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15 September 2023

Mr Brad Archer  
Chief Executive Officer  
Lodged by email to: [consultation@climatechangeauthority.gov.au](mailto:consultation@climatechangeauthority.gov.au)

Dear Mr Archer,

**Response to *Economic modelling of potential Australian emissions reduction pathways* Consultation paper**

The Clean Energy Investor Group (CEIG) welcomes the opportunity to provide feedback on the Climate Change Authority's (CCA)'s *Economic modelling of potential Australian emissions reduction pathways* (Consultation paper) published on 18 August 2023.

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 a clean energy system from the perspective of the stakeholders who will provide the low-cost capital needed to achieve it.

**KEY POINTS**

- CEIG strongly welcomes the CCA undertaking economic modelling to support the advice it provides to the Australian Government on greenhouse gas emissions reduction targets to be included in Australia's Nationally Determined Contributions.
- CEIG supports modelling to provide an evidence base for increasing Australia's ambition. This can be achieved through answering the two modelling questions proposed. In addition, including the social cost of carbon in the analysis will provide significant insights for policy makers and should be included.
- In undertaking the analysis, CEIG would like the CSIRO to:
  - Ensure that the most up to date carbon budget is included
  - Consider Australia's 'fair share' carbon budget
  - Ensure that the latest data from Geoscience Australia is included
- CEIG welcomes the CCA's proposal to model a global action pathway to 2050 that is aligned with action to limit warming to 1.5 degrees. Furthermore, CEIG welcomes the CCA's plan not to model Australian emissions pathways that are less ambitious than Australia's current targets.
- CEIG supports the CCA modelling both the alternative scenarios suggested in the consultation paper that consider stronger Australian action. In addition, CEIG would like the CCA to run two sensitivities:
  - *Minimise carbon offsets*
  - *Increase Australia's 2030 target to be aligned with a 1.5-degree outcome*

- CEIG strongly supports a comprehensive modelling approach that captures the three critical potential benefits of lifting Australia's 2030 emission reduction targets highlighted by the CCA: reduced technology costs, the emergence of new industries, and reduced investment risk leading to a lower cost of capital.
  - In addition to modelling these the CCA should consider including an analysis of the social benefits of emission reductions.

CEIG strongly welcomes the CCA undertaking economic modelling to support the advice it provides to the Australian Government on greenhouse gas emissions reduction targets to be included in Australia's Nationally Determined Contributions.

### **CEIG supports modelling to provide an evidence base for increasing Australia's ambition**

CEIG emphasises the critical importance of understanding the multifaceted opportunities and costs tied to various emissions reduction scenarios in Australia. The nation's unique environmental vulnerabilities need urgent action, not just for environmental preservation, but also for economic resiliency as the energy transition progresses away from fossil fuel dependency. This transition opens lucrative investment opportunities such as zero embodied carbon exports, offering long-term economic benefits and global competitive advantages.

Moreover, such an understanding is pivotal for informed policy making, national security, and social stability. It can catalyse technological innovation, create new jobs, and enhance the quality of life through reducing climate hazards. Most importantly, a comprehensive assessment allows Australia to meet its global commitments responsibly while providing a roadmap for investors and policy makers alike.

Although the CCA does not propose to use this modelling exercise to assess the economic effects of physical climate change impacts, or the benefits (avoided economic costs) of greater reductions in global emissions, including the social cost of carbon in the analysis will provide significant insights for policy makers and should be included.

### **CEIG welcomes CSIRO undertaking economic modelling of emissions reduction pathways**

CEIG welcomes the CCA's engagement of Australia's national science agency, the CSIRO, to undertake the economic modelling exercise using the GTEM, AusTIMES and LUTO models. In undertaking the analysis, CEIG would like the CSIRO to:

- Ensure that the most up to date carbon budget is included in any analysis,<sup>1</sup> ensuring the most complete advice is given to the Australian Government.
- Consider Australia's 'fair share' carbon budget.<sup>2</sup>
- If not already embedded in any of the models, ensure that the latest data from Geoscience Australia is included to best understand the potential for Australia's

<sup>1</sup> [Climate Resource: Updated assessment of Australia's emission reduction targets and 1.5C pathways](#)

<sup>2</sup> Australia's 'fair share' of the global carbon budget may vary based on various judgments and methodologies. (See Climate Resource link above)

economy to contribute not only to its share of emission reductions but also assisting other nations reduce their emission through renewable exports.<sup>3</sup>

### **CEIG supports modelling 1.5 degree aligned scenarios**

CEIG welcomes the CCA's proposal to model a global action pathway to 2050 that is aligned with action to limit warming to 1.5 degrees. Furthermore, CEIG welcomes the CCA's plan not to model Australian emissions pathways that are less ambitious than Australia's current targets.

