



Australian Government

**Department of Climate Change, Energy,
the Environment and Water**

Capacity Investment Scheme

Public Consultation Paper

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Any transaction implemented under the CIS will have its own terms set out in relevant disclosure and process documents. The reader should make their own inquiries of all relevant information and take necessary legal and other professional advice, before taking any action.

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1. Introduction

1.1. Background

On 8 December 2022, Commonwealth, state and territory ministers provided unanimous endorsement for the design principles of the Capacity Investment Scheme (CIS) as a priority reform to support reliability under the National Energy Transformation Partnership (NETP).

The objective of the CIS is to encourage new investment in clean dispatchable capacity, support reliability, and reduce the risk of price shocks in Australia’s rapidly changing energy market. The CIS expects to bring forward at least \$10 billion of new investment and 6GW of clean dispatchable capacity by 2030. The 6GW figure is based on the Australian Energy Market Operator (AEMO) modelling from the ISP *Step Change* Scenario, as well as publicly available system plans for other electricity grids.

The CIS is a Commonwealth scheme available to all jurisdictions nationally and will involve a series of competitive tenders seeking bids for clean renewable generation and storage projects to fill expected reliability gaps. Projects selected through tenders will be offered long-term Commonwealth underwriting agreements for an agreed revenue ‘floor’ and ‘ceiling’.

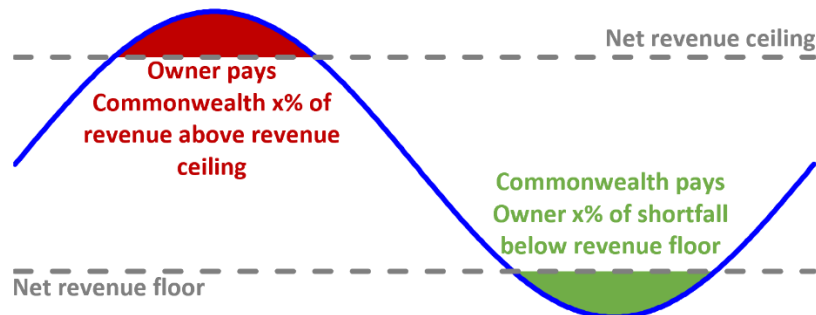


Figure 1 Revenue Underwriting Design Instrument. Projects under CIS contracts will have a revenue floor and ceiling agreed with the Commonwealth. If revenue earned by a project exceeds the net revenue ceiling, the owner pays the Commonwealth an agreed percentage of revenue above revenue ceiling. The Commonwealth would pay the project when revenue is below the revenue floor, but not below zero.

CIS tenders are expected to be progressively rolled out from 2023 through to 2027 to meet reliability needs between FY26 and FY2030. Further details on the national roll out of the scheme will be outlined by the end of 2023. Following a review, the Commonwealth will reconsider the need for the CIS tenders after 2027 as part of the broader consideration of the long-term national energy market framework.

As per the [8 December Energy Minister Meeting Communique](#), eligible projects will include those that achieve financial close from 8 December 2022 onwards. Projects that have achieved financial close before 8 December 2022 will be ineligible. Both publicly and privately owned utility scale projects will be eligible.



The rationale for this approach is that the Department does not wish the timing of project development, financing and construction activities to artificially concentrate around CIS tenders. This can cause unnecessary cyclical activity in project development and price volatility in supply chains. Further, under the proposed approach, projects that can construct and operate can progress as quickly as possible while maintaining their eligibility for future CIS tenders.

The first phase of the CIS is proposed to be delivered in 2023, and is expected to involve:

- **Partnership with NSW Electricity Infrastructure Roadmap** – Commonwealth support for up to 550MW of firmed capacity, in addition to 380 MW already committed by NSW. The partnership between NSW and the Commonwealth was announced on 29 June 2023: [Joint media release: Capacity Investment Scheme to power NSW with clean, cheap, reliable energy | Ministers \(dcceew.gov.au\)](#)
- **South Australia / Victoria tender** – Tender arrangements to be announced by October 2023.

1.2. Consultation process

The purpose of this consultation paper is to present the proposed approach and design of the CIS. The consultation is focussed on the national scheme design.

We are seeking feedback on this consultation paper. You can submit feedback through the Department's Consultation hub ([Have Your Say](#)).

Submit your feedback by 5:00pm AEST Thursday 31 August.

The Department will also conduct a series of on-line stakeholder forums in August. Details of these forums and consultation materials, including this paper, future papers, and any public responses to stakeholder questions, will be posted on the Department's Consultation hub ([Have Your Say](#)) and Capacity Investment Scheme webpage ([Capacity Investment Scheme | energy.gov.au](#)).

1.3. Context of the CIS

The Australian electricity sector is undergoing rapid transformation driven by the combined forces of decarbonisation in the face of climate change, ageing thermal generation plants and the rapid development of clean energy technologies.

Significant investment in new generation and storage capacity is required to secure a smooth transformation that ensures strong economic benefits to Australian households, businesses and communities.

The CIS supports new investment in capacity by providing a long-term revenue safety-net that decreases financial risks for investors. This aims to accelerate the development of new capacity to replace capacity that is forecast to exit the market in coming years, and meet growing demand.

The CIS is not intended to alter the operation of Australia's electricity systems or markets, but to bring forward investment and place downward pressure on electricity prices for consumers.

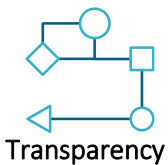



Delivering at least 6 GW of clean dispatchable capacity by 2030 will make a significant contribution to support grid reliability and encourage the further development of renewables.



1.4. The objectives of the CIS

The objective of the CIS is to encourage new investment in clean dispatchable capacity to support reliability and reduce market volatility in Australia’s rapidly changing energy market.

