Reduction in WEM market costs, weighted across several electricity market scenarios.	Higher value is preferred, all else being equal

Scoring Metrics	Unit	Calculation	Direction of preference
Net CISA Cost	\$, net present value	The net present value of forecast payments from the Commonwealth Government under a CISA, weighted across electricity market scenarios.	Lower value is preferred, all else being equal
Maximum Liability	\$, undiscounted	Total potential CISA cost calculated by assuming the Project is paid the Annual Payment Cap for all relevant periods of the CISA.	Lower value is preferred, all else being equal.
<b>Key metrics</b>			
System Benefit Ratio	Ratio	$\frac{\text{Potential Capacity Credits (MW)}}{\text{Peak Certified Reserve Capacity (MW)}}$	Higher value is preferred, all else being equal
Market Benefit to Cost Ratio (BCR)	Ratio	$\text{BCR} = \frac{\text{Market Benefits (\$)}}{\text{Net CISA Cost (\$)}}$	Higher value is preferred, all else being equal

Further Scoring Metrics or a combination of the metrics above may be considered in scoring where they are developed to assess the cost, financial risks and benefits of Bids including for their ability to meet policy objectives. These may be less aggregated, e.g. per scenario, or scenario-weighted, use sensitivities (such as discount rates) and may be based on one or several of the components identified.

## 4.0 Description of Components

This section provides further detail on each component of System Benefit, Market Benefit and Net CISA Cost. The structure is intended to provide an overview of the intent of the component, detail on the method of calculation of that component, and an indication of how Project parameters and Bid Variables in the CISA can affect the component.

Section continues in the next page.

## 4.1. System Benefits

A key policy objective of the CIS is to support system reliability. The impact that a Project has on system reliability is considered in MC4 through an assessment of the ability of the Project to receive Capacity Credits.

The NAQ is a metric, measured in megawatts, that is calculated for a Project and indicates the ability of the Project to dispatch up to its Certified Reserve Capacity during peak times, or other times of low reserve. Assignment of a NAQ to a facility qualifies the facility to receive Capacity Credits.

Assessing a Project's ability to be awarded Capacity Credits is intended to reflect the Project's contribution to system reliability.

### 4.1.1. Calculating System Benefits

The System Benefit Metric is a metric that will be calculated as a ratio of the potential Capacity Credits that may be awarded to a Project, divided by its Peak Certified Reserve Capacity. This metric is designed to preference Projects for their potential to receive a high proportion of Capacity Credits relative to the Project's Peak Certified Reserve Capacity.

Modelling will be undertaken to calculate potential NAQ and Capacity Credit outcomes for the 2025 RCM cycle (focused on the 2027-28 forecast year). This analysis will be supported by the outcomes of the 2024 RCM cycle and will make assumptions around consistent priority order and entry timing for all Projects for the purposes of the calculation. Moreover, Projects will be assumed to bid for floating prices in the RCM.

## 4.2. Market Benefits

Electricity market modelling is performed to forecast market costs with and without each Project. Projects will be assessed to provide Market Benefits if the addition of the Project to the market is forecast to reduce market costs, improve supply adequacy, and reduce potential curtailment in electricity market modelling.

A series of Project-specific electricity market model runs are produced with the Project being added to a counterfactual Energy Market Model which had not included that Project. Any reduction in market costs in the Project-specific modelling when compared with the counterfactual is attributed as a Market Benefit of the Project.

Energy modelling considers the Project's parameters to develop specific modelled operating profiles for each Project across scenarios. For Hybrid Projects, which are defined in the Tender Guidelines as co-located generation and Electric Storage Resource assets, the additional energy supplied to the market by the generation component of the project may be recognised in Market Benefits.

### 4.2.1. Calculating Market Benefits

Projects entering the market through a CISA are expected to put downward pressure on prices. Modelling considers the impact of Projects on Real Time Market prices and Reserve Capacity Prices as benefits may not be limited to applying to only one of the markets.

Formulaically, Market Benefits may be represented as below:

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

for the WEM, 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 cost of supplying loads in the WEM in a scenario before the addition of the Project being assessed.
- $ALC'$  is the annual cost of supplying loads in the WEM in a scenario following the addition of the Project being assessed.

### 4.3. Net CISA Cost

Competitive projects are expected to have a low Net CISA Cost relative to less competitive projects. Net CISA Costs are a function of the Project's NOR and Bid Variables, and hence the Project's revenues must be forecast to inform the calculation of Net CISA Cost.

#### 4.3.1. Forecasting Net Operational Revenue (NOR)

In the Project-specific Energy Market Model, each Project has a forecast of its NOR considering the Project's parameters. Revenues are Project and scenario-specific and will take on a range of values.

NOR is estimated by the sum of forecast merchant revenues of the dispatchable Project:

- revenues in the Real Time Market;
- revenues in the Reserve Capacity Mechanism; and
- revenues from providing Essential System Services.

