

25 March 2024

Hon. Chris Bowen MP  
Minister for Climate Change and Energy  
Commonwealth Government  
Lodged online at: [DCCEEW Consultation hub](#)

Dear Minister,

### **Response to Commonwealth Government's Capacity Investment Scheme – Design Implementation paper**

The Clean Energy Investor Group (CEIG) welcomes the opportunity to provide feedback on the Commonwealth Government's consultation paper on the Capacity Investment Scheme (CIS) published in March 2024.

CEIG represents domestic and global renewable energy developers and investors, with more than 16GW of installed renewable energy capacity across more than 76 power stations and a combined portfolio value of around \$38 billion. CEIG members' project pipeline is estimated to be more than 46GW across Australia. CEIG strongly advocates for an efficient transition to clean energy with a focus on the stakeholders who can provide the cost-effective capital required for this transition.

#### **Key Points**

- **CEIG welcomes the Commonwealth Government's expansion of the CIS**, noting it will go a long way towards helping the government achieve its 82% renewables target. Nevertheless, CEIG reiterates the importance of aiming for a 1.5-degree-aligned electricity grid.
- **CEIG welcomes the Commonwealth Government's commitment to explore market design reforms, beyond the timeframe of the CIS**, to ensure market settings are fit-for-purpose in a high VRE grid and recognise its benefits and capabilities. CEIG looks forward to further engagement on this.

#### **CIS IMPLEMENTATION DESIGN**

- **CEIG supports in-principle the proposed detailed design for the CIS Agreements (CISAs)**. By improving revenue certainty at a time when investors are temporarily carrying excessive risks (e.g. delayed, complex and slow planning, environmental

and connections processes; increasing social license impacts; delays in transmission and REZ buildout; growing curtailment), CISAs will facilitate the deployment of capital-intensive renewable energy infrastructure.

- CEIG recognises the importance of fostering an environment that encourages generators' **active participation in contract markets** and supports the proposed incentives around Eligible Wholesale Market Contracts.
  - However, CEIG notes that the implementation of the expanded CIS could significantly lower wholesale prices over the next two decades, The ensuing **potential 'freeze' in the PPA market**, where buyers might be hesitant to commit to signing up to new contracts when wholesale prices are expected to decline, could lead to delays and difficulties in achieving the required renewables build out.
  - CEIG encourages the government to monitor the state of the PPA market and adjust its CISA incentives/ requirements accordingly.

#### **CISA PRODUCTS – SHARED COMMERCIAL CHARACTERISTICS**

- CEIG **supports in principle the proposed commercial structure** (notwithstanding that final contractual terms are yet to be released), including:
  - **up to 15-year contract term** (noting that longer tenors may be required for certain larger-scale, higher WACC and/or specific technology assets)
  - enabling **escalation** to be bid into the floor and ceiling prices;
  - **the introduction of an annual payment cap** that limits both support and revenue sharing, **and for that cap to be bid by the project;**
  - **the reduction of the revenue clawback percentage from 75% to 50%** for the SA-VIC tender; CEIG encourages the government to replicate this approach to upcoming CISAs.
- Storage assets are incentivised to discharge at times of high prices, and the LOR3 requirements may not be necessary. If there must be a LOR3 clause, CEIG suggests an alternative where storage assets must provide 50% of their contracted capacity for **LOR3 events that are forecast more than 24 hours in advance**.
- CEIG supports CIS revenue underwriting being based on the net revenue per MWh of generation sent out (Generation CISAs) and on the net revenue (Clean Dispatchable CISAs) but notes that the project retains **volume, negative price and MLF risks** which will be priced into the biddable items.
  - CEIG proposes alternative risk sharing arrangements for the treatment of negative prices and MLF and DLF risks.
- CEIG supports the proposed definition of **Eligible Wholesale Market Contracts**, including the provision that those contracts should be for 1 year or longer.

#### **CISA PRODUCTS – ALTERNATIVE OPTIONS FOR GENERATION CISA DESIGN**

- CEIG notes both alternative models to CISAs could be workable (LTESA-like option structure or volumetric exclusion of contracted generation). However, on balance, CEIG retains a preference for the proposed CISAs.

#### **CIS TENDER DESIGN AND ASSESSMENT PROCESSES**

- **CEIG supports the proposed two-stage assessment process.** Limiting the preparation of financial bids to shortlisted project only will reduce costs and associated timeframes.
- **CEIG supports the announcement of a long-term schedule of CIS tenders** as it will deliver certainty to industry around the expected pipeline of investment over the medium term.
  - **CIS auction allocations between States should not take into account projects that have started construction without CIS agreements** (i.e. there should be no disadvantage to the State/project for starting quickly/taking some market risks).
- **CEIG supports in-principle the proposed eligibility criteria** as they will ensure a smoother path towards project construction and operation to meet the government's objectives around reliability and security of the grid.
  - CEIG encourages the government to continue setting a **minimum storage duration** in upcoming CIS tenders. CEIG recommends using a 2-hour duration as a minimum (to broaden out the pool of projects eligible to participate and lower the scheme cost) but would also welcome consideration of a higher 4-hour minimum for some future tenders, with early visibility on the schedule.
- **CEIG supports in-principle the CIS tender assessment's emphasis on** a project's contribution towards **system reliability, delivery of renewable energy**, and provision of **additional system benefits**. The proposed framework will provide a methodical and comprehensive approach to evaluating projects' contributions to the energy system.
- **CEIG supports strong criteria for assessing both the technical and commercial viability of projects and the capability of proponents** so that selected projects are not only financially viable but capable of meeting their delivery timelines and performance expectations, thereby contributing to the CIS reliability objectives.
  - CEIG encourages the government to provide explicit guidance that **projects already in the construction phase** will be encouraged to participate and confirm that they will be preferenced against less advanced projects.
  - CEIG supports the need for a project to demonstrate progress towards securing land, environmental, planning and connections approvals, but also reasserts its support for CIS funding (for the States) being conditional upon **governments improving their planning assessment processes**.