The key features of the CIS implementation will include:

Key features of the CIS:	
 Transparency	<p>Long-term forecasting of the required generation and storage buildout in each Australian jurisdiction, which provides an objective method for establishing capacity requirements to support system reliability, targets for tenders, and a stable environment for investors. Forecasting for the CIS will consider the pace of power station exits, technology costs and adoption, transmission build-out, and behavioural changes in both industrial and household consumer demand.</p>
 Reliability	<p>Competitive tenders to meet capacity targets. The tenders will be predictable and will provide a competitive mechanism to select the lowest cost projects that best meet capacity and reliability requirements.</p>
 Stimulating investment	<p>Financial underwriting offered to projects selected by the tenders. The financial underwriting will provide long-term certainty for financiers and investors, and caps that allow upside profits to be shared with taxpayers.</p>
 Affordability	<p>Costs being borne by the Commonwealth, and which are therefore not passed on to electricity consumers, including households and industry.</p>

1.5. Complementarity with existing Australian electricity policies

The CIS seeks to ensure that new capacity enters Australian energy markets with limited to no impact on electricity market functions and associated rules, while supporting reliability and affordability. The CIS is intended to support and facilitate Australia’s existing suite of Commonwealth and jurisdictional energy policies and markets.

The CIS underwriting contracts will require successful projects to participate in Australia’s electricity markets, ensuring that they add new dispatchable generation and storage. There are likely to be minimal additional requirements imposed on CIS projects and these would be limited to emergencies such as Lack of Reserve (LOR) level 3 events.

Changes to the National Electricity Rules (NER) that happen over time will apply to CIS projects. For example, changes to the market price cap or access reform initiatives being contemplated by the



Australian Energy Market Commission (AEMC) will apply to projects supported by the CIS. Like all generators, CIS projects will remain subject to AEMO directions under the NER.

The CIS will work in unison with other Commonwealth, state and territory government policies and actions by business and communities to underpin Australia's transformation to net zero emissions by 2050 and 82 per cent renewable energy in the on-grid electricity sector by 2030. This includes integration with delivery of new transmission infrastructure, including through the Commonwealth's \$20 billion Rewiring the Nation program.

Certain states and territories have existing schemes in place, and the CIS product and tender process may need to be adapted to ensure that the CIS is consistent with those schemes. For example:

- in Western Australia, CIS projects may be required to be eligible for and participate in the Reserve Capacity Mechanism.
- In NSW, the CIS will be integrated with the Electricity Infrastructure Roadmap.
- Renewable energy zones (REZs) identified in particular states and territories.

The CIS, aims to complement the current reliability framework and support the entry of new investments during a period of rapid transformation.¹

Lastly, the CIS commercial design is intended to support rather than constrain the operation of the electricity wholesale contracts markets. Traditional contract for difference contracting models used in overseas markets, or contracts with highly prescriptive performance requirements, remove capacity from the wholesale contracts market. This can undermine electricity customer outcomes by removing the ability for retailers and other wholesale market participants to undertake risk management activities. The receipt of financial support through CIS underwriting will not constrain participation in the contracts market.

Consultation questions:

- The Department is seeking feedback on what other implications the CIS might have on the energy market, and how the CIS can be designed to mitigate risks while delivering on key policy objectives.
- The Department is seeking feedback on WA implementation of the CIS, including interaction with the existing Reserve Capacity Mechanism. This will be further canvassed in a WA-specific consultation paper.

¹ AEMC, *Amendment of the market price cap, cumulative price threshold and administered price cap rule change, consultation paper*, pg 16. Found [here](#).



2. Jurisdictional specific implementation

The CIS will complement and work alongside existing state and territory schemes to help deliver the national energy transformation. To ensure market confidence is maintained and avoid duplication, CIS tenders will be integrated with existing state and territory schemes where such schemes exist.

2.1. Implementation of the CIS in New South Wales

The NSW Government is implementing the NSW Electricity Infrastructure Roadmap, and elements of this policy overlap with the objectives of the CIS. The CIS will be implemented in NSW in collaboration with the NSW Electricity Infrastructure Roadmap, and this collaboration is expected to include:

- the tenders run in NSW will be run by AEMO Services Limited acting as the NSW Consumer Trustee and selected projects will be offered financial underwriting in the form of long term energy service agreements (LTESA);
- CIS funds may be contributed to support projects selected in NSW tenders, where these projects meet the eligibility requirements of the CIS;

On 29 June 2023, Minister Bowen and NSW Minister Penny Sharpe announced the Capacity Investment Scheme will expand the NSW Energy Infrastructure Roadmap's firming tender up to an additional 550 MW, more than doubling the 380 MW of firmed capacity already committed by New South Wales. This will deliver almost 1 GW of dispatchable capacity to eliminate the forecast shortfall in 2028/29 flagged by the AEMO. Only zero-emissions technology projects will receive Commonwealth support through the expanded firming tender.

Any additional funds allocated to NSW capacity under the CIS will be allocated using the methodology set out in Section 3.

2.2. Implementation of the CIS in Western Australia

The Wholesale Electricity Market (WEM) has specific features² that will be reflected in the implementation of CIS in Western Australia, and which will be the subject of targeted upcoming consultation. The design for the WEM comprises a wholesale electricity trading component and a capacity component. The capacity component of the WEM is implemented via the Reserve Capacity Mechanism, which is a capacity credit scheme placing requirements on retailers (or Market Customers) to cover their individual capacity requirements.

As the administrator of the Reserve Capacity Mechanism, AEMO assesses applications for the provision of reserve capacity into the WEM via the Reserve Capacity Mechanism, run annually for the Reserve Capacity Year two years ahead. Detailed reserve capacity assessments are undertaken annually which leads to assigned and tradable capacity credits which can be traded bi-laterally or dispersed into the market via AEMO at an administered reserve capacity price. The reserve capacity price is determined by a benchmark reserve capacity price (calculated annually), a reserve capacity target (set by a forecast peak demand and contingency elements) for the specific capacity year, and the final quantity of certified Reserve capacity that has been assigned capacity credits.

Implementation of the CIS in WA will be undertaken in consultation with AEMO (WEM market operator) and the WA Government.