#### 4.3.2. Calculation of Net CISA Cost

The Net CISA Cost is the net present value of forecast annual CISA cashflows across the Bid's Support Period that may occur between the Australian Government and the Proponent for a Project. Formulaically, the annual CISA cash flows may be represented as below<sup>1</sup>.

$$Annual\ CISA\ Cashflows = \begin{cases} SP, & \text{if } NOR_{year} < AF \times CC \\ 0, & \text{if } AF \times CC \leq NOR_{year} \leq AC \times CC \\ -RS, & \text{if } NOR_{year} > AC \times CC \end{cases}$$

$$SP = \text{minimum}(90\% \times (AF \times CC - NOR), APC)$$

$$RS = \text{minimum}(50\% \times (NOR - AC \times CC), APC)$$

Where<sup>2</sup>:

- $CC$  is Peak Capacity Credits, in MW.
- $NOR$  is Net Operational Revenue, in \$.

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<sup>1</sup> Note the displayed formula is used for annual modelling in the MC4 assessment and may not directly match the contract. Please refer to the [CIS Agreement](#) for information on support payment calculations.

<sup>2</sup> For more information on terms please refer to the [CIS Agreement](#).



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- $SP$  is the Annual Support Amount paid to the Project, in \$.
- $RS$  is the Annual Revenue Sharing Amount paid by the Project, in \$.
- $AC$  is the Annual Ceiling, in \$/MWcc.
- $AF$  is the Annual Floor, in \$/MWcc.
- $APC$  is the Annual Payment Cap, in \$.

## 5.0 Impact of parameters

The parameters of a Project and the Bid Variables of its CISA will have varying impacts on the MC4 evaluation. Furthermore, the flexibility of the 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. This section aims to provide visibility on how Project parameters and CISA Bid Variables may affect the MC4 assessment.

Table 3 below shows the expected impact of key project characteristics and Bid Variables in the MC4 evaluation, but is not an exhaustive list of Project parameters or Bid Variables.

**Table 3: Potential impact of key Project parameters and Bid Variables on MC4 assessment**

Parameter or Bid Variable	Key component impacted	Impact, all else being equal
Annual Floor	Net CISA Cost	A lower value puts downward pressure on Net CISA Cost as it lowers expected CISA support payments from the Australian Government to the Project. A lower Annual Floor will make a Project more competitive.
Annual Payment Cap	Net CISA Cost	A lower value reduces the maximum exposure of the Australian Government and puts downward pressure on costs provided costs are forecast to be paid from the Australian Government to the Project. A lower Annual Payment Cap will make a Project more competitive.
Annual Ceiling	Net CISA Cost	A lower value puts downward pressure on Net CISA Cost as it can increase expected CISA revenue sharing.
Connection Point	System Benefits, Market Benefits	A Project is expected to provide higher System Benefits and Market Benefits if it connects at a location with low network congestion and low likelihood of having its output constrained in different dispatch scenarios including during peak demand periods. It may also be better able to earn higher market revenues, therefore lowering Net CISA Cost.
CISA Support Years and Support Period	Net CISA Cost	Competitive projects may reduce their Net CISA Cost by bidding in a way that: <ul style="list-style-type: none"> <li>excludes periods of support when the Net CISA Cost would be high (e.g. revenues are low); and</li> </ul>

		<ul style="list-style-type: none"> <li>Includes periods of support when the Net CISA Cost would be low or involve revenue sharing (e.g. revenues are high).</li> </ul>
Commercial Operation Target Date	Market Benefits, Net CISA Cost	If there are fewer competing Projects in earlier years, there may be a greater opportunity to provide Market Benefits and earn higher revenues which may lower Net CISA Cost.
Hybrid Project	System Benefits, Market Benefits	<p>The Market Benefits may include the potential reduction in RTM costs that result from the generation in a Hybrid Project.</p> <p>The additional generation may increase assessed Market Benefits and could impact System Benefits.</p>
Operational Life	Market Benefits	Technologies with a longer asset life have a longer period to accrue Market Benefits.