- **CEIG supports the proposed approach to evaluating hybrid projects**, acknowledging their potential to offer additional reliability benefits compared to generation-only projects.
- CEIG would like to be consulted on the proposed **derating and modelling methodologies used for setting the reliability target and for individual project assessments**. Transparency on how this will be assessed is critical if it is to effectively direct investment.
- **CEIG requests clarification on how future expansions or additions to CIS-funded projects will be managed**, noting that the current framework may not sufficiently address the dynamic nature of energy assets and their growth potential.

### **CEIG WELCOMES THE EXPANSION OF THE CAPACITY INVESTMENT SCHEME**

CEIG welcomes the Commonwealth Government's expanded Capacity Investment Scheme (CIS), recognising its potential to significantly boost investment in renewable energy generation and storage across Australia, noting that the CIS will go a long way towards helping the government achieve its 82% renewables target by 2030.

The CIS expansion aligns with a clear commitment to a clean energy transition and addresses a number of key investment challenges. Furthermore, CIS agreements (CISAs) and the commitment to deliver regular auctions will be vital for long-term planning and securing the financial commitments necessary for the transition to renewable energy.

CEIG supports the scheme's focus on enhancing security and reliability of supply in the National Electricity Market (NEM). CEIG also looks forward to the development of design papers for Western Australia and strategies to support will the Northern Territory. These efforts ensure a comprehensive approach to the energy transition across all regions, addressing unique challenges and leveraging regional strengths.

CEIG endorses the ambitious objectives of the CIS, including the target of adding 32 GW of new capacity by 2030. This target is instrumental in transitioning away from a thermal-based grid and in aiming to achieve the government's 82% target. Such objectives not only align with CEIG's vision for a sustainable energy future but also solidify Australia's commitment to a greener, more resilient energy system.

While CEIG commends the objectives, it stresses the importance of aligning Australia's energy system transition with global climate goals, specifically a 1.5-degree Celsius outcome. The urgency of this alignment is underscored by the findings of Australia's recent first climate risk assessment. Aiming for a 1.5-degree-aligned grid will ensure that the transition not only meets current energy needs but also addresses broader climate risks, safeguarding Australia's environment, and communities for future generations.

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**Consideration of future market design reform post CIS**

Whilst CEIG acknowledges the CIS as a critical interim measure to stimulate sectoral investment, CEIG welcomes the Commonwealth Government's commitment to explore market design reforms, beyond the timeframe of the CIS.

This aligns with the need for a strategic transition to market settings that are fit-for-purpose in a high VRE grid and that recognise its benefits and capabilities. CEIG looks forward to further engagement with government on this important workstream.

**CIS IMPLEMENTATION DESIGN****Design principles**

CEIG supports in-principle the proposed detailed design for the CISAs, recognising them as a foundational aspect of the clean energy transition and a source of improved investment certainty for investors. CISAs are pivotal in offering the clarity and stability investors require to commit substantial resources to renewable energy projects. By improving revenue certainty at a time when investors are temporarily carrying excessive risks (such as delayed, complex and slow planning, environmental and connections assessment processes; increasing social license impacts; delays in transmission and REZ buildout; growing curtailment), CISAs will facilitate the deployment of capital-intensive renewable energy infrastructure.

CEIG welcomes the introduction of Renewable Energy Transformation Agreements (RETAs) within the National Energy Transformation Partnership framework. These agreements represent a crucial mechanism for acknowledging and addressing the distinct energy landscapes and needs of each Australian jurisdiction.

CEIG welcomes the initiative to conduct a pilot SA/VIC CIS tender, acknowledging its significance in refining the scheme's operational parameters and ensuring that the CIS is aligned with market realities and capable of delivering on its objectives efficiently.

**Tender schedule and allocation**

CEIG supports the announcement of a long-term schedule of CIS tenders as it will deliver certainty to industry around the expected pipeline of investment over the medium term.

However, CIS tender allocations between States should not take into account projects that have started construction without CIS agreements (i.e. there should be no disadvantage to the State/project for starting quickly/taking some market risks). CEIG further explains its rationale for incorporating Constructing projects in the Eligibility criteria section further below.

**Managing risks to contract market liquidity**Support for proposed incentives to participate in wholesale contract market

CEIG recognises the importance of fostering an environment that encourages active participation in wholesale contracts markets by generators and CEIG supports the proposed balance of risks and incentives presented in the paper.

CEIG expects that the proposed measures (e.g. reduction of double liability risk; [90%] revenue sharing mechanism below the floor price) will help to maintain an incentive structure that does not undermine the value of wholesale contracts but rather promotes consistent market participation and that allows investments to remain attractive and bankable by mitigating excessive revenue volatility.

#### Wholesale prices and the future of the PPA market

CEIG encourages the government to monitor the state of the PPA (Power Purchase Agreement) market and adjust its CISA incentives/requirements around Eligible Wholesale Market Contracts accordingly.

CEIG is aware that some energy market forecasters are expecting that a scheme of the scale of the expanded CIS would cause electricity wholesale prices to decline materially over the next 20 years. This is because of the material influx of low-cost energy capacity in the grid. This forecast reduction in wholesale prices may cause offtakers to pause their consideration of locking in long term electricity prices in Power Purchase Agreements (PPAs).

