



This document provides an overview of AEMO's 2024 Integrated System Plan (ISP) Delphi Panel, convened to consider the scenario weightings for the 2024 ISP.

About AEMO

The Australian Energy Market Operator (AEMO) is Australia's independent energy markets and power systems operator, providing critical planning, forecasting, advice, and other services to support the delivery of safe, reliable, and affordable energy to the National Electricity Market (NEM).

Spanning around 40,000 km, the NEM is an electricity system that connects five regions: Queensland, New South Wales (including the Australian Capital Territory), Victoria, South Australia, and Tasmania, and supplies nine million customers.

About the Integrated System Plan (ISP)



Published every two years, AEMO's Integrated System Plan (ISP) provides a plan for the energy transition to net zero emissions.



It initiates regulatory action to deliver transmission solutions and provides guidance on the generation and storage needed to ensure a reliable and affordable power system for the future, considering consumer energy resources, demand outlook, public policy and social licence.

How are scenarios used in the ISP?



The ISP adopts a scenario planning approach, supplemented with sensitivities, to ensure that recommended investments are robust and resilient to various uncertainties.

Key take-aways

Three scenarios have been developed, as reported in the 2023 Inputs, Assumptions and Scenarios Report (IASR):

- **Green Energy Exports** features a very rapid decarbonisation rate to support Australia's contribution to limit global temperature rise to 1.5°C, including strong electrification and a strong green energy export economy.
- **Step Change** features an energy transition pace to support Australia's contribution to limit global temperature rise to less than 2°C, and compatible with 1.5°C outcomes depending on the actions taken across other sectors. Consumer energy resources provide a strong contribution to the transition.
- **Progressive Change** features more challenging conditions resulting in the transition speed focusing on Australia's current policies and global commitments to decarbonisation.

AEMO convened a Delphi Panel of expert stakeholders to collect, and test (through informed, anonymous debate), their view of the relative likelihood of each scenario.

While not always applied in scenario planning, scenario likelihoods are important for the ISP as they inform the weighted value of the Draft 2024 ISP's Draft Optimal Development Path (ODP). This ensures the investments are most appropriate across the futures considered in accordance with the requirements of the AER's Cost Benefit Analysis Guidelines and the relevant requirements of the National Electricity Rules.

Step Change has been identified as the most likely scenario for the 2024 ISP.



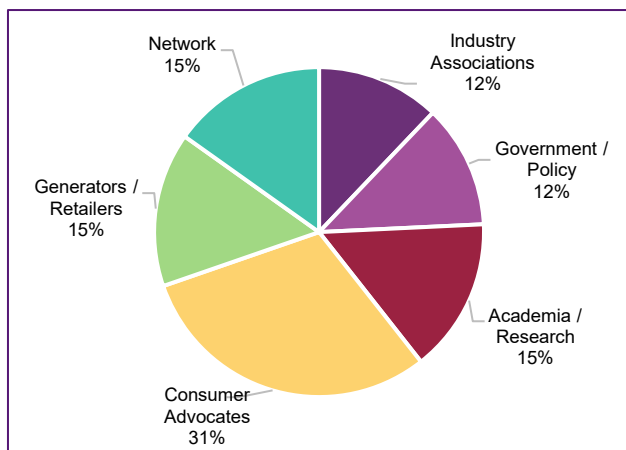
The 2024 ISP Delphi Panel

The Panel was established in August 2023. AEMO sought expressions of interest from experts and received a significant response with 43 applicants. Thirty-four individuals were selected, and only one representative was unable to participate during the Panel voting session, reflecting the high importance that experts put on contributing to this key phase of the ISP’s development.

The Panel comprised of industry experts, government representatives, network service provider representatives, generators and retailers, researchers, academics, and consumer advocates (Figure 1 below shows the composition of the 33 participants, by participant group).

The Panel represented some of the energy industry’s leaders in the design, governance, development, and use of the National Electricity Market, along with a range of consumer advocates. For the 2024 Delphi Panel, AEMO co-designed the panel’s participation with the ISP Consumer Panel, leading to a greater representation of consumer advocates.

Figure 1 – 2024 ISP Delphi Panel composition



What did the Panel do?

The Delphi Panel considered a critical question:

“ Based on your knowledge of the future of the energy sector, what is the relative likelihood of each of AEMO’s three core scenarios for the 2024 ISP? ”

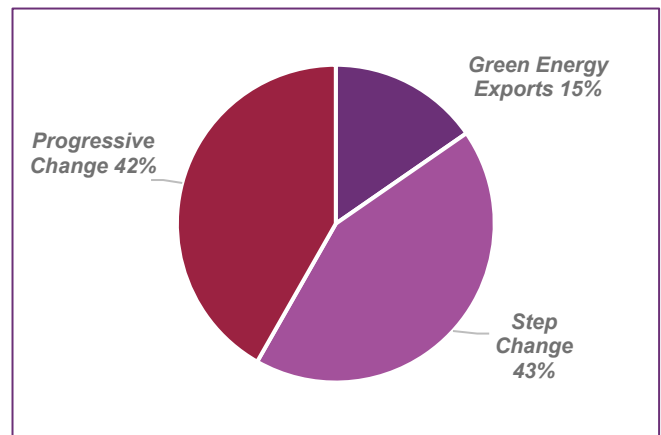
On 1 September 2023, panellists came together for a virtual, anonymous voting process to deliberate on the relative likelihood weightings for the three scenarios.