## Appendix 1 – Definitions

Term	Definition
<b>AEMO</b>	Either or both of AEMO Limited and AEMO Services.
<b>AEMO Limited</b>	Australian Energy Market Operator Limited (ABN 94 072 010 327).
<b>AEMO Services</b>	AEMO Services Limited (ABN 59 651 198 364).
<b>Annual Ceiling</b>	Maximum Net Operational Revenue above which CISA revenue sharing is required by the Project Operator.
<b>Annual Floor</b>	Minimum Net Operational Revenue below which CISA support payment is made to the Project Operator.
<b>Annual Payment Cap</b>	Maximum support amount provided to, or revenue sharing provided by, the Project Operator over a financial year.
<b>Bid</b>	The documentation submitted by a Proponent in relation to the Project in response to Stage B – Financial Value Bid of Tender 2 (including any Default Financial Value Bid and Alternative Financial Value Bid), including, Returnable Schedules, together with any additional information submitted by the Proponent.
<b>Bid Variables</b>	Commercial terms of the Project Documents that may be altered by the Proponent in either the Default Financial Value Bid or Alternative Financial Value Bid. These include the Annual Floor, Annual Ceiling, Annual Payment Cap, COD and Support Years to be nominated by a Proponent in their Bid for a CISA.
<b>Capacity Credits</b>	Has the meaning given to the term Peak Capacity Credit (except in respect of any Capacity Credit awarded prior to the 2023 RCC) in the WEM Rules, being a notional unit of Peak Capacity provided by a Facility or Separately Certified Component during a Capacity Year in respect of a Reserve Capacity Cycle. Each Peak Capacity Credit is equivalent to 1 MW of Peak Capacity. Peak Capacity Credits are held by the Market Participant registered in respect of the Facility or Separately Certified Component.
<b>CIS</b>	Capacity Investment Scheme.
<b>Commercial Operations Target Date or COD Target Date</b>	The date on which the COD Conditions in the Dispatchable CISA for the Project are either satisfied or waived by the Commonwealth.
<b>Dispatchable CISA</b>	Dispatchable Capacity Investment Scheme Agreement.
<b>Energy Market Model</b>	The model used to forecast each Project's impact on forecast power prices, and Project revenue.
<b>Financial Value Bid</b>	The document submitted by a Proponent in relation to a Project, as described in Section 2.3 of the Tender Guidelines comprising one or both, depending on the context, of: <ul style="list-style-type: none"> <li>(a) a Default Financial Value Bid; and</li> <li>(b) an Alternative Financial Value Bid,</li> </ul> including any Returnable Schedules, together with any additional information submitted by the Proponent.
<b>Hybrid Project</b>	Has the meaning given in the Dispatchable CISA, being a co-located generation and storage project including the Project, the Associated Project and the Shared Infrastructure.
<b>Market Benefits</b>	Forecast reduced wholesale market costs of adding the Project to WEM markets.
<b>Merit Criteria (or MC) Merit Criteria</b>	Merit Criteria set out in Section 3.2 of the Tender Guidelines.
<b>NAQ</b>	Network Access Quantity.
<b>Net CISA Cost</b>	The net present value of a Proponent's forecast payments from the Australian Government under a CISA.
<b>Net Operational Revenue or NOR</b>	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 MC4 modelling purposes.
<b>Peak Certified Reserve Capacity</b>	Adopts the meaning given in the WEM Rules, being, in respect of a Reserve Capacity Cycle, for a Facility or a Separately Certified Component, the quantity of Peak Capacity that AEMO has assigned to the Facility for the Reserve Capacity Cycle in accordance with Section 4.11 of the Tender Guidelines, as adjusted under the WEM Rules including clause 4.14.8.
<b>Policy Objectives</b>	This refers to the CIS Policy Objectives outlined in the Tender Guidelines.
<b>Project</b>	A physical electricity generation or storage facility built, or intended to be built, in connection with which a Dispatchable CISA is sought, including any proposed supporting network remediation and connection assets.

Term	Definition
	<ul style="list-style-type: none"> <li>Proponents may only register and submit one bid per Project. If a Project has multiple potential configurations or designs, it is a matter for the Proponent to select their preferred configuration prior to submitting a Project Bid. Proponents may only submit one Project Bid per Project which is unique and mutually exclusive.</li> </ul>
<b>Project Operator</b>	A Proponent that enters a CISA with the Australian Government.
<b>Project Parameters</b>	Facility information sought from Proponents to support evaluation.
<b>Proponent</b>	An entity that registers to participate in the Tender Process for the award of Project Documents including an entity that submits or intends to submit a Project Bid or any Financial Value Bid and also including a shortlisted Proponent or Successful Proponent.
<b>RTM</b>	Real Time Market.
<b>Reserve Capacity Mechanism or RCM</b>	Reserve Capacity Mechanism, being a mechanism to ensure that there is sufficient generation capacity in the SWIS.
<b>Scenario-Weighted</b>	Indicates that the metric uses weighted outcomes from multiple scenarios.
<b>Scoring Metrics</b>	Metrics such as Scenario-Weighted System Benefits, Scenario-Weighted Market Benefits, Net CISA Cost, System Benefit Ratio and Market Benefit to Cost Ratio (BCR).
<b>Support Period</b>	The period commencing on the Support Start Date and ending on the Final Support End Date, as defined in the dispatchable CISA.
<b>System Benefits</b>	Reflected through a Project's ability to gain Capacity Credits.
<b>Tender Guidelines</b>	Capacity Investment Scheme Tender 2: Wholesale Electricity Market Dispatchable Capacity Tender Guidelines, including its schedules, attachments, appendices and any Addenda and the Tender Conditions.
<b>WEM</b>	Wholesale Electricity Market.

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