The potential 'freeze' in the PPA market, where buyers might be hesitant to commit to signing up to new contracts when wholesale prices are expected to decline, could lead to prolonged timelines in securing an offtaker and difficulties in meeting the government's requirement for a project to sign an Eligible Wholesale Market Contract, in turn risking postponed investment decisions and slower project delivery, resulting in delays in achieving the required renewables build out.

CEIG encourages the government to monitor the state of the PPA market and adjust its CISA incentives/ requirements around Eligible Wholesale Market Contracts accordingly.

#### **CISA PRODUCTS – SHARED COMMERCIAL CHARACTERISTICS**

CEIG supports in principle the majority of the proposed commercial structure described in the paper (notwithstanding that final contractual terms are yet to be released). CEIG provides further comments on specific features in the following sections.

##### **Support term**

CEIG supports the proposed up to 15-year contract terms for both Generation and Clean Dispatchable CISAs which will improve revenue certainty for investors, but requests that the government also considers longer tenor, under specific circumstances as necessitated by specific infrastructure types.

It is important to acknowledge that a 15-year term may not be sufficient for certain larger-scale, higher WACC (Weighted Average Cost of Capital) and/or specific technology assets as it may not fully accommodate the longer operational lifetimes and financial amortisation periods typically associated with these significant investments.

Those projects often entail extensive development timelines and substantial capital outlay, with expected operational lifespans extending well beyond 15 years (e.g. pumped hydro projects). These challenges are compounded by high inflationary conditions, mechanically driving up costs of finance with government support having potentially material impacts on credit ratings<sup>1</sup> and ratings migration, and project risk premiums<sup>2</sup>.

CEIG notes that LTESA (Long Term Energy Service Agreement) contract terms acknowledged the plausible need for longer terms with proposals for LTESA contract terms of “up to 20 years” for generation LTESAs and “up to 14 years for chemical batteries or up to 40 years for pumped hydro” for long duration storage in recognition for the need to improve revenue certainty and bankability. The LTESA design Consultation Paper asserted that “It is noted that different types of long duration storage assets have different asset lives and this is expected to be reflected in the LTESA contract duration<sup>3</sup>.”

A similar approach could be beneficial in determining the tenor of CISAs. CEIG suggests further consideration of potentially adjusting the tenor to better reflect the unique characteristics, risks, and investment horizons of those particular assets. A longer scheme duration could enhance the financial viability and attractiveness of certain projects (high WACC, high capital, particularly during inflationary intervals), ensuring a more robust investment case for such projects and contributing to a smoother transition to a sustainable energy future.

### **Floor and ceiling price escalation**

CEIG supports the proposal to enable escalation to be bid into the floor and ceiling prices.

This will provide a means to adjust the financial parameters of projects in response to inflation, shifts in technology costs (up or down), and other economic factors that impact the cost structure of renewable energy generation over the lifespan of a project.

### **Annual payment caps**

CEIG supports the introduction of an annual payment cap that limits both the support and revenue sharing that a project operator incurs in a single year, and for that cap to be bid by the project.

The introduction of the payment cap will enable the government to have greater certainty

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<sup>1</sup> Oxford Economics (Jun-23), [Cost of capital survey 2023](#)

<sup>2</sup> Research conducted by Oxford Economics (see n1) (Oxford), shows that “solar and wind projects generally have relatively lower WACCs compared to other renewable projects such as battery and or, storage and pumped hydro” (Oxford, 2023). These factors coupled with the capital outlays associated with long duration/capacity batteries and pumped hydro, may dissuade investors from considering such opportunities, absent of market-based incentives, or contracted revenues. Moreover, current macroeconomic conditions appear more likely to discourage longer larger scale investment, making incentives for both financiers and operators critical. Traditionally, while clean energy investors take a longer-term perspective on investments, with less concern for short term, cyclical factors, Oxford’s research suggests that this has changed in recent years. Clean energy investors are seen to be more concerned about plausibly enduring macroeconomic conditions, making incentive structures more critical (Oxford, 2023).

<sup>3</sup> NSW Government (Aug-21), [LTESA Design](#)

around the maximum payments it may be liable for and eliminate the risk of potential uncapped liabilities. The ability to bid the payment cap will give the project operator an incentive to bid an efficient amount that balances risks effectively for the project.

### **Revenue clawback percentage**

CEIG welcomes the decision to reduce the revenue clawback percentage from 75% to 50% for the SA-VIC tender following feedback from the consultation process and encourages the government to replicate this approach to upcoming CISAs.

Lowering the revenue clawback percentage will enhance the financial proposition for project operators by allowing them to retain a larger portion of their revenue during periods of high electricity prices. As this change directly impacts the economic viability of projects, it will enhance the appeal of participating in the CIS and will allow project operators to bid more competitively into the CIS, thereby benefiting electricity consumers.

### **Behaviour under LOR3 events**

Storage assets are incentivised to discharge at times of high prices, and the LOR3 requirements may not be necessary to incentivise the government's preferred behaviour.

However, if there must be a LOR3 clause, CEIG suggests revisiting the design of the LOR3 requirement to prevent unintended consequences that may discourage timely and cost-effective capacity provision.

Under the current proposal, a project benefiting from a Clean Dispatchable CISA must bid at least 50% of its contracted capacity during an actual Lack of Reserve 3 (LOR3) event. Consideration should be given to how LOR3 requirements interact with other market mechanisms to ensure they collectively support an efficient market.