Over several rounds of voting, panellists provided their own weightings and considered alternate weightings provided by others. Panellists provided their justifications for their selection, and after each round of voting, panellists had the opportunity to revise their weighting for each scenario taking into consideration the views shared by other panellists.

What was the outcome?

At the conclusion of voting, the Delphi Panel had produced the following scenario likelihoods.

Figure 2 – 2024 ISP Delphi Panel scenario likelihood



The distribution of weightings across each participant group is shown in Figure 3 below.

Figure 3 – 2024 ISP Delphi Panel scenario likelihood by group

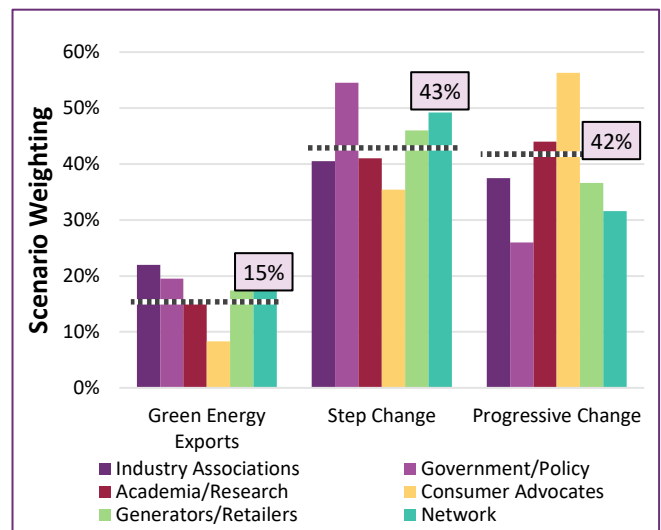


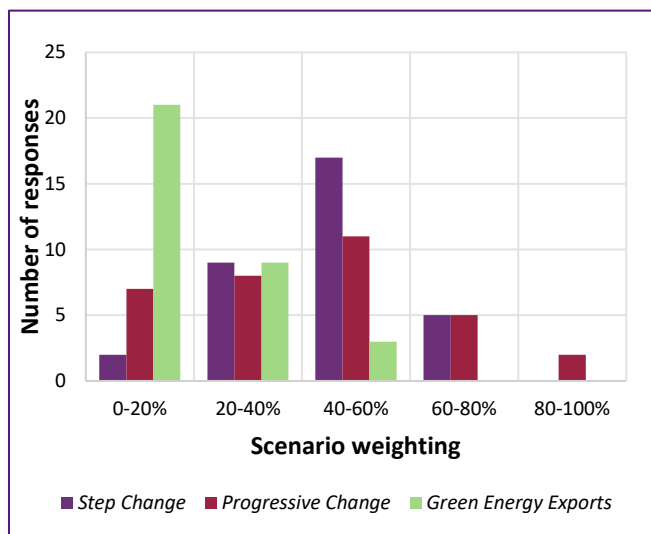


Figure 3 shows that consumer advocates and academics considered a greater relative likelihood for *Progressive Change*, while all other groups considered *Step Change* as most likely over the planning horizon.

Government and policymakers were the most confident group regarding the likelihood of *Step Change*, while consumer advocates recognised that near-term challenges such as supply chain and social licence increase the likelihood of *Progressive Change*.

The *Step Change* scenario received the most consistent level of support. Of the 33 participants, only two rated it under 15% likely. This compared to six participants rating *Progressive Change* with under 15% likelihood, and eighteen for *Green Energy Exports*. Figure 4 below (and Appendix A), shows that support for *Progressive Change* was more polarised, with much greater diversity of views relative to *Step Change*. *Green Energy Exports* was most commonly viewed as the least likely scenario.

Figure 4 – 2024 ISP Delphi Panel weighting distribution



Participant comments noted challenges impacting the energy transition, including cost, social licence, supply chain, and the overall technical complexity. These challenges drove some support for *Progressive Change*. Participant viewpoints on the duration of current challenges differed from temporary, short-term, or long term (as much as 15 years).

Applying the result

AEMO has considered the results from the Delphi Panel process. The Draft 2024 ISP will explore all scenarios to determine the investment needs of the future power system and will use the scenario likelihoods as voted in the Delphi Panel process to inform the selection of a draft optimal development path for the Draft 2024 ISP.

In accordance with the ISP Methodology, a range of sensitivities complement the scenarios to explore various uncertainties, including adjustments to various key assumptions used in ISP modelling. The IASR sensitivities are also considered in determining the optimal development path.

Step Change is 'most likely'

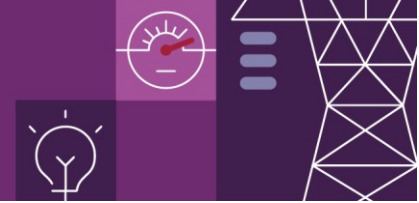
Step Change will now form AEMO's central scenario for relevant 2023–24 planning activities and is the 'most likely' scenario for the Draft 2024 ISP.

Next steps

The Draft 2024 ISP will be published in December 2023, and open for an extended consultation period until February 2024.

For more information about the scenario weighting requirement, see Section 5.7.2 (page 97) of the [ISP Methodology](#).

AEMO thanks all Delphi Panellists for their key contribution to the 2024 ISP.



Appendix A: Delphi Panel scenario weighting distribution