²See the WEM design summary [wem-design-summary-v1-4-24-october-2012.pdf \(aemo.com.au\)](https://www.aemo.com.au/wem-design-summary-v1-4-24-october-2012.pdf)



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It is expected that CIS contracts issued in WA will be adapted to complement the existing Reserve Capacity Mechanism, for example, by supporting the entry of new, zero emissions plant which can participate in the Reserve Capacity Mechanism.

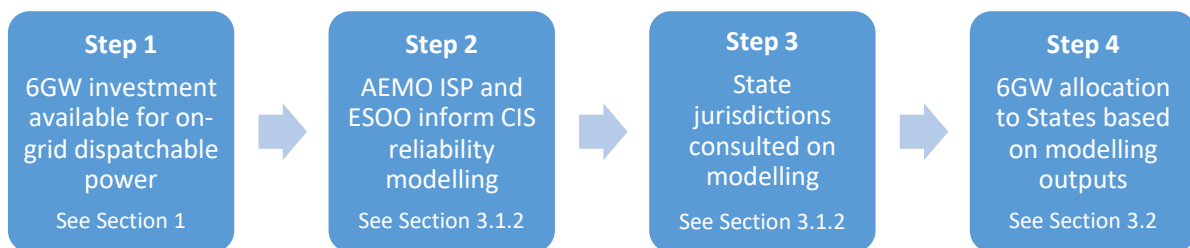


3. Core design elements and delivery stages

3.1. Setting the CIS contribution to reliability

The CIS aims to make a meaningful contribution to forecast reliability needs in Australian electricity grids. To deliver reliability improvements, the CIS builds upon the mechanisms in Australia’s competitive and observable electricity wholesale markets. For the purposes of the CIS, Australian electricity markets refer to the National Electricity Market (NEM) and the Western Australian, Wholesale Electricity Market (WEM) for the South-West Interconnected System (SWIS). Options are also being explored to support capacity in the Darwin-Katherine Electricity System (DKIS) through the CIS. The CIS will not operate in off-grid electricity grids or small stand-alone electricity networks without established competitive and observable wholesale electricity markets.

A reliability target will be developed to guide the location of the 6GW of dispatchable capacity being financed through the CIS across jurisdictions. This involves bespoke modelling leveraging a combination of analysis from the latest AEMO Integrated System Plan (ISP) and Electricity Statement of Opportunities (ESOO). See below Figure 1 outlining the process.



In setting overall and jurisdictional targets for electricity grids, the following principles will be applied:

- **Transparent:** Targets will be set based on publicly available forecasts, with jurisdictions to be consulted on assumptions and methodology.
- **Aligned to reliability needs:** The targets will be set to align with reliability needs of each jurisdiction.
- **Affordable:** The targets will be set to incentivise least cost/highest value provision of capacity to deliver affordability outcomes for customers.
- **Fair and objective:** The targets will be set based on modelled system needs, independent of existing or announced state and territory targets, initiatives, or funding programs for new capacity.
- **Clean technology agnostic:** The targets will be set to recognise the contribution to reliability of a broad range of zero emission technologies, consistent with the Government’s target of an 82% on-grid renewable energy system.
- **Capped:** While aligning to reliability needs, the targets will be set with reference to financial budget caps rather than a specific reliability standard. The budget cap for 2030 has been set based on enabling 6GW of capacity in medium storage equivalents across Australia’s electricity grids.

3.1.1. Defining the reliability target

Reliability targets will be set consistent with forecasts of the total quantum of capacity required to be built in each jurisdiction between FY26 and FY2030 to meet overall reliability needs, to the extent



achievable under financial budget caps. The reliability targets are expected to be expressed in terms of capacity (MW), medium storage (4 hour) equivalents.

It is expected that the tender process will then determine the total rated capacity to be attributed to individual projects to assess their contribution to the reliability target based on both location and technology type. Further information on this process is set out below in Section 3.1.3.

The reliability targets would be expressed as targeted commissioning or entry dates for projects (“build” targets) and converted to specific tender targets in each jurisdiction (i.e. “buy” targets) reflecting lead times between tender award and project operation.

The reliability targets and tender targets would be updated on an annual basis to reflect latest assumptions and changes in market and regulatory settings.

3.1.2. Modelling system needs and reliability targets

The CIS is expected to bring forward at least \$10 billion of new investment and 6 GW of clean dispatchable capacity by 2030. Tenders for this capacity will be progressively rolled out from 2023. The 6GW figure is based on AEMO modelling from the ISP *Step Change Scenario*, as well as publicly available system plans for other electricity grids.

Forecasts underpinning reliability targets will be derived from modelling of the total dispatchable and non-dispatchable capacity required in each year to maintain reliability needs, in total and for each jurisdiction, and converted to capacity (MW) in medium storage equivalents. The conversion ensures that the target is expressed in a technology agnostic way.

The total capacity requirement forecast for 2030 for Australia’s electricity grids will be compared against the 6GW cap (in medium storage equivalents) for 2030 already identified by the Commonwealth. The 6GW is likely to represent a substantial contribution to the overall capacity requirement but is not intended to be sufficient to meet 100% of Australia’s need for both dispatchable and non-dispatchable (e.g. VRE) capacity. Substantial volumes of dispatchable and non-dispatchable capacity are also expected to be built outside of the CIS, including by investors responding to market price signals and potentially through state and territory government support in each jurisdiction (e.g. NSW Electricity Infrastructure Roadmap, WA Reserve Capacity Mechanism).

Where the CIS allocation of 6GW is not sufficient to meet the total capacity requirements identified by the model, the capacity volumes supported by the CIS for each jurisdiction for each year will be adjusted down from the total requirement in proportion to each jurisdiction’s requirement. This will occur in advance of announcing any tender and will be communicated clearly.