The current design of the LOR3 requirement appears to be counterproductive and CEIG reiterates<sup>4</sup> that a CISA should be flexible to account for:

- long-duration storage facilities needing more time to charge. If not given sufficient warning prior to a LOR3 event, they have less opportunity to charge compared to a short-duration facility. They should not be unduly penalised under the LOR3 performance criteria if they were not given sufficient time to charge.
- by quickly charging to meet its contractual obligations immediately prior to a LOR3 event, a battery could cause a LOR2 event to tip into a LOR3 event. There should be exemptions for storage facilities who don't perform during LOR3 events if the reason for lack of performance was a genuine effort to not make the LOR3 event even worse by charging immediately prior to it.

CEIG notes that the August 2023 proposal stated storage would have to provide 50% capacity for forecast LOR3 events. The deletion of the term 'forecast' means that storage assets would have to have a minimum charge of 50% at all times or else they would risk

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<sup>4</sup> CEIG (Aug-23), [CEIG response to CIS design paper](#)



non-compliance which has severe penalties. CEIG considers this requirement is unlikely to be helpful because storage assets discharge during periods of high prices, which is when the supply/demand balance is tight in any case.

As an alternative, CEIG suggests that storage assets must provide 50% of their contracted capacity for LOR3 events that are forecast more than 24 hours in advance.

In addition:

- if a storage asset has more than 50% charge when a LOR3 event is declared with less than 24-hour notice of it being forecast, then it is required to have at least 50% charge when the LOR3 event begins.
- If a storage asset has less than 50% charge when a LOR3 event is declared with less than 24-hour notice of it being forecast, then it is required to have no less than its current state of charge when the LOR3 event begins.

CEIG also supports AEMO directions overriding CIS contractual requirements; the CIS penalty regime for breaching LOR3 requirements should reflect this. pla

## **CISA PRODUCTS – PAYMENT MECHANISM**

### **Payment structure**

CEIG supports CIS revenue underwriting being based on the net revenue per MWh of generation sent out by the project for Generation CISAs and on the net revenue for Clean Dispatchable CISAs, as described in the paper.

CEIG notes that the proposed payment mechanism will leave the following risks with the project operator:

- volume risk;
- negative price risk; and
- MLF (Marginal loss factors) and DLF (Distribution loss factors) risk.

Whilst CEIG agrees that those risks can remain with the project operator as proposed, the government should nevertheless also expect that they will be priced into the project's biddable items.

CEIG proposes alternative risk sharing arrangements for negative pricing and MLF and DLF risks.

### **Clarification of treatment of entities with a portfolio of assets**

CEIG notes that there could be unintended consequences when entities with a portfolio of assets bid into the CIS. While there is a requirement for related party contracts to be at arm's length, there is no obligation to enter into a contract. This could allow the company not to contract the asset and trigger the floor/cap in low/high price years and undertake hedging at the portfolio level above the SPV level.

CEIG encourages the government to consider this issue further, including the potential to

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introduce a requirement for related parties to enter into an arm's length contract.

### **Alternative proposal to treatment of negative pricing**

Negative prices can materially impact on a project as they reduce its revenue stream. Investors can only partly manage this risk and allocating it solely to investors is likely to generate a risk premium. CEIG believes the risk of negative pricing could be shared with the government in ways that retain sufficient incentives for projects to be responsive to wholesale prices.

CEIG suggests an alternative approach that would improve revenue certainty whereby:

- a project ceases to receive revenue from its CIS contract after a small number of consecutive negative price periods (for example after 4 consecutive hours); and
- the duration of unpaid negative price periods is added back at the end of the CIS contract to provide a project with a 'true' 15-year contract.

This approach is implemented in Germany's *Renewable Energies Act - EEG 2021*<sup>5</sup> where a project no longer receives payments when the wholesale market price is negative for four consecutive hours. Hourly reports are also available<sup>6</sup> from the German Transmission System Operator and provide transparency around which intervals have been eligible for payments. This approach balances the need to provide a project with sufficient revenue certainty while retaining a project's incentive to react to extended negative price periods.

CEIG notes that due to its scale, the CIS program will impact on the wider dynamics of the market and will increase the occurrence of negative prices. This will impact the investment case for further clean energy projects and for early movers whose revenue projections will be negatively impacted.

### **Alternative proposal to treatment of MLF risk**

CEIG notes that proponents have limited capacity to hedge against MLF and DLF risk since a project's location is locked in for the life of the asset and the open access regime in the NEM implies that a proponent cannot control how many and where other projects will locate nearby, and what their impact on MLFs and DLFs will be; there are also no financial products available to hedge against MLF risk.

In response, consideration should be given to the sharing of MLF and DLF risks. CEIG proposes a risk sharing approach where carriage of risk is shared equally through the CISA, between the proponent and government. This approach reflects a more equitable sharing of risk given the limited capacity for parties to CISAs to influence their MLF risk.

### **Eligible Wholesale Market Contracts**

CEIG understands and supports the government's rationale for designing CISAs in ways that incentivise projects' participation in wholesale contract markets and that provide

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<sup>5</sup> Act for the expansion of renewable energies (*Renewable Energies Act - EEG 2021*), sections 51 and 51a.

Available from: [https://www.gesetze-im-internet.de/eeg\\_2014/\\_51.html](https://www.gesetze-im-internet.de/eeg_2014/_51.html)

<sup>6</sup> <https://www.netztransparenz.de/EEG/Marktpraemie/EEG-negative-Preise>

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additional insurance for when project revenues are below the floor revenue.

CEIG supports the proposed definition of Eligible Wholesale Market Contracts, including the provision that those contracts should be for 1 year or longer; this will provide sufficient flexibility and presents a broad opportunity to strike suitable contracts.

