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Surge in solar, wind power to ease

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A surge in intermittent wind and solar power generation may recede in the coming years as the market operator puts a greater emphasis on batteries, hydro and back-up systems to ensure the stability of the grid, Queensland renewable developer Genex Power has said.

Australia will need to spend up to $27 billion to replace retiring coal plants in the next two decades, with a mix of solar, wind, storage and gas along with new investment in transmission tipped to fill the void.

Industry players like Genex — developer of the Kidston large-scale solar and hydro project in north Queensland — say the transition to a lower-cost renewable-led power grid must be delicately handled to ensure security of supply.

“The Australian Energy Market Operator is being very careful there is not too much intermittent generation going in places where the grid can’t support it,” Genex executive director Simon Kidston told The Australian.

“They are now focused on that, but it’s something that will certainly constrain the potential new development of wind and solar over time in places where there is not strong grid stability.” While the cost of solar in Australia has declined by more than 50 per cent since the start of the decade, AEMO has warned the national grid is at a “critical point” in terms of network congestion.

Its recent 20-year masterplan for the national electricity market called for $650 million in immediate transmission investment to boost South Australia’s fragile network and initially increase transfer capacity between NSW, Queensland and Victoria by up to 460 megawatts.

That transmission investment would help reduce congestion for existing and committed renewable energy projects in western and northwestern Victoria and fix system strength issues in South Australia, AEMO said in its integrated system plan report.

Making these investments now would allow “coal-fired generators to operate within more efficient ranges and provide immediate benefits to consumers by relieving network congestion”.

By the mid-2020s an “interconnected energy highway” calling for new capacity of 750MW between NSW and South Australia is required, allowing the smaller state to tap into the government’s planned expansion of the Snowy Hydro scheme early next decade.

“Any actions that increase flexibility and dispatchability, both of existing and new resources, are welcomed by AEMO,” a spokesman said yesterday.

Genex was allocated a $516m loan from the federal government's contentious Northern Australia Infrastructure Facility in June for its Kidston large-scale solar and hydro project in northern Queensland. It aims to overcome intermittency problems by offering a large storage capacity as part of the hydro component.

The project, west of Townsville, aims to build an ambitious clean energy hub on the site of an old gold mine led by a 250MW pumped hydro facility along with a solar and wind farm.

The renewables developer has backed the government's push to consider underwriting new generation and a broader set of providers supplying the grid, but says Canberra must not pick winners.

"We don't think governments should pick a particular technology but let the market decide and let the best form of generation provide the power to the grid," Mr Kidston said. "We as consumers need coal as baseload energy, we need renewable energy to meet our Paris commitments and hydro provides the firm, reliable energy and also has a renewable element to it as well." About 90 per cent of the $88bn forecast to be spent adding power capacity in Australia until 2040 will be outlaid on clean energy, according to Bloomberg New Energy Finance estimates. It believes just 2 per cent will be spent on coal, with that investment more likely to keep existing, ageing plants running rather than build new coal-fired power stations.AEMO says demand for electricity from the grid will flatten over the next 20 years due to strong growth in rooftop solar and more use of batteries and storage.