About the IASR

The Inputs, Assumptions and Scenarios Report (IASR) sets out the inputs and assumptions used in AEMO's forecasting and planning publications for the National Electricity Market (NEM), such as the Integrated System Plan (ISP). AEMO develops and publishes the IASR in accordance with the National Electricity Rules (NER) and Australian Energy Regulator guidelines.

This overview describes how AEMO uses scenarios in its planning and forecasting functions, as well as changes to the scenarios since the 2023 IASR, and upcoming consultation opportunities for the Draft 2026 ISP.

See how AEMO's major publications connect.

About AEMO

As Australia's independent system and market operator and system planner, AEMO's purpose is to ensure secure, reliable, and affordable energy and enable the energy transition for the benefit of all Australians.

We do this by operating the electricity and gas systems and markets of today and planning the energy system of the future.

For more information: www.aemo.com.au

What are scenarios?

AEMO develops a range of inputs and assumptions from various sources to support its forecasting and planning. These form the basis of the scenarios outlined in the IASR.

AEMO plans for the energy system's future needs by using a scenario planning approach which examines a range of possible and plausible 'futures'.
Scenario planning is considered best practice in this type of modelling to identify and manage risks when planning in highly uncertain environments, particularly through disruptive transitions. Inputs and assumptions are aligned with the purpose of the scenario, while varying key assumptions or parameters across the scenario set.

Scenarios describe and analyse future worlds that could materially affect the energy sector.
Each scenario describes the global and domestic environment in which the energy transition occurs using a broad range of parameters. Scenarios do not describe ISP outcomes; they enable robust analysis of the future needs of the power system considering the uncertainties facing the energy transition.

Scenarios are developed in close consultation with a range of stakeholders, and to meet government energy and emissions targets between now and 2050.
The impact of uncertainties may also be explored through sensitivity analysis.

Criteria for scenarios and parameters

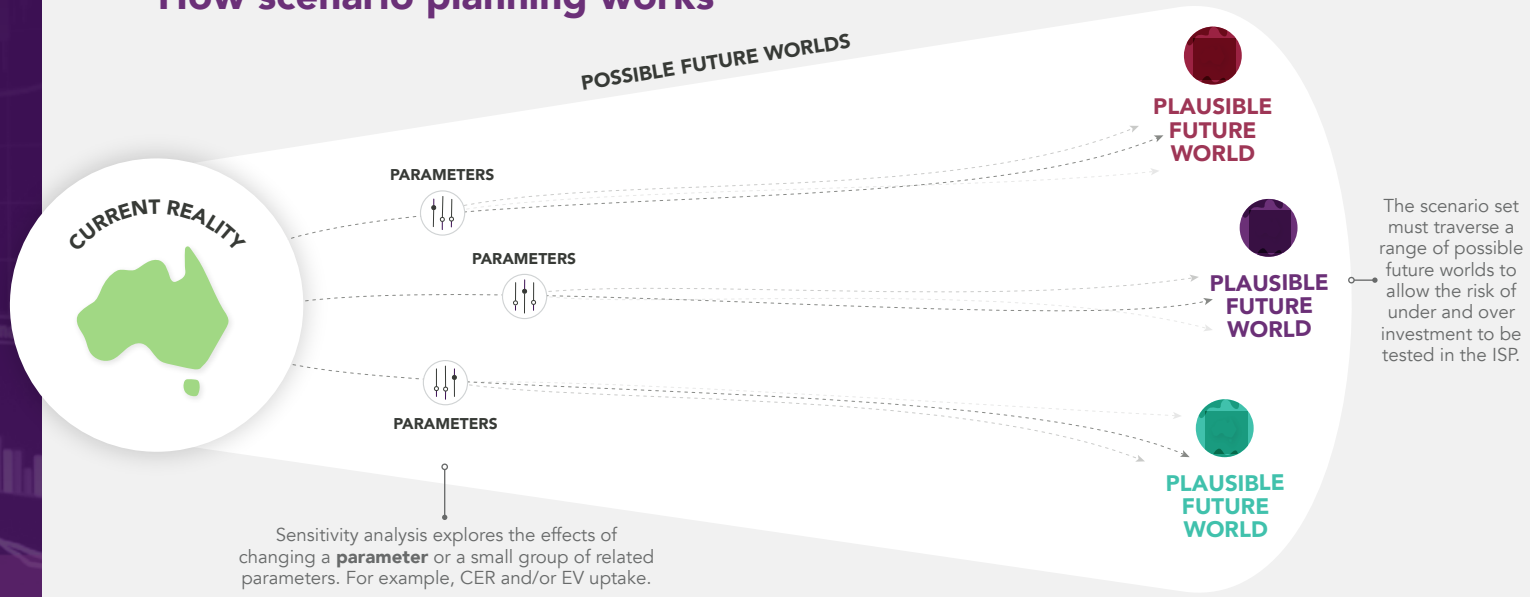
Plausible: The potential future described by a scenario narrative could come to pass.