### **CISA PRODUCTS – ALTERNATIVE OPTIONS FOR GENERATION CISA DESIGN**

CEIG notes both alternative models to CISAs could be workable (LTESA-like option structure or volumetric exclusion of contracted generation). However, on balance, CEIG retains a preference for the proposed CISAs.

#### Potential LTESA-like option structure

Options afford project operators the flexibility to engage with market dynamics, offering the possibility to capitalise on favourable market conditions while having a fallback option to secure a minimum revenue stream. By reducing exposure to wholesale electricity price volatility, options can increase project economics.

However, the nature of options introduces a level of complexity in terms of contract management and understanding, potentially requiring more sophisticated financial strategies and risk management approaches. Given the financial and operational risk management capabilities of CIS project operators, this risk is likely to be modest.

#### Potential Volumetric Exclusion of Contracted Generation

The strengths of these alternative models lie around the lack of requirement to create a specific SPV (Special Purpose Vehicle) to host the project, and simpler administrative requirements. Those advantages appear to be modest compared to the CISA model.

### **CIS TENDER DESIGN AND ASSESSMENT PROCESSES**

#### **Two-stage assessment process**

CEIG reaffirms its support for the proposed two-stage assessment process as it is seen as a practical step towards enhancing the efficiency of the project selection process.

Assessing tenders against eligibility criteria in Stage A will ensure that only projects that are sufficiently advanced are shortlisted to go to Stage B. It should also minimise costs and overall assessment timelines by limiting the number of projects to which it needs to dedicate the significant time and resources required for the preparation of financial bids in Stage B.

Additionally, CEIG advocates for the establishment of definitive timelines for tender feedback to enable developers to effectively participate in successive rounds without undue delay. For example, if a project may only be informed that it was unsuccessful at one tender when it is too late to submit a revised proposal in the next tender. Wherever possible, it would be useful if all proposals could be assessed and informed of their outcome against Stage A before the next tender commences.

Finally, CEIG proposes the allowance of minor tolerance variations around changes to a project's nameplate capacity between submitting/winning a CIS and reaching financial close to accommodate minor project development adjustments.

### CIS ELIGIBILITY CRITERIA

CEIG supports the proposed CIS eligibility criteria. They will ensure that the most efficient projects are selected to participate in Stage B, which in turn will support the government's objectives around security and reliability of the grid.

Publicly and privately owned projects	CEIG <b>supports both publicly and privately owned projects being eligible for CIS tenders.</b> However, to ensure fair competition, the tender guidelines will need to clearly outline that publicly-owned entities must operate at arms-length from their government owner and not benefit from special treatment (e.g. fast-tracked planning approval processes).
Special Purpose Vehicles	CEIG <b>supports the use of SPV structures</b> to facilitate the administration and reporting of CIS-related financial flows, providing that this requirement is not designed in a way that inadvertently imposes an undue regulatory and administrative burden.
Progress beyond 'early development'	<p>CEIG <b>supports</b> the proposal that projects must:</p> <ul style="list-style-type: none"> <li>• <b>have progressed beyond 'early development';</b></li> <li>• <b>not reached 'committed' status before certain Australian Government announcements,</b></li> </ul> <p>and notes that this also includes projects that have already reached financial close.</p> <p>CEIG agrees that this is required to avoid perverse incentives and enable proponents to continue development of projects.</p> <p>To further meet this objective, CEIG encourages the government to provide explicit guidance that:</p> <ul style="list-style-type: none"> <li>• helps to more clearly definite the notion of 'early development' projects; and</li> <li>• encourages Constructing projects (projects that are not committed with AEMO as at 23 November 2023 but that are in-construction or constructed by the time they bid into a CIS auction) to participate in the CIS.</li> </ul>
Technology contributing to zero emissions	CEIG <b>supports the use of clean technologies only,</b> including the definitions outlined in Table 4. This is critical to a timely and efficient decarbonisation of the grid.

<p>Registration with AEMO and minimum project capacity</p>	<p>CEIG <b>supports the requirement to be registered, or intend to register, with AEMO</b> and participate in the central dispatch mechanism used in the relevant Australian electricity grid.</p> <p>CEIG however notes that a formal requirement to submit an “Intending Participant” registration with AEMO could have unintended consequences where it may cause additional administration with both proponents and AEMO when proponents that are at a too-early stage rush to submit their registration, thus unnecessarily overburdening the system.</p> <p>Instead, CEIG suggests that the level of development of a project should be assessed via other areas (e.g. land, planning, technical studies etc).</p> <p>CEIG <b>supports the minimum 30MW capacity requirement</b> to minimise the administrative burden of the scheme.</p>
<p>Expected development status of land tenure and connection approvals</p>	<p>CEIG <b>supports</b> the preference for more advanced projects that can demonstrate <b>secure access to land</b> and <b>progress towards securing grid connection</b>. This preference for more advanced projects will ensure a smoother path towards construction and operation.</p>
<p>Technology, timing, and delivery risk</p>	<p>CEIG <b>supports limiting eligibility to established and proven technologies</b>; this will ensure a smoother path towards construction and operation to meet the government’s objectives around reliability and security of the grid.</p>
<p>Participation in other schemes</p>	<p>CEIG <b>supports not making eligible those projects that are already, or will be, in receipt of revenue support from a government</b> (with revenue defined as periodic and/or ongoing payments from a CISA or similar mechanism, and noting the exclusions listed in the paper).</p>
<p>Compliance with law</p>	<p>CEIG <b>supports the proposal that a Proponent and project will need to be compliant with applicable state, territory, and Commonwealth law</b>, including the need to meet requirements around social license and local economic benefits. This will ensure the most efficient projects are selected to participate.</p>

Minimum duration for dispatchable capacity projects

CEIG welcomes the decision to require a 2-hour minimum duration for the SA-VIC tender and encourages the government to continue setting a minimum storage duration in upcoming CIS tenders.