The CIS will be based on bespoke modelling that will extend existing analysis and reporting. AEMO prepares two key reports which use modelling to forecast the overall needs of the energy system to be considered in the setting of reliability targets:

- *AEMO’s Integrated System Plan (ISP)* – The ISP sets out a forecast of the long-term investment required in transmission, generation and storage capacity by technology type to deliver the needs of the NEM, consistent with Commonwealth, state and territory policy, at least cost. The ISP provides forecasts under a range of scenarios including a “most likely” scenario determined through consultation. The ISP considers existing or legislated state targets, initiatives and funding programs for new capacity as well as announced and modelled



retirement dates for existing coal and gas plants. The ISP does not include forecasts for Australia's other electricity grids, although somewhat similar forecasts are available for the SWIS.³

- *AEMO's Electricity Statement of Opportunities (ESOO)* – The ESOO sets out the forecast gap in capacity in each jurisdiction to meet both the reliability standard (0.002% of USE) and the Interim Reliability Measure (0.0006% of USE), over a 10-year period. The ESOO is based on projects having reached a certain stage in their development and on legislated jurisdictional policies and announced generator retirement dates. The ESOO is undertaken for the NEM and SWIS^{4,5} but does not apply to the DKIS. The ESOO identifies where investment needs exist based on retirements as advised by participants, but does not model or specify the lowest cost technology or location mix that could be used to resolve identified reliability risks.

A combination of analysis from the ISP and ESOO will be leveraged to achieve the CIS objectives. An ISP type approach is most suitable for assessing and allocating the cap, while alignment with capacity gaps identified in the ESOO may be used as a confirmatory step. Consultations with state and territory governments, including jurisdictional reliability modelling, will also inform reliability targets.

As the reliability targets are updated over time, the Commonwealth will request that AEMO undertake separate ISP style modelling for a CIS specific scenario which identifies economically efficient trajectories to achieving national targets for renewable energy and emissions reductions and adopts modelled rather than announced dates for coal and gas retirements. The CIS scenario may also consider Australia's other electricity grids. The assumptions and methodology adopted for the CIS scenario will be consulted on with jurisdictions and the final modelling outcomes made publicly available.

3.1.3. Converting capacity forecasts into medium storage equivalent capacity

The reliability targets will initially be expressed in MW medium storage equivalents, but this may be adapted over time as modelling methodologies improve. A medium storage equivalent metric is a better measure of reliability compared to rated capacity as it reflects the actual reliability need and means the target can be set without assuming an underlying technology mix. Some technology types will have a reduced contribution to reliability on a per MW basis when compared to medium storage batteries (e.g short duration batteries) and some technologies will have a higher contribution (e.g long duration storage).

The capacity forecasts derived from ISP style modelling are expressed in MW of rated capacity for each technology type. For the purposes of allocating the 6GW (in medium storage equivalents) cap to jurisdictions, the ISP forecasts will be converted into MW of medium storage equivalents using derating factors. The derating factors will be based on an assessment of the contribution of each technology to demand during low probability (1 in 10 year) unserved energy events. The derating factors for the purposes of setting targets will not consider network constraints. Any derating factors for the purposes of the assessment of individual projects in the tender process will consider the impact of location and network constraints.

³ See the [Darwin-Katherine Electricity System Plan](#) and the [Western Australia Whole of System Plan](#).

⁴ See [NEM ESOO](#) and [WEM ESOO](#).

⁵ The WEM ESOO is a key input in the WA Reserve Capacity Mechanism. The Planning Criterion in the SWIS requires that there must be sufficient capacity to meet the forecast 10% probability of exceedance peak demand plus a reserve margin, and currently limits expected unserved energy to 0.002% of annual energy.



3.1.4. *Converting reliability targets into tender targets*

The reliability targets described above are targets representing the amount of capacity to be built in any one year. For the purposes of the CIS tenders the reliability targets will be adjusted to tender targets which reflect the capacity in MW medium storage equivalents to be awarded in any one tender. This will require additional assumptions including the average time between the award of the tender and project completion. Technologies will have different lead times, with short duration batteries having around a two-year lead time and pumped hydro projects having lead times of greater than five years.

Accordingly, the tender targets may be set based on a rolling forward annual average of capacity requirements for at least four years, such that FY24/25 tenders are based on the average annual capacity to be procured over the years between FY24/25 and FY28/29.

3.2. Jurisdictional CIS allocation

The Commonwealth expects to allocate a MW capacity and financial budget per tender in addition to the capacity per tender set through the modelling process described above. The MW budget per tender will be set based on a range of factors, including estimated cost per MW expected to be required to deliver the targeted capacity. Unit costs are expected to decrease over time as technology costs decline and learning rates reduce the cost of new capacity. The MW budget for tenders will be publicised as a broad range and specific details of the capacity budget and the financial budget will be kept confidential to not undermine outcomes of the competitive tender process.

In some circumstances, the budget allocated to a tender may be insufficient to deliver the targeted capacity for the tender. This could be a result of several factors including:

- a lack of competition or higher than forecast costs in a specific tender. For example, because of supply chain disruption;
- changes to technology cost, resulting in higher or lower per MW costs; and
- jurisdictional specific requirements that increase costs (e.g., local content requirements, planning requirements).

In this case the relevant tender will be constrained to ensure it remains within the allocated budget. Where the causes of cost shortfall are outside of the control of the relevant jurisdiction, future revisions to tender budget allocation may be considered.

3.3. CIS tenders: minimum duration and evaluation of duration

AEMO's ISP identifies that the future power system will require a broad mix of zero-emissions technologies including VRE, demand response and storage to meet the reliability requirements. Each type of technology contributes to capacity, but has different attributes (e.g. duration, intermittency). Further, different technologies have different levels of delivery risk and complexity.

Three key design parameters that must be established for a CIS tender are:

- whether there is a minimum duration specified as a tender eligibility requirement. This is typically the minimum duration of output at a project's full capacity;



- how different technologies are compared in the tender evaluation. All durations can be compared in a tender. An effective tender evaluation should transparently attribute greater value to longer duration technologies that better contribute to reliability; and
- how these elements of CIS tenders should evolve over time as technologies and operating behaviours are better understood. For example, tender assessment methods can change to better reflect the contribution of shorter duration storage as evidence of operating patterns emerge. This could include derating factors like those used in overseas capacity tender. Further, minimum duration requirements in tenders could result in capacity being less flexible. For example, a 4 hour, 100MW hour battery energy storage system (BESS) has less operating flexibility compared to a 1 hour, 400MW BESS. These trade-offs will be better understood over time.