Distinct: Individual scenarios must be distinctive enough to provide value.

Useful: Suited for AEMO's planning and forecasting requirements, such as for the ISP, Gas Statement of Opportunities (GSOO) and Electricity Statement of Opportunities (ESOO).

Internally consistent: The underpinning assumptions in a scenario must form a cohesive picture.

How scenario planning works



2025 IASR scenarios

The 2025 IASR scenarios will inform AEMO's performance of its forecasting and planning functions, including developing the 2025 ESOO, 2025 GSOO and 2026 ISP.

There are many possible futures for Australia's energy system. The goal of scenario development is not to determine which future will occur but to develop a discrete set of scenarios that embody and communicate key uncertainties.

Each scenario explores different rates of change affecting the NEM decarbonisation pathway and different dimensions that will influence energy demand and supply.

In all scenarios, AEMO considers government policies eligible to be considered under the NER (including energy and emissions targets between now and 2050).

All scenarios meet government energy and emissions targets between now and 2050.

A dimension by which we can distinguish the scenarios: Australia's pace of decarbonisation

Electricity sector's contribution to decarbonisation (NEM states)

Slower Growth

- Global action to limit temperature rise is weaker with insufficient action to maintain temperature rise to below 2°C.
- This scenario has more challenging economic conditions and features closures for major industrial loads, higher relative technology costs and more supply chain challenges relative to other scenarios.
- Consumers continue to support the transition, but with less capacity to invest in energy efficiency and consumer energy resources (CER) and minimal coordination of these resources.

Step Change

- A scale of energy transformation that supports Australia's contribution to limiting global temperature rise to below 2°C by the year 2100.
- The electricity sector plays a significant role in decarbonisation. The broader economy utilises the electricity sector's low emissions footprint to decarbonise through electrification.
- Consumers invest strongly in electrification, energy efficiency measures and CER with moderate long-term growth in coordination by third-party aggregators.

Accelerated Transition

- Reflects very strong decarbonisation activities domestically and globally that are aimed at limiting temperature increase to 1.5°C by 2100, resulting in rapid transformation of Australia's energy sectors.
- The electricity sector plays a very significant role with a broader scope of action, including strong use of electrification, green hydrogen and biomethane.
- Focuses on domestic value-add hydrogen products, with limited development of hydrogen exports as an energy carrier.
- Consumers invest most strongly in CER with the greatest uptake and acceptance of coordination opportunities.

How scenarios can change over time

AEMO has changed the name of the *Green Energy Industries* scenario to *Accelerated Transition* to better reflect the breadth of drivers targeting decarbonisation. The scenario represents strong and consistent decarbonisation policy signals from government, strong renewable energy deployments by energy proponents, and a higher level of consumer investment in CER and energy efficiency measures relative to Step Change.

Step Change scenario name and dynamics have been retained.

Progressive Change has been renamed to *Slower Growth* to more accurately reflect the settings that this scenario embodies. In particular, this reflects the more challenging economic growth conditions of this scenario. While the policy targets are met, the economic conditions underlie slower ongoing action on the path to net zero emissions. Major industrial loads are more likely to close in favour of offshore operations in this scenario.