CEIG recommends using a 2-hour duration as a minimum (rather than 4-hour):

- It would increase competition and broaden out the pool of projects eligible to participate in the CIS tenders (many BESS (Battery Energy Storage Systems) projects in the pipeline are 2hour duration);
- It would lower the cost of the CIS scheme by delivering lower floor price bids and less likely operation below the floor;
- Because bids will be assessed using a comparable reliability measurement, longer duration storage projects will still be encouraged to participate.

However, for some of the future CIS auctions, CEIG would also welcome consideration of a higher minimum duration requirement (e.g. set at 4 hours) to ensure those longer-duration assets can also be directly incentivised. Those auctions with specific requirements should be advertised in advance so a pipeline of projects can be built.

Recent CEIG research with Nexa Advisory<sup>7</sup> and Baringa<sup>8</sup> that assesses the bankability of storage in Australia shows that storage assets require support for durations beyond 2 hours. Those longer-duration assets are forecast to be required by AEMO's draft 2024 ISP so that the NEM includes sufficient dispatchable capacity that can sustain output for a certain period, especially during peak demand times or when intermittent renewable sources are less available.

Longer-duration storage assets can also provide greater benefits than 2-hour storage assets. This is described below and referenced in our August-23 submission<sup>9</sup>:

- operational flexibility trade-offs
  - a 4-hour battery takes longer to charge (at least 4 hours) compared to shorter duration;
  - however, longer duration systems might have ample opportunity to fully charge at low cost. This could be exacerbated in future (e.g. if the solar duck curve becomes more extreme).
- capital cost trade-offs:
  - longer duration storage assets have been impacted by increases in capital expenditure costs since they require more battery modules (whereas inverter costs have been easing with supply chain bottlenecks decreasing);
  - however, once factoring in operational costs, requiring two 2-hour systems may overall be more expensive than one 4-hour system.
- operational conditions used to compare the 2-hour and 4-hour systems

<sup>7</sup> Nexa Advisory (Mar-24), [Energy storage financeability in Australia](#)

<sup>8</sup> Baringa (Mar-24), [Assessment of the 'bankability' of storage in the NEM](#)

<sup>9</sup> CEIG (Aug-23), [CEIG response to CIS design paper](#)

- under idealised, hypothetical situations, where batteries operate with perfect foresight and identical portfolio strategies and VRE droughts/ system outages never last longer than 2 hours, it is not clear that one 4-hour battery is more effective at maintaining reliability than two 2-hour batteries.
- however, the following sources of error must also be considered (human error; forecast error; algorithmic error; diversity in portfolio strategies and bidding behaviour; extreme event duration). 2-hour systems may be more prone to these sources of error, and thus their ability to maintain reliability relative to an equivalent 4-hour system may be reduced.

### **CIS MERIT ASSESSMENT PROCESS**

CEIG supports in-principle the proposed merit assessment framework and assessment criteria as they will provide a methodical and comprehensive approach to evaluating projects' contributions to the energy system.

#### **Approach to system benefits assessment**

CEIG supports in-principle the CIS tender assessment's emphasis on a project's contribution towards:

System Reliability: CEIG values the focus on projects that contribute to reducing unserved energy (USE), akin to methodologies used in AEMO's Electricity Statement of Opportunities (ESOO) reports. Projects that significantly mitigate the risk of USE are rightly prioritised, aligning with the broader goal of enhancing grid reliability. CEIG suggests that the system reliability assessment models are made publicly available prior to tender processes to facilitate informed proposal development and enhance procedural transparency.

Delivery of Renewable Energy: CEIG supports the assessment of projects based on their direct and indirect impacts on the energy system, including their potential to alleviate congestion and curtailment. This underscores the importance of considering project location, technology type, and capacity factor as essential elements in the evaluation process.

Additional System Benefits: CEIG supports the consideration of supplementary advantages a project may offer, such as system strength services and system restart ancillary service capabilities. Acknowledging these additional benefits is vital for a holistic assessment of projects' value to the grid.

#### **Stage A - Project bid assessment**

##### **Project Technical and Commercial Viability and Proponent Capability**

CEIG supports strong criteria for assessing both the technical and commercial viability of projects and the capability of proponents.

CEIG supports the requirement to commit to delivering on a project's target final investment decision (FID) or financial close and commercial operation date (COD) dates

as contracted milestones. CEIG also supports that projects will be assessed on their ability to be operational by their target COD.

This approach will ensure that selected projects are not only viable but capable of meeting their delivery timelines and performance expectations, thereby contributing to the CIS's reliability objectives.

#### Treatment of Constructing projects

CEIG seeks further clarity around the treatment of Constructing Projects (Constructing Projects are projects that are not committed with AEMO as at 23 November 2023, but that are in-construction or constructed by the time they bid into a CIS auction).

Constructing Projects meet the government's eligibility criteria and CEIG understands that they will be preferenced against projects at earlier phases of development.

CEIG encourages the government to be clear in the tender guidelines that Constructing Projects are encouraged to apply and that they will be preferenced against projects at earlier phases of development.

Rationale for this recommendation:

The CIS 23GW VRE announcement represents a material intervention, and the market can now expect future wholesale prices to be materially lower as a result. Based on recent wholesale price forecasts seen by CEIG, the market will now expect a reduction of some \$36 to \$49/ MWh over the next decade.

