



► Birdview on Sihwa tidal power plant

South Korea

Republic of Korea

Tidal Energy Feeds the Grid

By Fritz Holzinger
fritz.holzinger@andritz.com

In an effort to sustain economic growth, the South Korean government has prioritized structural reforms. South Korea is the world's fourth largest oil importer and intends to increase the share of renewable energy. Only 2% of the whole electricity demand is covered by hydropower generation. As the potential for conventional hydropower is almost fully exploited, South Korea is now focusing on its impressive tidal resources.

ANDRITZ HYDRO in South Korea

First deliveries to South Korea have already taken place in the early 1930s, but ceased afterwards due to the political and economic situation. Since the beginning of this millennium, ANDRITZ HYDRO won some important orders in the South Korean market. In total, ANDRITZ HYDRO has delivered about 40 units with a total installed capac-

ity of more than 1,000 MW to South Korea. The largest projects are HPP Cheonsong (2 × 306 MW) and HPP Imha (2 × 25 MW).

HPP Andong: Korea Water Resources has awarded ANDRITZ HYDRO the refurbishment of the Andong hydropower station. Two turbine-generator sets, each with an output of 46.3 MW, are to be modernized by mid-2019.

HPP Sihwa: In 2005, ANDRITZ HYDRO received a contract from Daewoo Engineering & Construction Co., Ltd. for the electro-mechanical equipment of the Sihwa Tidal power plant, located at the Sihwa Lake Dam.

ANDRITZ HYDRO's scope of supply comprised the design of ten Bulb turbine-generator units and their ancillaries, delivery of core components for

turbines and generators, the automation system, and supervision of the site installation, as well as commissioning.

HPP Sihwa has a total output of 260 MW and is therefore the largest tidal power plant in the world, having an annual power generation of 543 GWh.

In August 2011, the opening ceremony of the power plant was celebrated in the presence of the president of Korea. By end of 2011, the project was completed and the power plant was put into full operation.

With the successful execution of the Sihwa tidal project and with almost 20% of the total installed capacity delivered by ANDRITZ HYDRO, the company takes an important position in the realization of South Korea's plans to develop its renewable energy sources. ■

SOUTH KOREA FACTS

50.42 Mio.
100%
6,727 MW
2%
7,820 GWh

Population
Access to electricity
Installed hydro capacity (incl. tidal)
Share of generation from hydropower
Hydro generation

Hydropower & Dams World Atlas 2015 and The World Bank