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# **Integrated System Plan Consultation: Summary of Submissions**

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**March 2018**

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## Introduction

AEMO has received 65 public submissions from industry, academia, individuals and small business to its Integrated System Plan (ISP) consultation paper since the call for submissions in late 2017. Submissions to the ISP were divided into two stages:

- Stage 1 submissions focused on modelling inputs.
- Stage 2 submissions addressed more general aspects of the ISP.

The consultation phase of stakeholder input to modelling closed on 2 February 2018, and written submissions on other questions and matters related to the ISP closed on 28 February 2018.

AEMO received 31 submissions for stage 1 and 34 submissions for stage 2.

A brief synopsis of the themes emerging from the submissions is below. AEMO will publish a more in-depth summary of the submissions in the coming weeks.

## Summary of submissions

There was overwhelming support for the development of the ISP as a long-term strategic approach to coordinated generation and network planning for the National Electricity Market (NEM).

Key themes from submissions included the need for future resilience to impending changes in supply, consumer choice, and climate, specifically:

- The need for resilience of the power system to future risks to impending changes in supply, consumer choice, and climate, including greater resilience to extreme events.
- A strong desire for transparent and robust planning that looks at total end-to-end requirements with consumer interest foremost.
- Strategic planning that builds operational resilience with strong consideration to security, reliability, and the total bill for consumers.

There were a range of views presented on how to best provide the means for infrastructure development to support future need. Stakeholders generally recognised the need for strategic planning to manage the transformation of the power system and supported the use of a least regret approach and staged decision making. Accordingly, stakeholders were supportive of a scenario approach to modelling that considers least regret developments that are robust under a range of scenarios and that can be undertaken through staged implementation rather than a “build it and they will come” approach.

Another key theme arising from submissions was the need for planning to manage the risks arising from coal plant retirements, including the risk of earlier retirement. Also identified was the need for robust planning processes to manage the integration of large amounts of utility scale variable renewable energy projects.

The concept of Renewable Energy Zones (REZs) elicited a wide range of views from respondents. Many submissions acknowledged that REZs might provide an effective way to coordinate new generation and transmission development and deliver value to consumers through scale efficiencies, as long as certain criteria were met.

Submissions provided further detail into the current range of REZs in the ISP, and information about other potential REZ developments. Diversity, the cost of any network and system strength augmentations required, and loss factors were all noted as critical factors that would be important for success of Variable Renewable Energy (VRE) developments and REZs. AEMO is currently reviewing all the input provided as part of our modelling to explore the merits of individual REZs in the inaugural ISP.

Views on the use of networks as part of the solutions were diverse, with a consistent theme of recognition of the need for strategic investment in a timely manner to support the energy industry transformation. When considering network augmentations, building strategic diversity into routes and providing for extreme weather conditions will be critical to future operational resilience to extreme events.

Submissions included strong views on the opportunities for Distributed Energy Resources (DER) to temper the need for investment in networks, noting that this would require the development of more sophisticated markets, which signal and appropriately price/or reward the services available from these technologies.

A wide range of submissions support the case for development of planning processes that are far more sophisticated than before, stressing that future planning will need to focus strongly on:

- The need for a robust decision-making structure to manage the future, to deal with the large range of uncertainties, and provide staged least-regret decision-making that maintains affordable, reliable, and secure energy for consumers.
- The need to maintain operational resilience during the transformation of the power system and projected change in the climate over the next three to four decades.

- The need for economic assessments to be more sophisticated in considering the end-to-end costs to society, with a strong consumer focus.
- The opportunities that DER could provide if appropriately incentivised and supported.
- The integration of gas with electricity planning to better examine the roles of differing energy distribution systems.
- The role of regulated investment builds relative to more innovative ways of funding investment needs, including more innovative capital strategies for future power system transformation.

There was a consistent theme that the current processes for approval of regulated network investments would need to evolve in preparation of these needs. There were a range of views on the extent of this evolution, from adjustments to the current processes and their application by the regulator, to more extensive change including proposals for a new regulated test through which the ISP could be used to justify major investment strategies and thereby fast-track strategic developments.

## Changes to modelling assumptions and scenarios

The main feedback provided to the Stage 1 of the consultation process have resulted in the following changes:

- Grid scale battery costs adjusted in Fast Change and High DER scenarios to reflect wider transmission drivers.
- Slower cost reductions to storage systems (battery, pumped hydro and solar thermal) in the High DER scenario (given higher engagement from consumers competing with utility scale projects).
- Slower cost reductions to storage systems and variable renewable energy in the Increased Role for Gas sensitivity (potentially leading to increased uptake of gas), coupled with a significantly lower domestic gas price and greater domestic gas supply.
- Removal of transmission commitments to Riverlink – treat like other interconnectors, allowing the model to build it when justified.
- Residential PV and battery uptake expanded in High DER scenario.
- Rapid storage cost reductions in the Fast Change scenario, needed to support a greater transition away from emissions intensive generation (given high emissions reduction policy)

Section 1.4 of the ISP Consultation paper outlines the scenarios being considered for the ISP. We will be publishing the assumptions workbook – that outlines all the data used in the ISP’s modelling – shortly.

## Next steps

AEMO thanks the organisations who have participated in this consultation, which will be the first of many to come as AEMO evolves the integrated system plan.

There were a wide range of views presented to the modelling, and AEMO has incorporated many of these suggestions into its detailed modelling where possible. The ISP’s modelling process is currently underway, details of the specific changes made to the modelling approaches will be provided shortly.

The very comprehensive submissions have provided AEMO with a sound basis on which to develop the first ISP and planning for more detailed investigations for subsequent ISPs.

The inaugural ISP will be published in mid-2018 and look at the best ways of meeting consumer needs under different future scenarios – always with the needs of consumers’ front and centre.