AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

2026 Integrated System Plan (ISP)

Every two years, AEMO publishes the Integrated System Plan (ISP) under the National Electricity Rules.

It sets out how to meet consumer electricity needs and government energy policies across the National Electricity Market (NEM) through to 2050.

At its core is the optimal development path (ODP) – the least-cost mix of grid-scale generation, storage and transmission to replace retiring coal plants, meet a near doubling of electricity consumption, and deliver emissions and energy targets.

Consistent with previous ISPs, the 2026 ISP reaffirms that renewable energy, connected by transmission and distribution, firmed with storage and backed up by gas, is the least-cost way forward for Australia.

Transmission projects in the optimal development path (ODP)

NEM facts

The ODP proposes **6,000 km** of transmission to the existing **44,000 km** across the National Electricity Market – one of the world's longest integrated power systems.

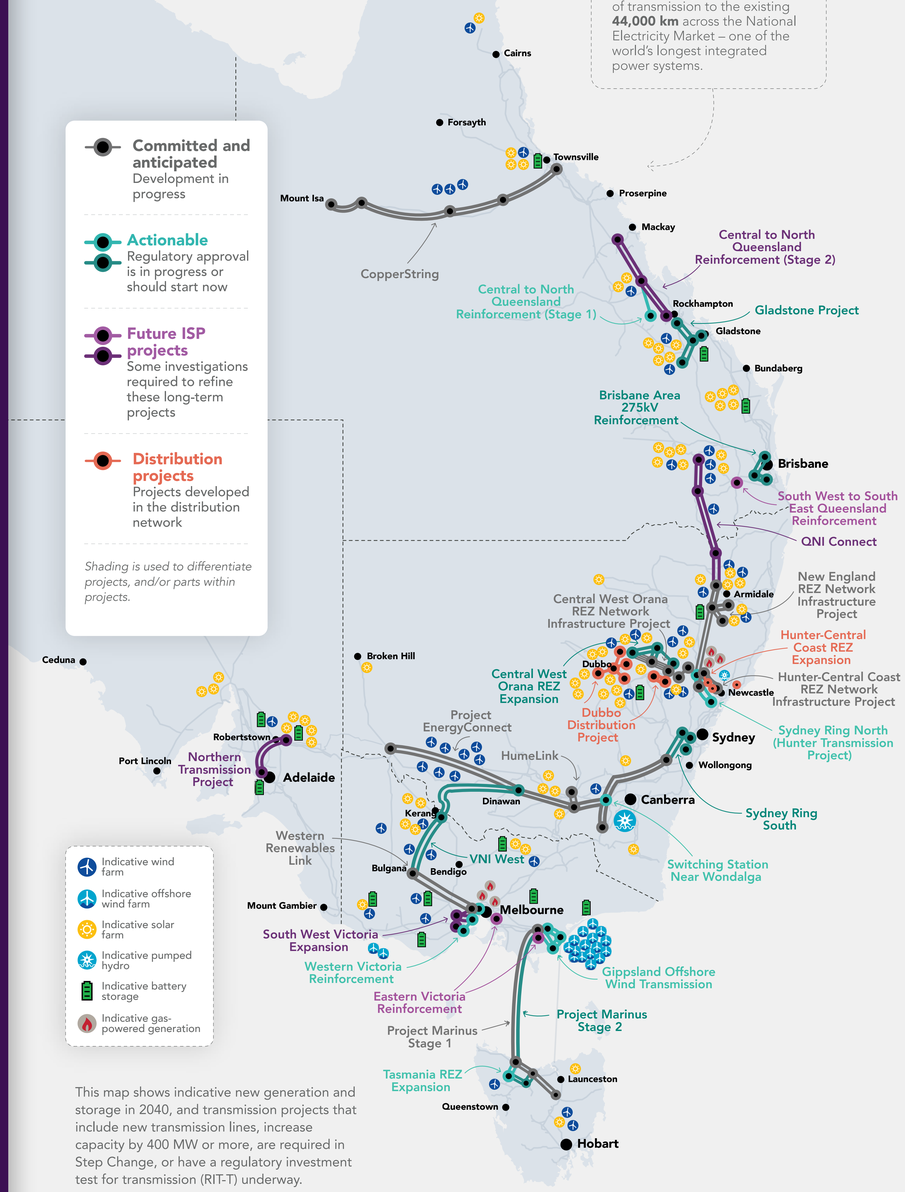
Committed and anticipated
Development in progress

Actionable
Regulatory approval is in progress or should start now

Future ISP projects
Some investigations required to refine these long-term projects

Distribution projects
Projects developed in the distribution network

Shading is used to differentiate projects, and/or parts within projects.



This map shows indicative new generation and storage in 2040, and transmission projects that include new transmission lines, increase capacity by 400 MW or more, are required in Step Change, or have a regulatory investment test for transmission (RIT-T) underway.

Consultation

In developing the 2026 ISP, a record level of stakeholder consultation was undertaken and formal submissions considered.

1,940 stakeholders engaged

19 webinars and workshops hosted

62 reports and reference material

333 stakeholder submissions

Expected energy transition to 2050 ('Step Change' scenario)

Total electricity consumption **to nearly double**

NOW	2035	2050
205 TWh	278 TWh	390 TWh

Total generation and storage capacity **will need to triple**

NOW	2035	2050
99 GW	214 GW	308 GW

Grid-scale wind and solar **to increase 5-fold**

NOW	2035	2050
23 GW	80 GW	117 GW

Distributed solar PV (rooftop solar, other small scale solar) **to increase 4-fold**

NOW	2035	2050
20 GW	45 GW	87 GW

Dispatchable storage capacity (batteries, virtual power plants, pumped hydro) **to increase 11-fold**

NOW	2035	2050
6 GW	47 GW	64 GW

Gas-powered generation (mid-merit and flexible) **to increase**

NOW	2035	2050
12 GW	14 GW	17 GW

Hydro capacity **to remain steady**

NOW	2035	2050
7 GW	7 GW	7 GW

Coal capacity **declining**

NOW	2035	2050
21 GW	8 GW	0 GW

Developing the ODP

AEMO works with stakeholders – including consumer groups, governments, and industry – to gather insights on future energy needs, technology costs and policy settings.

Using this input, AEMO models around a thousand different combinations of generation, storage, transmission and distribution investments across the NEM, shortlisting more than 30 candidate paths.

Each option is then tested against costs, benefits, scenarios and sensitivities to select the path that delivers secure, reliable electricity at the lowest overall cost while meeting energy and emissions targets – the ODP.

Cost and benefits
(Step Change scenario to 2050)

The annualised capital cost of all future utility-scale generation, storage and transmission and distribution infrastructure in the ODP has a present value of $106 billion.

The transmission projects (actionable and future) in the ODP would deliver significant benefits, saving consumers $30 billion in avoided capital, operating and fuel costs compared to a pathway without these transmission investments.

Scan to download the 2026 ISP Overview and Report