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## **Response to Climate Change Authority consultation paper: Modelling Australian emissions reduction pathways**

Australasian Centre for Corporate Responsibility

**Attn:**

Climate Change Authority

**Submitted via email to:** [consultation@climatechangeauthority.gov.au](mailto:consultation@climatechangeauthority.gov.au)

**Contact:**

Dimitri Lafleur

[dimitri.lafleur@accr.org.au](mailto:dimitri.lafleur@accr.org.au)

On behalf of the Australasian Centre for Corporate Responsibility

# Introduction

The Australasian Centre for Corporate Responsibility (ACCR) is pleased to participate in the Climate Change Authority's consultation on *Modelling Australian emissions reduction pathways*.

ACCR is a philanthropically-funded, not-for-profit, research and shareholder advocacy organisation, focused on the investment risks and opportunities brought about by the global energy transition. We closely monitor how climate-related risks are being managed by a selection of heavy-emitting companies, and we enable institutional investors to engage effectively with these companies.

## Response to consultation questions

**What are your views on the two modelling questions? Are there other questions the authority should explore through economic modelling to inform its advice?**

These are appropriate questions that economic modelling can ascertain. We acknowledge that this modelling exercise is not intended to assess the economic effects of physical climate change impacts, or the benefits (avoided economic costs) of greater reductions in global emissions.

However, we do believe that the outcomes of this modelling alone are less relevant if they are presented without understanding and/or including the economic effects of the physical impacts of the temperature outcome of a specific emissions pathway. These risks are not due to physical climate impacts, but due to pathway assumptions. Risks and opportunities referred to in the modelling question 2 should include the economic and non-economic risks and opportunities to society and environment. For example:

- does significant growth of a fossil fuel industry – with an intrinsic assumption that emissions are mitigated through CCS - have implications for water supply for certain regions?
- what are the risks of large mineral mines for biodiversity? While the assumptions will result in an economic impact for Australia, there are non-economic risks that should be considered.
- what is the impact of a significant increase in fly-in-fly-out (FIFO) workers into regional hubs on local economies with regards to e.g. housing or schooling (disposable income of FIFO workers is usually much higher than the regional average).

**What are the strengths or limitations of these models the authority should keep in mind when interpreting their outputs? Are there other models that would provide valuable insights into the questions the authority is trying to answer?**

We have no specific expertise or experience with these models. No comment.

**Do you think the proposed global action pathways provide an appropriate context for assessing potential Australian emissions pathways? Are there alternatives you think are higher priority pathways to consider? Are the IPCC, IEA and GLOBIOM assumptions appropriate for the proposed scenarios?**

We strongly object to the use of the 2021 IEA scenarios. These scenarios - regardless of intended calibration - are demonstrably out of date and do not represent the latest available update of these scenarios. The 2021 scenarios are significantly different to the 2022 scenarios due to incorporation of the impacts of the war in the Ukraine. In March 2023 ACCR published a comparison of the two scenarios.<sup>1</sup> We strongly recommend the use of the latest available scenarios (incorporated within IEA's World Energy Outlook, released on an annual basis around October).

It is worth considering the inclusion of IRENA scenarios which have a stronger focus on renewable energy.

### **What potential Australian emissions pathways or scenarios do you think would provide the most valuable modelling insights and inputs to support the authority's advice?**

Potential Australian emission pathways should include trade aspects and/or assumptions. For example: in our view an assumption to keep the amount of energy exported constant (while the type of energy changes from e.g. coal and gas to hydrogen) without making assumptions on international trade and demand has limited value.

We see value in introducing sensitivities related to the consequences of economic shock of commodity scarcity or oversupply, such as:

1. Global scarcity of critical minerals. This would impact possible domestic industries with a critical minerals demand in the scenario where Australia would not ramp up critical mineral extraction
2. Global oversupply of LNG. Scenarios where:
  - a. Gas (and more specifically LNG) demand is declining, what are the economic impacts of a scenario where the Australian LNG industry would expand.
  - b. Australia's most important trade partner (e.g. China) is hit with a prolonged economic downturn

Scenarios that focus on the co-benefits of integrating economic sector activities are valuable. For example, a scenario that would assume the production of green iron rather than raw commodity exports would be valuable.

Scenarios that restrict the use of nature-based offsets and the use of technologies that are unproven at scale (CCS, DAC, BECCS) would have merit, since scenarios that avoid heavy reliance on these mitigation levers are less speculative.<sup>2</sup> CCS projects currently in operation have shown that including an uncertainty range would be a prudent approach since capture, injection and storage volumes are uncertain (e.g. the well documented underperformance of the Gorgon CCS project, the unexpected storage volume in Sleipner<sup>3</sup> and the capacity limitation at Snøhvit.<sup>4</sup>

### **How do you think the authority should capture the potential benefits of stronger action to reduce national and global emissions in its modelling? Are some approaches better than others?**

Reducing investment risk will have an impact on investment opportunities in other parts of the economy. Reducing investment risk may not be directly related to emission reductions in other sectors, but will be related to increased economic growth elsewhere in the economy. Quantitative analysis should capture that aspect.

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<sup>1</sup> <https://www.accr.org.au/insights/investor-bulletin-clearing-the-air/>

<sup>2</sup> See for example, Warszawski et al., 2022, <https://doi.org/10.1088/1748-9326/abfeec>

<sup>3</sup> <https://ieefa.org/resources/norways-sleipner-and-snohvit-ccs-industry-models-or-cautionary-tales>

<sup>4</sup> <https://www.straitstimes.com/opinion/forum/forum-norway-s-carbon-storage-projects-safe-and-efficient>

**Are there any other issues the authority should consider as part of its modelling exercise?**

We encourage the Authority to integrate the findings of the following reviews of existing economic modelling that assess the costs of the physical impacts of climate which found the methodology lacking. And more specifically, the concerns raised that costs are fundamentally and consistently underestimated.

The Authority should consider:

- Report by Institute and Faculty of Actuaries and University of Exeter:  
<https://actuaries.org.uk/news-and-media-releases/news-articles/2023/july/04-july-23-emperor-s-new-climate-scenarios-a-warning-for-financial-services/>
- Report by GIC supported by Ortec Finance and Cambridge Econometrics:  
<https://www.ortecfinance.com/en/about-ortec-finance/news-and-events/ortec-finance-supports-leading-institutional-investor-gic-in-updating-its-climate-scenario-analysis> , with the report here:  
<https://www.gic.com.sg/thinkspace/long-term-investing/integrating-climate-scenario-analysis-into-investment-management/>