The next CIS tender is expected to commence in South Australia and Victoria in 2023. The tender is expected to include an eligibility requirement for projects to dispatch at a minimum duration of output at full capacity. As the duration requirement is set at a minimum threshold, longer duration storage projects could compete in the tender and the evaluation process attributes greater value to longer duration projects. This approach is similar to the NSW Firming and Long Duration Storage (LDS) Long-Term Energy Service Agreement (LTESA) tenders, which prescribe minimum durations of 2 hours and 8 hours respectively, with longer durations being attributed greater financial value.

Consultation questions:

- What minimum storage duration should be required for tender eligibility, to achieve CIS policy objectives?
- What methodology for modelling and measuring duration requirements for various technology durations would be appropriate?
- How could the CIS eligibility criteria and assessment methodology change and adapt over time?



4. CIS tender process and design

The CIS will establish robust, transparent processes and institutions to ensure market trust in the tender process. International precedent demonstrates that trust is critical to competition and the success of mechanisms like the CIS. As part of this governance and decision-making framework, it is currently expected that:

- the Commonwealth will set objectives, commercial in-confidence financial budgets and MW capacity targets for the CIS in each jurisdiction;
- AEMO will run competitive tenders in partnership with its subsidiary, AEMO Services, and these tenders will be run in accordance with tender guidelines; and
- AEMO will recommend projects for underwriting by the Commonwealth based on the tenders, and the Commonwealth makes final contracting decisions based on AEMO recommendations.

This section provides an overview of the expected key proponent and project eligibility criteria that potential tender proponents or projects will need to satisfy. The final eligibility criteria may vary for each tender, and within each State, and will be outlined in the CIS tender guidelines for the specific tender.⁶

The purpose of specifying eligibility criteria is to establish minimum standards for participating in a CIS tender. Eligibility criteria are intended to achieve consistency and transparency of decision-making and may save proponents money by clearly indicating when projects are sufficiently progressed to participate in a CIS tender.

Location and ownership

There will be a CIS tender in late 2023 open to projects located in Victoria or South Australia. A joint tender in Victoria and South Australia was identified as an early priority due to emerging reliability requirements and the highly interconnected nature of these regions.

CIS tenders may be for specific jurisdictions or could be conducted across multiple jurisdictions. Where multiple jurisdictions are participating, a minimum quota per jurisdiction for contracts may be outlined in the tender guidelines. For example, where a tender's eligibility is both South Australia and Victoria, the tender guidelines could specify that one-third of allocated capacity must be allocated to South Australia, one-third must be allocated to Victoria, and one-third could be allocated to either.

There will be distinct allocation thresholds of CIS funding for each jurisdiction. Allocations will be determined based on the reliability requirements of each jurisdiction. For further information on this process, see Section 3.2.

Both publicly and privately owned projects will be eligible for CIS tenders.

⁶ As noted in Section 2, CIS tenders will be integrated with existing state and territory schemes where such schemes exist, such as the NSW Electricity Infrastructure Roadmap. This may also result in jurisdiction-specific eligibility criteria. In these cases, any specific eligibility criteria will be outlined in the tender guidelines for that tender.



Technology contributing to zero emissions and reliability

Detailed eligibility requirements (or merit criteria) related to emissions will be provided for each tender round, however, it is expected that projects must:

- have a fuel source (e.g. hydrogen) or storage fuel source (e.g. BESS) that contributes to zero scope 1 emissions; or
- for storage projects only, be capable of charging only from the grid.

Dispatchable generation that is sourced from renewable energy fuel sources will be eligible. This includes projects that have dispatchable generation using wind, solar, hydrogen sourced from renewables, biomass and concentrated solar thermal.

Thermal generation such as coal and gas is not eligible for the CIS. Projects using fuel where coal or gas form a part of the blended fuel will also not be eligible.

Variable renewable energy projects that do not generate electricity that is dispatchable and/or comprise a storage component that would enable the electricity to be dispatchable will not be eligible for support under the CIS due to their limited contribution to system reliability.

Storage projects that are stand-alone or physically co-located with generation will be eligible for the CIS tenders. This may include expansion projects to existing storage or generation assets, or the addition of new storage or generation assets to existing shared infrastructure. Storage projects where the fuel source is the wholesale electricity market (i.e., the storage technology is only capable of charging from one of the Australian electricity grids) are considered as having a zero contribution to scope 1 emissions. This is consistent with precedent set in the net zero approach in international markets and the EII Regulation 2021 (NSW) that informs the NSW LTESA Firming Tender.

In some circumstances demand response projects can contribute to the objectives of the CIS and may be considered eligible in CIS tenders. For example, this could include participants in the NEM wholesale demand response market who can reduce demand for four hours or more.

By contrast, some demand response projects may not be consistent with the objectives of the CIS. For example, virtual power plants (VPPs) that are used by electricity retailers to manage short-term price volatility within a trading portfolio. These VPPs can be valuable in an electricity market but are not a source of system reliability. Further, some forms of demand response which support reliability are captured under existing mechanisms such as AEMO's Reliability and Emergency Reserve Trader (RERT).

Because different types of demand response make different contributions to reliability, eligibility in future CIS tenders may depend upon demand response projects meeting certain requirements to facilitate a contribution to reliability. For example, registration as a Demand Response Service Provider on the NEM and being capable of meeting medium storage duration requirements.

Consultation questions:

- What methodology for considering a project's contribution to zero scope 1 emissions would be appropriate?
- How could this criteria and assessment methodology adapt as technology matures over time?
- What types of demand response would be consistent or inconsistent with the CIS objectives?
- How can the CIS design be future-proofed for an evolving/changing technology mix?



Registration with AEMO & minimum size

Projects must be registered with AEMO and intending to participate in the central dispatch mechanism used in the relevant Australian electricity grid. The requirement to participate in central dispatch ensures that projects supported by the CIS support reliability and affordability for consumers. It is expected that the tender guidelines will outline further requirements on the form of AEMO registration required.

