RENEWABLE ENERGY

Malaysia is a multi-sector economy targeting high-income status by taking steps to accelerate the country's economic growth and improve attractiveness for investments. The measures are targeting high technology industries, such as biotechnology, and services. Malaysia is well-developed with 100% access to electricity. The share of hydro in the electricity generation mix is about 18%, but only 20% of the total hydro generation potential has been developed to date.

Renewable energy is key to meet the environmental goal of reducing CO_2 emissions by 45% by 2030 (compared to 2005 levels). To encourage private sector participation in the development of Malaysia's renewable energy market, a revised Feed-in Tariff (FiT) scheme was introduced under the Renewable Energy Act 2011. Spearheaded by the Sustainable Energy Development Authority (or SEDA) various projects could be implemented using standardised Renewable Energy Power Purchase Agreements (RePPAs) and established FiT rates that vary according to the type of technology.

ANDRITZ HYDRO IN MALAYSIA

Since 2009 ANDRITZ has maintained an office in the Malaysian capital Kuala Lumpur, but the company's history in the country goes back to the early 1960s. So far, ANDRITZ has delivered 26 units with a total installed capacity of more than 1,200 MW to Malaysia.

Special highlights among ANDRITZ 's key references for successfully executed projects include Ulu Jelai HEPP (382 MW, turnkey delivery including hydromechanical equipment), Chenderoh HEPP (30 MW, refurbishment and modernization), Sultan Ismail Petra Pergau HEPP (664 MW, mechanical equipment), Sultan Yusof Jor HEPP (100 MW, mechanical equipment), and the small hydropower plants Hulu Terengganu (15.7 MW), and Bintang (7.7 MW).

With the successful execution of these projects, ANDRITZ again emphasizes its competence for the Malaysian hydropower market and proves its readiness for future challenges.

Bintang: The Bintang hydroelectric power plant was among the first mini-hydro projects awarded and implemented under SEDA's FiT scheme. Situated in the Selama region in the state of Perak, it is designed

GENERAL FACTS

Population: **31.5 million**
Access to electricity: **100%**
Installed hydro capacity: **6,095 MW**
Hydropower under construction: **156 MW**
Share of generation from hydropower: **16.2%**
Hydro generation: **26,597 GWh**
Technically feasible hydro generation potential per year: **123,000 GWh**

ANDRITZ Hydro:
Total installed / rehabilitated units: **26**
Total installed / rehabilitated capacity: **1,200 MW**
Location: **Kuala Lumpur**
E-Mail: **contact-hydro.my@andritz.com**

Tembat Station, Hulu Terengganu hydroelectric project, Sg. Tembat Tributary, 2 × 7.5 MW

Bintang, Sg. Bintang and Sg. Perak, 2 × 3.85 MW

Y IS KEY

as the upper plant of two power stations within the Kerian hydroelectric scheme. The outflow from Bintang's tailrace is transferred to the lower power station via a direct penstock.

ANDRITZ was awarded the contract by Emrail Sdn. Bhd., for the complete electro-mechanical "from water-to-wire" package, including design, engineering, manufacture, delivery, installation, and commissioning of two 3.85 MW horizontal Pelton turbine units. Upon successful completion and commissioning in March 2019, the Bintang hydroelectric power station was connected to Tenaga Nasional Berhad's grid and entered commercial operation at full capacity.

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Ulu Jelai, Sg. Bertam, Sg. Telom, and Sg. Lemoi diverted to Susu Reservoir, 382 MW

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