INVESTOR GROUP ON CLIMATE CHANGE

Submission to:

Australian Energy Market Operator's 2019 planning and forecasting consultation paper

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KEY POINTS

Investors are exposed to systemic, climate-related physical and transition risks. The implementation and evolution of the Integrated System Plan (ISP) has been a very welcome development. Done well, the ISP can support a managed transition of the electricity market towards the objectives of the Paris Agreement.

The currently proposed Neutral scenario and other central scenarios in the ISP are not aligned with the long-term objectives of the Paris Agreement. The current gap between the Neutral scenario and the objectives of the Paris Agreement increases investment risks, risks locking in path dependency towards high emissions and increases the risk that investments will be stranded as governments increase action through time.

IGCC recommends that the central or Neutral scenario be aligned with achieving the objectives of the Paris Agreement and achieving net zero emissions in the sector by 2050 at the latest. This scenario should also be stress tested against more rapid acceleration of action to reduce emissions in the future.

1. Introduction and overview

The Investor Group on Climate Change (IGCC) welcomes the opportunity to comment on the Australian Energy Market Operator's Integrated System Plan (ISP) *2019 Planning and Forecasting Consultation Paper*.

IGCC is a collaboration of Australian and New Zealand investors focused on the impact that climate change has on the financial value of investments. The IGCC represents institutional investors with total funds under management of over $2 trillion, and others in the investment community interested in the impact of climate change. IGCC members engage over 7.5 million people in Australia and New Zealand.

Climate change is a systemic risk to the financial system

Investors are exposed to systemic, climate-related physical and transition risks.[1] These risks have been most recently articulated by Dr. Guy Debelle, Deputy Governor of the Reserve Bank of Australia[2] and have been anticipated by long-term institutional investors and financial system regulators for some time.

Fundamentally, long-term investors are concerned because climate change risks unprecedented impacts on the economy and financial system. For example, recent economic analysis suggests that, conservatively, warming of 2.5-3°C could reduce global economic output by 15 per cent to 25 per cent and more than 30 per cent for 4°C warming.[3] These economic impacts are material to the investment returns of long-term asset owners and superannuation holders. Meeting the objectives of the Paris Agreement, limiting global warming to 1.5°C and well below 2°C, would substantially reduce the financial damage caused by climate change and reduce the cost of climate change adaptation measures.

Other climate-related investment risks and opportunities come from the steps taken to reduce emissions. This includes regulatory shifts, technology disruption and changes in market demand for carbon intensive goods and services. This is particularly the case in the electricity sector because of the long-term nature of investments in the sector and its strategic importance in achieving net zero emissions across the economy.

Investors are long term owners and operators of many parts of Australia's electricity system. Anticipating and responding to the investment demands required to deliver long term sustainability of the system in a zero-carbon economy will be critical.

Investors are scaling up action to meet this challenge

Zero carbon climate resilient infrastructure will be a defining investment theme of the 21st century. For investors, finding and backing low carbon infrastructure projects that generate strong, stable and sustainable returns remains challenging, but is critical for tackling climate change. Developing the real-world solutions which unlock capital and embed zero carbon at the heart of investment decisions requires the financial and corporate sectors to step up ambition and act. It also requires action from governments and regulators as policy uncertainty remains a significant barrier to further investment activity.[4]

In this context, the implementation and evolution of the ISP has been a very welcome development. Done well, the ISP can support a managed transition of the electricity market towards the objectives of the Paris Agreement. Integrating high levels of renewable energy into the market, managing the accelerated closure of ageing coal fired generators, physical climate change risks, and the associated impacts for transmission infrastructure are all part of the same policy conversation and must be managed together.

In addition, as an independent and respected source of information on possible energy futures the ISP can play a critical role informing companies and financial actors on the forces shaping markets. In turn, this materially impacts expectations for future investment returns for energy infrastructure, and thus influences capital deployment by both companies and investors.

Finally, up to date and appropriate scenarios are important to institutional investors because they are increasingly seeking to use them to understand their own climate change risk exposure and to inform capital allocation decisions.