It is expected that all projects (in the NEM) must have an AEMO registered capacity of equal to or greater than 30MW. This threshold is expected to be lower for the projects in the WEM. This will balance the costs of participating in the tender, the costs and complexity of evaluating projects, and ensuring that projects supported through the CIS make a contribution to reliability that can be evidenced through market modelling.

Consultation questions:

- The Department is seeking feedback on the eligibility requirement of projects in the NEM for equal to or greater than 30MW registered capacity.

Expected development status of land tenure, planning and connection approvals

It is expected that the eligibility requirements in each State will include specific baseline eligibility requirements related to the progress of the projects including:

- Land tenure – projects are expected to be able to demonstrate secure access to land before participating in a CIS tender. This could include a combination of land ownership, leases, and options to lease.
- Planning – projects are expected to be able to demonstrate an understanding of the expected planning pathway and planning approval requirements necessary to undertake project development, construction and operation of the project. This includes demonstrating an understanding of the State and Federal environmental requirements applicable to the project.
- Grid connection – projects are expected to be able to demonstrate an understanding of the grid connection process, the viability of the proposed grid connection, and evidence of engagement with the relevant network service provider (NSP).

Participation in other schemes

Projects that are already, or will be, in receipt of revenue support from Commonwealth or state and territory governments will not be eligible for the CIS tenders. This is distinct from public ownership which is not a disqualifying criterion under the CIS. Revenue support refers to periodic and/or ongoing payments that are of a similar nature to the CIS product.

The purpose of this eligibility requirement is to ensure that projects do not access duplicate sources of government support. The following forms of government support are not expected to be considered revenue support, and projects in receipt of these forms of support will remain eligible for CIS tenders:



- certificates created under a Commonwealth certificate scheme, including large-scale generation certificates (LGCs) received through participation in the Renewable Energy Certificate Market;
- certificates received from complementary jurisdictional schemes such as the WA Reserve Capacity Mechanism capacity credits⁷. It is noted that not all jurisdictional certificate schemes will be complementary to the CIS (e.g. NSW peak demand reduction scheme). In addition, jurisdictions may impose additional requirements or limit eligibility to their schemes for CIS-contracted projects.
- investment received from a Commonwealth or State government body (e.g. the CEFC);
- grants from a Commonwealth (e.g. ARENA) or State government body, whether repayable or not; or
- other forms of financial support from State or Commonwealth government where the relevant government intends the financial support to be complementary to the CIS.

Technology, timing and delivery risk

The CIS is a program to improve reliability in Australia’s electricity grids. CIS tender eligibility and merit criteria will focus on projects that adopt established, proven technologies where the delivery risks associated with project, and the project’s commissioning date, are reasonably assessable. The CIS complements other Commonwealth government programs, such as those run by ARENA, which aim to support the demonstration of emerging technologies.

Tenders may contain targeted commissioning dates, and this could constrain eligibility in some circumstances. For the SA and VIC tenders commencing in 2023, the targeted commissioning date for projects is 2027 and this reflects the timing of reliability requirements in those jurisdictions. Projects unable to meet these requirements are expected to be ineligible.

Compliance with law

To be eligible to participate in a CIS tender a proponent and project will need to be compliant with applicable State and Commonwealth law and may be asked to produce evidence of compliance. This will include having valid Foreign Investment Review Board (FIRB) approvals, compliance with FIRB conditions, compliance with modern slavery legislation, and Australian tax law.

Consultation questions:

- The Department is seeking feedback on each of the eligibility requirements including:
 - the focus on a base level of development status of land tenure, planning and connection approvals.
 - the impact of participation in other government schemes on CIS eligibility.
 - the eligibility of existing projects to bid into the CIS, and questions of CIS additionality that result from this approach.
 - the technology risk appetite of the CIS

⁷ Recognising their variable nature, capacity credits for intermittent generators in the WA Reserve Capacity Mechanism are assigned under a different methodology to the one used for non-intermittent generators and storage facilities.




4.3. Merit assessment

The objective of CIS tenders will be to select the projects that demonstrate the highest levels of merit, as assessed against objective merit criteria. This section provides an overview of how projects could be merit assessed during the CIS tenders. Successful projects will be expected to perform strongly against all the criteria.

4.3.1. Overview of merit assessment process

Merit assessment of project bids will be conducted in two stages:

Project bid stage (Stage A): projects will be assessed against their technical, commercial and social licence merit. Strongest performing projects will then be shortlisted and invited to submit a bid for Stage B. Projects may be asked to provide an indicative financial bid at the project bid stage.



Financial bid stage (Stage B): projects will be assessed against their contribution to the policy objectives of the CIS, being contribution to reliability and lower prices for consumers. At this stage, projects will be expected to provide pricing bid variables for competitive assessment

Weighting may be assigned to the merit criteria at either Stage A or Stage B, and price (Cost to taxpayers) is expected to be the primary consideration in the merit assessment. Minimum requirements for each merit criteria may also be used to ensure all projects supported by the CIS achieve a minimum standard across all the merit criteria.



4.3.2. Project bid (Stage A) – technical, commercial and social licence assessment

The initial stage of the CIS tender will assess a project’s technical, commercial and social licence merit.

Project technical and commercial viability

A project’s credibility to reaching target commercial operation date (COD) is assessed by examining a project’s progress against key development milestones. This includes:

- Progress to securing all relevant land, planning and connections approvals;
- Progress to securing all relevant construction procurement and financing documents; and
- Demonstrated understanding of key project risks to timely project completion, and appropriate mitigation measures.

Successful projects will have the target final investment decision (FID) or financial close (FC) and COD key dates as contracted milestones.

Projects participating in SA and VIC tenders in 2023 may be merit assessed against their pathway to reaching COD no later than 2027. This is to ensure that successful projects can contribute to near term reliability requirements in those jurisdictions and delivery on the policy objectives of the CIS.