CEIG holds the position that Australia should be on a trajectory that aligns with action to limit warming to 1.5 degrees. As such, CEIG supports the CCA modelling both the alternative scenarios suggested in the consultation paper that consider stronger Australian action.

In addition, CEIG would like the CCA to run two sensitivities:

1. *Minimise carbon offsets*: A sensitivity that minimises carbon offset would provide a better understanding of the true costs and benefits of zero emissions. For example, reducing reliance on carbon offsets may accelerate the adoption of emerging technologies which may result in economic opportunities for Australia in addition to reducing the impact of climate hazards.
2. *Increase Australia's 2030 target to be aligned with a 1.5-degree outcome*: Modelling the potential benefits of stronger action in 2030 will provide value insights to the Australian Government. CEIG has publicly advocated for Australia to lift its ambition and have published modelling<sup>4</sup> which found that it is possible for the electricity sector to decarbonise and meet these 1.5°C commitments, unlocking investment for all jurisdictions while maintaining a secure and reliable National Electricity Market (NEM).

### Capturing the potential benefits of stronger action

CEIG strongly supports a comprehensive modelling approach that captures the three critical potential benefits of lifting Australia's 2030 emission reduction targets highlighted by the CCA: reduced technology costs, the emergence of new industries, and reduced investment risk leading to a lower cost of capital.

Technological innovation is a key driver in reducing the overall cost of renewable energy. As Australia adopts more ambitious emission targets, increased investments in research, development, and deployment of clean technologies could lead to economies of scale and learning curve benefits. This will, in turn, make renewables even more cost-competitive with traditional energy sources, accelerating the transition to a green economy. Detailed modelling that considers these declining cost trajectories can provide a more accurate picture of the long-term economic benefits of ambitious climate action.

Setting higher emissions reduction targets can act as a catalyst for new industries, ranging from green iron and steel, green hydrogen and critical minerals as highlighted by the CCA.

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<sup>3</sup> [Geoscience Australia: Data](#)

<sup>4</sup> [CEIG: Decarbonising Australia - Accelerating our energy transition with a credible 1.5°C scenario](#)

These emerging sectors not only offer investment opportunities but also have the potential to create thousands of new jobs. Modelling can quantify the economic impact of these new industries, including their contribution to GDP, job creation, and tax revenue, thus providing a more comprehensive view of the economic landscape under elevated emissions reduction scenarios.

CEIG recognises that ambitious and stable policy commitments to lower emissions can significantly de-risk investments in renewable sectors. This leads to lower interest rates for project financing and ultimately results in a more favourable investment climate and lowers costs for consumers.

In August 2021 CEIG published the Clean Energy Investor Principles report.<sup>5</sup> This identified regulatory and policy risks to clean energy investment, quantified the impact these risks have on the cost of capital and proposed reforms to improve the investability of the National Electricity Market. The Rennie Partners survey of CEIG members revealed there is a risk premium on the cost of equity for clean energy investment in Australia of between 100-250bps. However, delivering the Investor Principles outlined in the report would achieve savings of approximately \$7 billion or close to 10% of the solar and wind investment required to meet AEMO's Step Change scenario.

In addition to modelling the benefits of reduced technology costs, the emergence of new industries, and reduced investment risk, the CCA should consider including an analysis of the social benefits of emission reductions. Combined, these benefits will inform better policy making, encourage timely investments, and pave the way for Australia's successful transition to a sustainable, low-carbon economy.

CEIG thanks the CCA for the opportunity to provide feedback on its Consultation paper and looks forward to continued engagement on those issues. Our Policy Director Ms. Marilyn Crestias 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,



Simon Corbell  
Chief Executive Officer and Chairperson  
**Clean Energy Investor Group Ltd**  
w: [www.ceig.org.au](http://www.ceig.org.au)

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<sup>5</sup> [CEIG: Clean Energy Investor Principles](#)