LET'S CONNECT

# A NEW INTERCONNECTOR IN

**Australia –** ANDRITZ is going to supply the equipment for two synchronous condenser plants for the EnergyConnect project in Australia, which plays a vital role in Australia's pathway towards a renewable energy future.

As Australia is reinforcing the interconnection between states, the EnergyConnect project will be the new additional interconnector between New South Wales and South Australia with an added connection to north west Victoria. The new interconnector is a joint development between Transgrid and ElectraNet. Transgrid awarded an EPC contract to SecureEnergy, a joint venture between the Spanish company Elecnor, a specialist for energy infrastructure, and the Australian engineering and construction company Clough, to construct the approximately 700 km long high voltage transmission line in New South Wales. SecureEnergy awarded ANDRITZ with the supply of the synchronous condenser plants Buronga and Dinawan. The construction will start in the first quarter of 2022 and is targeted to be finalised in 2024.

EnergyConnect, the new interconnector, will be equipped with two synchronous condenser plants to provide system strength services including synchronous inertia. These services are needed to provide grid stability and will allow to connect additional large-scale renewables, such as wind and solar, into the National Energy Network. Each plant will be equipped with two salient pole synchronous condensers, each with a rated capacity of 120 MVA. The features of the synchronous condensers allow the operator to manage the reactive power of the network (+100/–50 MVAr over-excited/under-excited at 330 kV), in addition to services such as short circuit contribution, fault level support and large amounts of synchronous natural inertia. ANDRITZ applied a salient pole technology, because this technology has the advantage of a higher natural inertia, lower losses and less maintenance requirements compared to the round-rotor technology. In addition to the performance-related advantages, these machines will specifically meet the technical performance requirements from the end-user Transgrid, because it is a bespoke design.

ANDRITZ is responsible for engineering, design, manufacturing, transport, technical advisory during installation and the commissioning of the plants. The synchronous condensers will be manufactured in the ANDRITZ Centre of Generator Technology in Weiz, Austria.

**"EnergyConnect will enable the conversion of the Australian energy grid to a larger share of renewable energies."**

Australia is at the early stage of a major energy transition in how it generates and manages electricity. Across all states, a continuation on large scale wind and solar farms is expected to remain deployed. Australia's installed capacity of solar is already approximately 21.4 GW and approximately 9.5 GW of wind. Additionally, there is a substantial commitment to build dispatchable energy storage projects, such as pumped hydro, for which ANDRITZ received a contract for the co-located Kidston pumped hydro energy plant in Queensland (read more on page 10). The changing energy market to lower emissions is driven by access to new generation sources as coal-fired plants close, government commitments to reduce carbon emissions, the potential for renewable generation to lower energy prices and the demand for a more reliable energy supply.

EnergyConnect features energy security and enables a greater mix of renewable energy generation from wind and solar to connect to the network and increases reliability and security of electricity supply. With this investment, Australia will march on in the transition from currently mostly fossil fuel generators to a clean renewable energy superpower in the future. ANDRITZ is proud to be part of this transition and to support the country on its way to a green and clean future.

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# AUSTRALIA: ENERGYCONNECT

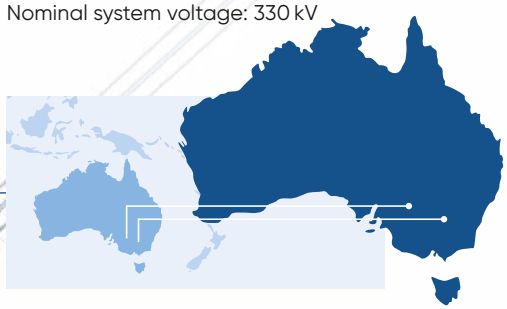
## TECHNICAL DETAILS

**Buronga & Dinawan:**

Rated capacity of each synchronous condenser: 120 MVA

Inertia contribution to PCC: 7 MWs/MVA (natural)

Nominal system voltage: 330 kV



ANDRITZ' Synchronous Condensers are a cost-effective and reliable solution for new grid requirements. They help balance the increasing volumes of variable renewable energy and a corresponding loss of system inertia, hence providing important grid stability and a secure electricity supply.