In light of this, in this submission, IGCC will focus on two key questions that AEMO seeks feedback on:

> *Q2 Do you agree that the proposed scenarios outlined in this section provide plausible and internally consistent future worlds for use in network planning and forecasting publications? Do they provide sufficient stretch for forecasting and planning purposes?*
>
> *Q3 What additional sensitivities should be explored in the 2019-20 ISP or 2019 ESOO, that could materially impact power system planning?*

Physical climate change risk

While we do not address is specifically in this submission, IGCC strongly welcomes the development of robust tools to integrate the impacts of climate change into National Electricity Market planning. Investors have been examining the impacts of climate change on infrastructure for a number of years[5] and have been developing tools to manage the physical risks of climate change.[6] IGCC would welcome the opportunity to facilitate a discussion between AEMO and institutional investors to share knowledge and experience.

3. IGCC comments on specific consultation questions

Do you agree that the proposed scenarios outlined in this section provide plausible and internally consistent future worlds for use in network planning and forecasting publications? Do they provide sufficient stretch for forecasting and planning purposes?

No.

IGCC recommends that the central or Neutral scenario be aligned with achieving the objectives of the Paris Agreement and achieving net zero emissions in the sector by 2050 at the latest. In this context, IGCC notes that all major National Electricity Market states have committed to achieving net zero emissions by 2050. The stress testing that the ISP process undertakes can then be undertaken around this more realistic and necessary policy scenario.

Removal of emissions reductions targets from policy scenarios

A core and fundamental challenge for energy policy is the integration of climate change and energy policy. The consultation document proposes that planning scenarios will not be constrained by emissions targets. This sends the wrong signal to investors on how climate change and energy policy will be integrated into electricity market planning the future.

There is very limited information in the document as to the rationale for removing emissions targets from the scenarios. As the paper articulates, the retirement of coal-fired generation and investment renewable energy will be the primary drivers of emissions reductions in the electricity sector. However, climate change policy and emissions targets will increasingly influence both of these factors through time if Australia is to meet its commitments under the Paris Agreement.

It is not credible to expect investors to act on the assumption that emission constraints will not be a major thematic impacting future investment returns for the energy sector.

The central scenario in the ISP should be aligned with the objectives of the Paris Agreement

Australia has ratified the Paris Agreement. The Paris Agreement is forged to be durable, long-term, and critically, to ratchet up action through time. For example, countries are expected to update their current 2030 targets by the end of 2020.

As outlined above, achieving the objectives of the Paris Agreement is in the financial interest of long-term investors and the broader community.

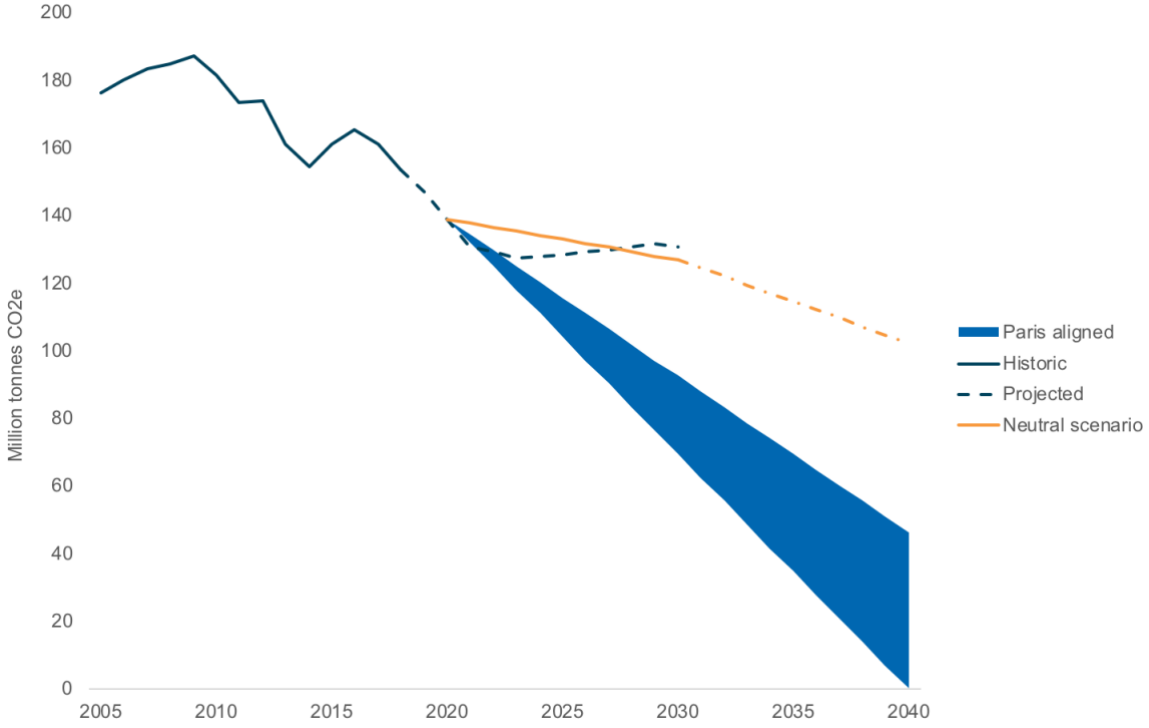
The foundation of the agreement is its long-term objectives. Governments recognise that global warming of even 2°C would lead to severe consequences. Action to reduce emissions should be anchored to the goals of limiting warming to 1.5°C and well below 2°C (both above pre-industrial levels). The agreement specifies that this requires achieving net zero emissions, and achieving should be in line with the objectives of the agreement and that the timing of achieving net zero emissions will happen "*in accordance with best available science*".[7] The latest and best science suggests this needs to occur not later than 2050.[8]