Proponent capability

A project’s proponent capability, capacity and track record to deliver projects of a similar size and type will also be assessed. Other key relevant entities involved in the project delivery will also be considered. This is to ensure that reliable organisations are provided government support to deliver their projects.

A proponent’s capability to deliver their proposed project is assessed by considering the prior and current experience of the proponent. The proponent’s project delivery contracting structure, procurement strategy and quality of their delivery plan will also be considered.

Social licence, employment and local benefits

The CIS will contribute to maximising the economic benefits of the transition to net zero, including local and indirect economic benefits and projects will be assessed against their contribution to achieving social licence and driving local benefits for the communities they operate in.

Social licence will be assessed against a proponent’s demonstrated understanding of the project’s impact and their tailored approach to minimise and/or offset impacts. This can be demonstrated through sophisticated engagement and communication frameworks with local communities and First Nations communities and commitments to local benefit sharing schemes.

Local benefits will be assessed against a project’s commitment to improve local and national economic development, including through the sourcing of materials and equipment. This can be demonstrated through commitments to employment and apprentice quotas and local procurement, engagement with First Nations businesses and subcontractors and contribution to workforce development, training and upskilling initiatives.



All projects receiving support under the CIS will be required to prepare an Australian Industry Participation (AIP) Plan. A draft plan can support the project's assessment for social licence and local benefits and commitments made under the AIP plan are relevant to this assessment criteria.

There are not expected to be other prescribed requirements for social licence or local benefits under the CIS. It is noted that individual State and Territory governments have flexibility to create local requirements for social licence and local benefits through regulation, legislation or policies that apply to projects with jurisdictional funding. State-based policies on social licence may be taken into consideration during merit assessment of a project's social licence. This could include, for example, policies preferring or requiring projects to locate within a State-declared renewable energy zone (REZ).

4.3.3. Financial bid (Stage B) – price and reliability assessment

The second stage of the merit assessment will require proponents to submit pricing bid variables. Projects will be assessed against the CIS's policy objectives to support system reliability at a minimal cost to taxpayers.

Contribution to system reliability

A project's potential contribution to avoid unserved energy events and to the reliability standard will be assessed. As part of a tender assessment process, projects may be invited to submit information on its contribution to reliability and this information can be considered as part of a project's evaluation. It is expected that individual projects will be assessed on their contribution to the reliability target based on both location and technology type. Forecasts underpinning reliability targets will be derived from modelling of the total dispatchable and non-dispatchable capacity required in each year, in total and for each jurisdiction, and converted to capacity (MW) in medium storage equivalent. Consultations with state and territory governments, including jurisdictional reliability modelling, will also inform reliability targets.

Consultation question: The Department is seeking feedback on the evaluation criteria, on the appropriate structure to assess a project's contribution to system reliability and feedback on the potential development and application of de-rating factors.

Further, a project's duration of storage or dispatchable generation impacts its ability to contribute to the reliability standard and will also be assessed. This merit criteria adopts a flexible approach to considering a project's dispatchable duration. For example, a project that has a 100MW/200MWh capacity may bid as a 2-hour 100MW dispatchable storage asset or 4-hour 50MW dispatchable storage asset. Other technical features that will be considered in assessment includes, but is not limited to, co-located projects, geographic location in relation to transmission constraints and optionality for future project expansion.



Cost to taxpayers

The final merit criterion is expected to be the cost of the proposed projects to the Commonwealth, measured as the quantum, timing and likelihood of underwriting payments to be paid by the CIS's financial vehicle. This will be estimated using stochastic forecasts of future electricity price conditions and expected operation of the project. Projects will be compared and assessed on a range of metrics, including the cost per MW of capacity contributed per annum.

These criteria will also assess the competitiveness of a project's key bid variables and minimal departures to contractual pro forma.

Projects may be asked to provide an indicative financial bid in Stage A, which is updated with a binding bid in Stage B.

4.4. Underwriting instrument design

An objective of the CIS is to accelerate the deployment of capacity in the Australian energy markets by reducing risk to investors. This section outlines the commercial key features of the underwriting agreement. The structure will be developed through:

- consultation and receipt of feedback on this paper;
- publication of a final document for Stage B of the SA/VIC tenders (expected in November 2023).

4.4.1. Principles of the CIS commercial structure

The CIS commercial structure is intended to deliver the broader objectives of the CIS, and to ensure that the following subsidiary objectives are achieved:

- Investor certainty is increased through a combination of the long-term underwriting and the tender process. The tender process is used to set key commercial terms in the CIS underwriting agreement;
- Limited to no impact on wholesale electricity market functions. Except for performance requirements, the CIS is not seeking to impose operational requirements on projects. The operation of projects contracted under the CIS are expected to be directed by the relevant wholesale electricity market and its associated rules; and
- Flexibility in contracting and participating in the wholesale contracts market. Projects will be able to sign a CIS underwriting agreement and other wholesale contracts. The CIS is intending to support further development of these contracts markets.

A limited set of performance requirements will be included in the CIS underwriting agreement. These performance requirements supplement the existing price signals and rules to ensure that projects receiving financial support from the Commonwealth participate in markets and provide capacity at times of acute shortage. These are summarised in Section 4.4.2, Table 1.

Consultation question: The Department is seeking feedback on the appropriate structure and sizing of performance requirements necessary to deliver on the policy objectives of the CIS without distorting storage market participation.



These performance requirements should supplement existing wholesale electricity market regulatory framework and spot price signals. This is because it may not be appropriate for these requirements to apply to all projects in the market, but it is appropriate that projects receiving additional financial support from government provide additional support to the market in exchange for that financial support.

4.4.2. Summary of CIS commercial structure

The high-level overview of the CIS commercial structure is provided in Table 1 below.