For Constructing Projects, this material change could be financially very serious if:

- they fail to get an acceptable CIS agreement; or
- they fail to attract a sufficient Power Purchase Agreement (PPA), in what will likely now become a stalled/falling offtake market.

In other words, getting any form of contracted revenue (through CIS or PPA) has suddenly become critical since the CIS announcement has materially downgraded expectations of merchant revenue (i.e. revenue from wholesale prices).

There is a risk that Constructing Projects may pause development and not proceed to construction to improve their chances of securing a CIS agreement. By virtue of how progressed they are, Constructing Projects have much less room and time to change the financial parameters in their business case. They are at risk of having to pause development and avoid starting construction to:

- wait for a CIS auction to be run, and increase their chances of getting a CIS agreement (if Constructing Projects are seen less favourably than earlier-development projects); or
- wait for offtakers to assess the CIS impacts on the forward market.

By being preferenced in CIS tenders, Constructing Projects can deliver the following



**benefits:**

- Constructing Projects have largely been de-risked (e.g. have received planning approvals, connection agreements, EPC & O&M agreements, initial finance with associated heavy due diligence scrutiny, etc.):
  - they can bid accurately, competitively and with execution certainty, in a CIS auction which will deliver value-for-money and lower budget impacts for government;
  - whilst there could be a perception of the CIS not creating 'additionality,' this would crowd in early commitments by investors, would reduce failed CIS offers, would improve CIS efficiency and viability through higher accuracy and less speculative bids.
- Constructing Projects that start before obtaining a CIS support agreement most effectively contribute to:
  - system reliability by boosting the available capacity in the grid (particularly important over upcoming summers and ahead of Eraring's closure)
  - Commonwealth's and State's renewable energy and emission reduction targets; and
  - lowering wholesale electricity prices for the benefit of consumers.

In attachment 1, CEIG presents further analysis of the benefits and risks of enabling projects at various stages of development to compete into the CIS.

Importance of improvements to statutory planning approval processes

CEIG supports the need for a project to demonstrate progress towards securing all relevant land, environmental, planning and connections approvals.

However, CEIG notes that securing those approvals in a timely and efficient manner largely relies on how governments and AEMO administer those processes at their end.

In particular, the success of the CIS heavily depends on well-integrated statutory planning assessment processes that enable efficient delivery of CIS projects. CEIG reasserts its support for CIS funding (for the States) being conditional upon state governments making improvements to their planning assessment processes.

CEIG has collaborated with Herbert Smith Freehills (HSF) to examine some of the key regulatory hurdles facing renewable energy projects within the NEM<sup>10</sup>. The report identifies areas for improvement to support the growth of renewable energy:

- Broader use of CSSI declarations to meet the State's critical energy needs;
- Streamline the DA assessment process with improved inter-agency coordination;
- Allow conditions under which the work may be started (where appropriate);
- Prepare a clear and reasonable dwelling entitlement methodology;
- Explore further improvements to visual impact assessment; and
- Streamline Secretary's environmental assessment requirements and/or appropriately

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<sup>10</sup> HSF (Dec-23), [Delivering major clean energy projects in NSW](#)

use approval conditions.

#### Australian Supply Chain, Community, and First Nations Engagement

CEIG supports in-principle the proposed assessment criteria around supply chain, but nevertheless emphasises the need for a balanced approach in evaluating supply chain criteria, advocating for criteria that are realistic and not overly burdensome for projects.

CEIG supports strong merit criteria focused on community and First Nations engagement, highlighting the importance of building long-term, mutually beneficial relationships. A fair and robust community and First Nations engagement process is essential for building and maintaining trust between project developers, investors, and local communities. This involves transparent, procedurally fair engagement strategies that allow for meaningful participation of all stakeholders in the decision-making process. CEIG agrees that CIS projects should demonstrate a genuine commitment to social responsibility and environmental stewardship.

#### **Stage B - Financial Value Bid**

CEIG supports the proposed approach and agrees about the importance of “taking a broad perspective on value to energy consumers and taxpayers, including system costs and infrastructure cost implications, not simply the lowest cost per unit of energy.”

#### Financial Value and Commercial Departures

CEIG supports the proposed approach to assessing a project’s financial value.

CEIG also notes that the webinar clarified that a project would only be able to submit contract departures during the consultation period on the draft contract and during stage A, not during Stage B. CEIG supports this approach as it is similar to practice in other international tender processes.

#### Social Licence Commitment and shared benefits

CEIG supports robust social license commitments and shared benefits, recognising the essential role these play in project success and community acceptance.

Effective benefit-sharing enhances social and economic outcomes for local communities, creating a positive legacy that extends beyond the life of the project. For the CIS to effectively facilitate the development of utility-scale renewable energy projects, it must incorporate social license considerations that are procedurally fair and distributionally fair, without becoming unduly burdensome and leading to project delays.

#### **Approach to assessing hybrid projects**

CEIG notes that hybrid projects have an opportunity to showcase the additional reliability benefits they can bring compared to a generation-only project and supports in-principle the proposal to only offer a generation CISA to a hybrid project.

In its Aug-23 submission<sup>11</sup>, CEIG offered the following guidance on how the CIS could reward the reliability benefits provided by hybrid projects:

- Projects could be assessed more favourably when pairing a battery with clean supply, and the wind or solar components of hybrid projects should be rewarded for any reliability benefits that they provide.
- The CIS could achieve this by incorporating the renewable generation component of hybrid projects when assessing their reliability contribution (including through appropriate storage derating factors that incorporate the associated renewable energy component of the project).
- Unserved energy events between 2026-2030 are likely to occur on hot summer afternoons or during cold, cloudy winter days. Although those are likely to occur when wind & solar resource is low, there are often geographically distinct wind and solar farms that are producing when most are not (e.g. QLD wind is often generating when wind in the southern states is poor, or a tracking solar farm in far western NSW, VIC or SA might produce power later in the afternoon than other projects).