The currently proposed Neutral scenario in the ISP is not aligned with the long-term objectives of the Paris Agreement.[9] Investors take international agreements seriously and see long-term action to achieve net zero emissions a key factor influencing electricity sector investment. The current

gap between the Neutral scenario and the objectives of the Paris Agreement increases investment risks, risks locking in path dependency towards high emissions, and increases the risk that investments will be stranded as governments increase action through time or act abruptly with sharp policy interventions at a later stage.

By testing investment and lending portfolios against a scenario that falls short of the Paris Agreement's objectives, it will also give a false sense of confidence of the electricity systems robustness against future change or that the goals of emissions reductions, energy security and affordability can be met with limited change in investment practices.

Figure 1: The credibility gap between the proposed Neutral scenario and the Paris Agreement objectives increases investment risks. *This graph shows historic and projected emissions in the National Electricity Market. This is compared to emissions in the currently proposed Neutral scenario and this aligned with the objectives of the Paris Agreement.*

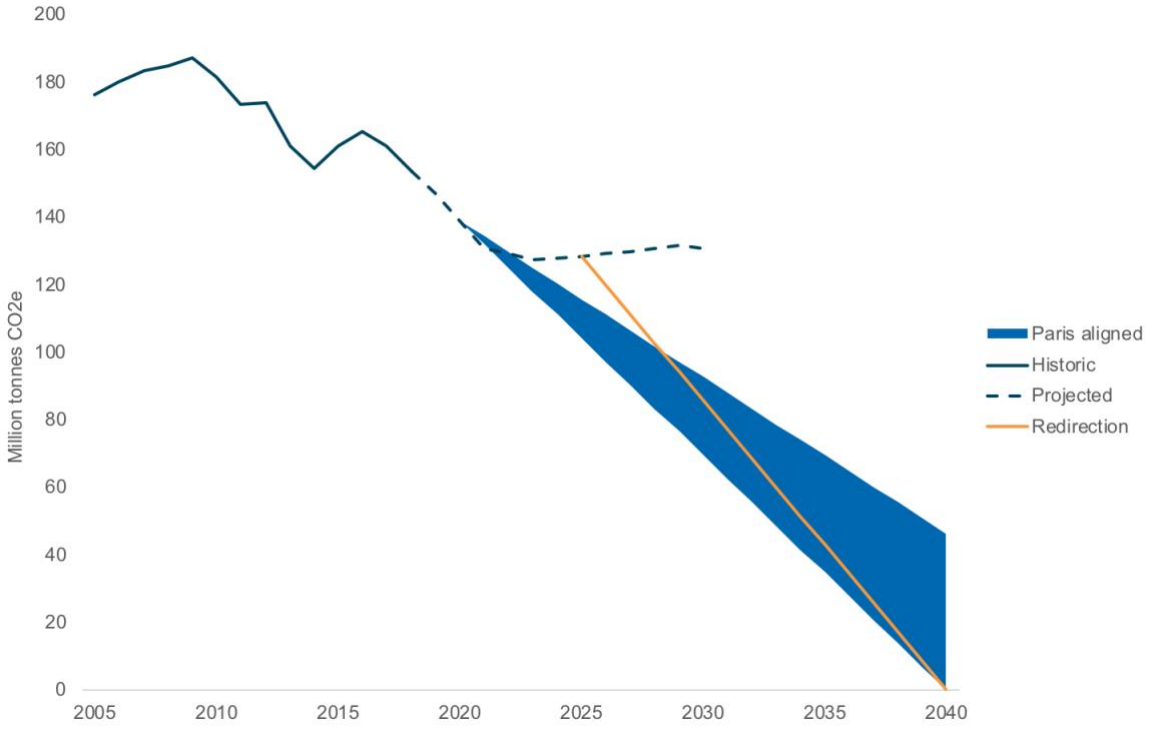


What additional sensitivities should be explored in the 2019-20 ISP or 2019 ESOO, that could materially impact power system planning?