Table 1 – Summary of CIS commercial structure

Term	Description
<i>Parties</i>	Commonwealth (Guarantor): Commonwealth entity.
	Project owner (Capacity Provider): entity delivering the new storage or renewables asset.
<i>Project characteristics</i>	The CIS underwriting agreement will include a description of the project characteristics (e.g. capacity and duration). The Capacity Provider will be required to preserve the agreed project characteristics over the life of the agreement.
<i>Conditions precedent</i>	CIS underwriting agreement will include conditions precedent which need to be satisfied before the construction period commences. The Commonwealth will have a right to terminate if those conditions precedent are not satisfied or waived by a sunset date.
<i>Revenue underwriting & eligible contracts</i>	The intent of the CIS is to underwrite a project’s revenues, including eligible wholesale contracts and net of eligible expenses (net revenue). Detailed definitions will be included for net revenue earned by scheduled generators and eligible wholesale contracts. For avoidance of doubt, a project’s revenues are also expected to include revenue from participation in markets such as FCAS and all other sources of revenue.
	A key feature of the proposed mechanism is that, unlike traditional contracts for difference, projects remain able to participate in the wholesale contracts markets, via eligible wholesale markets contract. Eligible wholesale contracts are contracts that are agreed on an arm’s length basis and above the New Revenue per Year Floor bid variable amount. The inclusion of eligible wholesale contracts is intended to allow projects to participate in the wholesale contracts market and also continue to receive support for projects below the floor prices.
	Further, unlike the NSW LTESA, the CIS underwriting agreement is not expected to be an option and the floor and ceiling mechanisms will operate for the term of the agreement.
<i>Floor Price and Sharing %</i>	For a scheduled generator (including storage), if net revenues (<i>including</i> net revenues earned by the project through eligible wholesale contracts (Net Revenue per Year), are below a total annual net revenue amount (Net Revenue per Year Floor), then the Guarantor will top up a percentage (e.g., 90%) of the difference between the Net Revenue per Year and the Net Revenue per Year Floor. This percentage is the “floor sharing percentage” and will be set by the Commonwealth.



Term	Description
	<p>The floor prices will be bid by projects in the competitive tender process and set on a “pay as bid” basis.</p>
<i>Ceiling Price and Sharing %</i>	<p>If Net Revenue per Year is above a ceiling price on an annual basis, the Capacity Provider will share net revenue for a scheduled generator with the Guarantor. The units and measure for the cap price will align with the unit and method outlined in Floor Price above.</p> <p>The cap and % sharing of net revenues will be set through the competitive tender process, with guidance provided in the tender guidelines on expected parameters.</p>
<i>Milestones requirements</i>	<p>The contract will contain provisions requiring the Capacity Provider to progress the project, including targeted and longstop milestone dates which will be identified for the construction period (being after the conditions precedent have been satisfied up to the scheduled date for Commercial Operation). These milestones are expected to include:</p> <ul style="list-style-type: none">• provision of security amounts;• interim milestone dates including achieving financial or commercial close;• construction milestones such as plant and equipment delivery or completion of civil and electrical infrastructure; and• commissioning milestones including energisation and commercial operation. <p>There will be termination rights for the Commonwealth where specific milestones are not achieved. Termination rights will likely not apply to interim construction milestones.</p> <p>A two-contract structure may be adopted. The development delivery of a project would be captured under an initial and separate project development agreement. The operational delivery of a project, including authorisation of the revenue top-up mechanism, would be captured under a second underwriting agreement. It is expected that both contracts would be executed at the same time, upon successful tender award. Alternatively, a single contract may be used covering both project development and operation.</p>
<i>Term of support period</i>	<p>Term of the support period (during commercial operation) will be as determined for each tender process.</p> <p>The term of the support period may be an adjustable bid variable and projects may put forward alternate contract terms where improved value for money can be demonstrated.</p>
<i>Payments and True Up</i>	<p>Payments from the Guarantor to the Capacity Provider will be calculated and paid on a quarterly basis. An annual true up will ensure that seasonality in payments is smoothed out at the end of the year.</p>



Term	Description
<i>Performance requirements</i>	<p>The CIS underwriting agreement will involve a limited set of performance requirements that will require scheduled generators under the CIS to support markets in a limited set of circumstance. A Capacity Provider with a scheduled project will be required to:</p> <ul style="list-style-type: none">• make the project available. A strict abatement regime will apply where a project is not available at the capacity (other than scheduled maintenance);• respond to price signals in relevant markets; and• bid a minimum of 50% of the project capacity in an LOR3 event (or equivalent event in the relevant market), that has been forecast by AEMO more than two hours ahead of the LOR3. <p>In each case, performance requirements will be limited to the portion of the project that is being supported by the CIS. For example, a partitioned 100MW BESS where 75MW is being supported by the CIS will only be require 75MW to meet performance requirements.</p>
<i>Non-performance & termination</i>	<p>The CIS underwriting agreement will contain termination and liquidated damages and/or abatement arrangements for non-performance typical in a contract of this nature, including:</p> <ul style="list-style-type: none">• failure to meet targeted milestones will result in a requirement to provide a cure plan. Termination would be considered where the cure plan does not indicate that longstop milestone dates can be achieved; and• failure to comply with performance requirements, including availability and LOR 3 performance requirements, would result in financial liquidated damages and/or abatements, and adjustment of future support if not rectified. <p>Termination rights will also include material breach including financial and non-financial defaults, extended force majeure and compliance with law and a right for the Commonwealth to terminate for convenience.</p>

To provide flexibility and encourage commercial innovation, there may be an option for projects to submit two financial value bids for the same project. A default bid would adopt the finalised CIS commercial structure, while an alternative bid would provide adjustments to commercial structure. For example, an alternative bid may seek to adjust the contract tenor and/or adjust the escalation regime.



Consultation question:

1. The Department is seeking feedback on all aspects of the high-level commercial model including:
 - the floor price support mechanism
 - the use of a single net revenue floor for both VRE and scheduled generators (including storage)
 - the term of the contract, including financing requirements around revenue tenor
 - the performance requirements, including the LOR3 performance requirements
 - the milestone requirements, penalty provisions and termination provisions
 - A contract structure that divides development/construction and operating periods into two contracts, similar to the NSW Project Development Agreement and LTESA division
2. The Department is seeking feedback on the commercial model's applicability to pumped hydro energy systems.