CEIG acknowledges that the government has largely implemented CEIG's Aug-23 proposal on how the CIS could reward the reliability benefits provided by hybrid projects. CEIG looks forward to further detail on how the reliability benefits of hybrid projects will be valued (against generation-only projects), since as the government acknowledges, adding a storage asset will increase the cost of the electricity generated.

### **Approach to assessing dispatchable renewable generation projects**

CEIG agrees with the need for careful consideration of how different technologies might compete against the merit criteria, especially in terms of reliability benefits.

CEIG emphasises the need to assess dispatchable generation projects in ways that accurately capture and value the unique benefits of storage assets and their ability to contribute to a reliable, sustainable, and cost-effective energy future.

CEIG's recent collaborative research efforts with Baringa<sup>12</sup> and Nexa Advisory<sup>13</sup> have yielded insights that underscore the complexity and diversity of the energy market's needs. Key findings from this research indicate that:

- A diverse portfolio of renewable energy assets, including BESS, wind, solar, and other emerging technologies, is crucial for achieving a resilient and sustainable energy system.
- The integration of various dispatchable renewable generation assets can enhance grid stability, provide reliable power supply, and contribute to meeting peak demand efficiently.
- The merit criteria for assessing projects should reflect the multifaceted value that different technologies bring to the table, including but not limited to, their capacity for

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<sup>11</sup> CEIG (Aug-23), [CEIG response to CIS design paper](#)

<sup>12</sup> Baringa (Mar-24), [Assessment of the 'bankability' of storage in the NEM](#)

<sup>13</sup> Nexa Advisory (Mar-24), [Energy storage financeability in Australia](#)

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energy storage, flexibility, response times, and their ability to support grid services.

### **Assessment of reliability**

In its August 2023 submission<sup>14</sup>, CEIG made some suggestions around how to approach the assessment of individual projects' reliability (including hybrid projects). Transparency on how this will be assessed (e.g. how projects can score highest during this process) is critical if it is to effectively direct investment.

CEIG would like to be consulted on the proposed derating and modelling methodologies used for setting the reliability target and for individual project assessments.

### **Treatment of plant expansions**

CEIG seeks further clarification around the treatment of future additions or expansions (e.g. future addition of storage asset; future repowering of wind or solar farm) to existing CIS funded projects to ensure that the CIS arrangements can fully accommodate the evolving nature of energy assets and their potential for expansion or enhancement over time.

This would facilitate the scaling and modification of CIS projects in response to evolving energy demands, while avoiding undue limitations, which is particularly pertinent when a 'CISA connection point' could be shared in future with new additions to the 'CISA plant'.

Guidelines to delineate the possible limitations or prerequisites for utilising the same connection point for future project enlargements would be useful to provide clarity for investors about the scope of the project and how future expansions would be treated.

CEIG proposes either:

- the potential consideration of ring-fencing agreements within CISAs. By ring-fencing initial connections, projects would have clarity around their defined operational 'CISA scope and capacity; from the outset; or
- using another SPV to host the expanded part of the plant which is not part of the CISA.

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<sup>14</sup> CEIG (Aug-23), [CEIG response to CIS design paper](#)

CEIG thanks the Commonwealth Government for the opportunity to provide feedback on its CIS Implementation Design Paper and looks forward to continued engagement on those issues. Our Policy Director can be contacted at [marilyne.crestias@ceig.org.au](mailto:marilyne.crestias@ceig.org.au) if you would like to further discuss any elements of this submission.

Yours sincerely,



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**ATTACHMENT 1 – BENEFITS AND RISKS OF ENABLING PROJECTS AT VARIOUS STAGES OF DEVELOPMENT TO COMPETE INTO CIS**

<b>CIS bid timing</b>	<b>CIS bid timing relative to Start of Construction</b>	<b>Description</b>	<b>Benefits to project/ market/ Commonwealth</b>	<b>Risks/drawbacks to project/ market/ Commonwealth</b>
pre-Ready-to Build (RtB):	6-18mth before	Eligible Projects bid/win CIS before development is complete (opposite of a merchant strategy)	Revenue pathway known early (project benefit)	i) Subsequent delays/cost changes driving winning bids out-of-the money / unfulfillable (potential CIS bid failures);
RtB:	0-6mth before	Eligible Projects bid/win CIS when development is substantially complete (e.g. EPC, Connection and planning approvals obtained)	Expected costs and timing reasonably well-known	i) Twice-annual batching situation of RtB projects, concentrating expert market resources (legal, construction, finance) around CIS calendar; ii) Projects do not proceed until CIS secured
post-RtB:	Anytime after	Eligible Projects bid anytime, with explicitly no evaluation advantage given to pre-RtB or RtB projects (i.e. starting/completing construction is explicitly not a disadvantage)	i) Access early merchant revenues, reducing reliance on CIS; ii) Project efficiently proceeds to Fin. Close as soon as RtB (not only if/when a CIS auction is won); iii) Projects bid knowing LCOE (cost, time, production, finance), increasing CIS bid accuracy and therefore long-term project & market stability; iv) Debt providers develop accordion loan structures to	i) Perception of CIS not rewarding/creating “additionality”  <i>(defences: crowds-in early commitments by investors, reduces failed CIS offers, improves CIS efficiency/ viability through higher</i>



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			adapt with CIS timing; v) Expert resources spread more efficiently	<i>accuracy/ less speculative bids)</i>
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