For more information: The 2025 IASR is available on AEMO's website.

What's changed since the 2023 IASR?

The table below provides a side-by-side comparison of key scenario settings for the year 2040 to help show how they have evolved between the 2023 and 2025 IASR. The high-level comparison reflects changes driven by stakeholder input and shifts in market, policy and regulatory conditions.*

	Progressive Change		Slower Growth		Step Change		Green Energy Exports		Accelerated Transition	
	2023 IASR	2025 IASR	2023 IASR	2025 IASR	2023 IASR	2025 IASR	2023 IASR	2025 IASR	2023 IASR	2025 IASR
Electrification and energy efficiency savings										
Road transport that is electric vehicles (EVs)	32%	34%	60%	43%	72%	55%				
Residential EVs still relying on unscheduled charging	56%	35%	46%	32%	38%	24%				
Business electrification	20 TWh	22 TWh	25 TWh	34 TWh	36 TWh	38 TWh				
Increase from current business consumption	15%	15%	18%	23%	26%	26%				
Residential electrification	6 TWh	5 TWh	9 TWh	6 TWh	9 TWh	8 TWh				
Increase from current residential consumption	11%	9%	15%	11%	16%	13%				
Energy efficiency savings	26 TWh	27 TWh	36 TWh	41 TWh	41 TWh	52 TWh				
Underlying consumption										
NEM underlying consumption (excl. hydrogen consumption)	230 TWh	231 TWh	299 TWh	301 TWh	345 TWh	341 TWh				
Hydrogen consumption (domestic)	15 TWh	9 TWh	28 TWh	15 TWh	50 TWh	33 TWh				
Green commodities and export hydrogen consumption (2025 scenarios contain no export volumes)	0 TWh	0 TWh	7 TWh	2 TWh	183 TWh	19 TWh				
Total underlying consumption^	246 TWh	241 TWh	335 TWh	319 TWh	578 TWh	399 TWh				
Supply										
Distributed PV generation	45 TWh	50 TWh	77 TWh	72 TWh	92 TWh	84 TWh				
Household daily consumption potential stored in batteries	3%	7%	21%	15%	22%	20%				
Underlying consumption met by distributed PV generation	18%	21%	23%	23%	16%	21%				
Share of electricity emissions in economy-wide net emissions	9%	8%	1%	5%	1%	3%				
Estimate of NEM emissions	22 Mt CO2-e	20 Mt CO2-e	1 Mt CO2-e	10 Mt CO2-e	2 Mt CO2-e	1 Mt CO2-e				

* NEM states only.
^ Total underlying consumption includes an allowance for Balance of Plant (BoP) associated with hydrogen production. The exact volume of BoP load depends on electrolyser capacity determined by ISP modelling, and is not reflected in the other components listed in this table.

For more information: The full scenario descriptions and changes are available in the 2025 IASR and the Consultation Summary Report on AEMO's website.

Consultation

The IASR engagement process began in July 2024 and the Draft IASR consultation occurred over two stages.

Preliminary scenarios consultation

- Consultation paper released on 17 July 2024 and submissions due on 13 August 2024.
- Forecasting Reference Group presentation on 31 July 2024.
- Consumer advocate verbal submission on 12 August 2024.

Draft 2025 IASR consultation

- **Stage 1:** released on 11 December 2024 and submissions due on 11 February 2025.
  - Webinar on 23 January 2025.
  - Consumer advocate verbal submission on 11 February 2025.
- **Stage 2:** released on 28 February 2025 and submissions due on 31 March 2025.
  - Webinar on 18 March 2025.
  - Consumer advocate verbal submission on 31 March 2025.

Final 2025 IASR

- Released on 31 July 2025.
- Webinar on 12 August 2025.

Consultation highlights

11 months

123 submissions received

600+ stakeholders

10 webinars / workshops

Upcoming 2026 ISP engagement opportunities

- **Draft 2026 ISP:** to be released in December 2025 with submissions due in February 2025.
- **Final 2026 ISP:** to be released end of June 2026.