In addition to aligning the Neutral scenario around achieving net zero emissions, this scenario should be stress tested against the rapid acceleration of action to reduce emissions. In the face of growing climate change impacts, public concern around climate change, rapid technology development and/or geopolitical responses to climate change there is a real scenario a future government will accelerate action to reduce emissions significantly (Figure 2). The current ISP scenarios do not capture this possibility and longer action is delayed to significantly reduce emissions the greater this risk becomes.

Testing scenarios against more rapid future action to reduce emissions would strengthen the robustness of analysis and give greater confidence that the full range of possible policy scenarios are being considered.

Figure 2: Climate disruption scenario. *This graph illustrates a scenario were governments ignore the current international process to accelerate emissions reductions and then in response to growing climate impacts, public concern and international pressure accelerate emissions reductions from around 2025 (the next international target update deadline after 2020).*



6. In conclusion

Long-term investors have a critical role in delivering this more prosperous future and are increasingly changing their investment practices to align with a net zero emissions economy.

A managed transition to net zero emissions and actions to build resilience to the impacts of climate change will reduce the cost of climate change and open up investment opportunities.

Up to date and appropriate scenarios are important to institutional investors because they are increasingly using them to understand their own climate change risk exposure and inform capital allocation decisions.

Investors will not allocate capital to assets where they do not feel they can accurately price the carbon risk associated with the investment. Lack of regulatory certainty around energy and climate policy has been a key driver in the investment strike Australia has seen in the energy sector in recent years, as investors adopt a 'wait and see' approach to the reconciliation of energy and climate policy and politics.

Resolving investment uncertainty is more than just implementing durable policy frameworks. Policy in the energy sector must close the gap between current emissions

trajectories and the objectives of the Paris Agreement. Integrated Paris Agreement-aligned climate and energy policy is key to closing the credibility gap for investors and unlocking new capital in the sector.

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[1] Task Force on Climate-related Financial Disclosures (2017), **Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures**: https://www.fsb-tcfd.org/publications/final-recommendations-report/

[2] Debelle, G., *Climate Change and the Economy*, Public Forum hosted by the Centre for Policy Development, Reserve Bank of Australia, 12 March 2019: https://www.rba.gov.au/speeches/2019/sp-dg-2019-03-12.html

[3] Burke, M, W. Matthew Davis, N. Diffenbaugh (2018), **Large potential reduction in economic damages under UN mitigation targets**, *Nature*: https://doi.org/10.1038/s41586-018-0071-9

[4] Investor Group on Climate Change (2018), **Scaling up: Investing for low carbon solutions**: https://igcc.org.au/wp-content/uploads/2018/08/IGCC_Report-low-carbon-solutions_Aug2018.pdf

[5] Investor Group on Climate Change (2017), *From risk to return: Investing in climate change adaptation*: https://igcc.org.au/wp-content/uploads/2017/03/Adaptation_FINAL.pdf

[6] Investor Group on Climate Change (2018), *Investing in resilience: Tools and frameworks for managing physical climate risk*: https://igcc.org.au/wp-content/uploads/2016/04/IGCC-investing-in-resilience_AUG_Final.pdf

[7] Some suggest that the Paris Agreement says that net zero emissions should be achieved in the second half of this century and that countries can delay achieving net zero emissions to as late as 2099. This is incorrect. The Paris Agreement was deliberately drafted with the intent to bound the net zero emissions goal with the objectives of the agreement and the best available science.

[8] Rogelj, J., D. Shindell, K. Jiang, et al. (2018), **Mitigation Pathways Compatible with 1.5°C in the Context of Sustainable Development**. In: *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, et al. (eds.)]: https://www.ipcc.ch/site/assets/uploads/sites/2/2019/02/SR15_Chapter2_Low_Res.pdf

[9] Note that this concern is not limited to the ISP planning process and investors are also engaging with institutions such as the International Energy Agency to ensure its energy forecasts in the World Energy Outlook are aligned to the Paris Agreement.