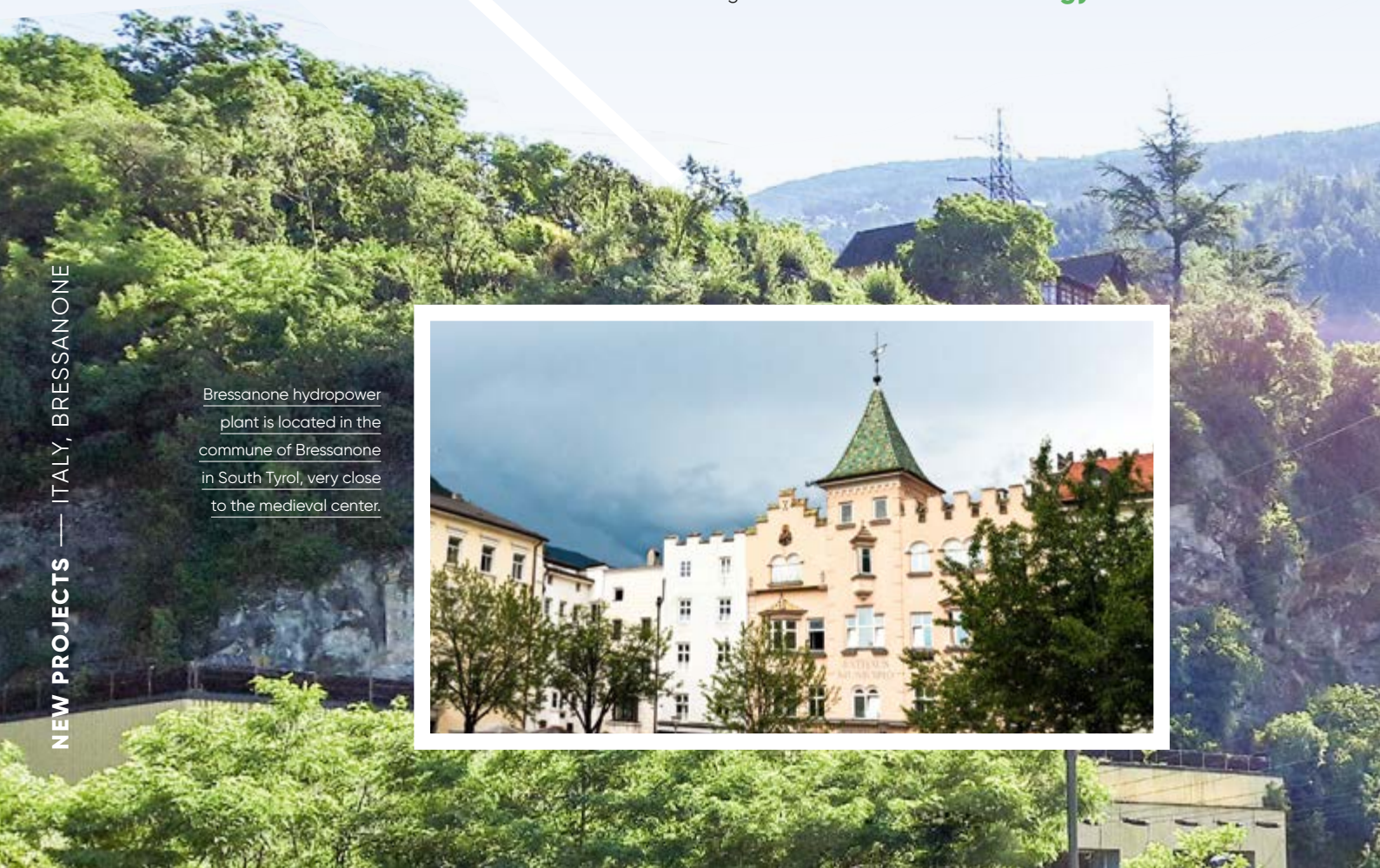
HYDROPOW MEDIEVA

Italy – Alperia Greenpower and ANDRITZ Hydro have signed a contract for the rehabilitation of the Bressanone hydropower plant, one of the largest in Northern Italy.

Located in the commune of Bressanone (Brixen in German), very close to the medieval center of this beautiful city in the Alto Adige (South Tyrol) region, the power plant belongs to the Isarco and Rienza river complex. It is the second largest power plant in Alto Adige with a current installed output of 123 MW. Annual production of electricity is 520 GWh, which is used by some 170,000 households, equivalent to 9% of the total hydroelectric production of Alto Adige.

"Bressanone is the oldest town in Tyrol dating back to the 9th century. It is the third largest city in South Tyrol and an important economic center. For 80 years, Bressanone hydropower station has been producing clean and sustainable energy for the people in the town and the whole area, combining medieval history with modern technology."



Bressanone hydropower plant is located in the commune of Bressanone in South Tyrol, very close to the medieval center.

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Active since 2016 and born from the merger of AEW and SEL, Alperia is a new entity in the Italian energy market. An energy producer, grid operator and provider of services for the population of Alto Adige, Alperia owns 39 hydropower stations and six power plants for district heating systems, ranking it the third largest energy producer from hydroelectric sources in Italy. The company employs about 1,000 people.

Dating back to the 1930s, approval for Bressanone was awarded in 1938 and was built by the Italian railways. Around 6,000 workers took part in the construction campaign and the plant was operational only two years later in 1940.

The power plant takes water from two artificial impoundments. The reservoir Fortezza built on the river Isarco has a 61 m-high dam while the reservoir Rio Pusteria on the river Rienza has a 25 m-high dam. From the intakes, two galleries connect 6 km upstream of the surge tank and are then conveyed to the power plant by one common penstock. After passing through the turbines a discharge channel runs to the Rienza River.

Five generating units with vertical Francis turbines and synchronous generators are housed in the cavern powerhouse measuring 105 m × 15 m and with a height of 18 m from the generator floor. Three generator units have an output of 44 MVA and are complemented by two smaller units with 22 MVA each.

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Housed in an underground powerhouse, five generating units with vertical Francis turbines and synchronous generators are now being refurbished to meet modern requirements.

With a current installed output of 123 MW and an annual production of about 520 GWh, Bressanone is the second largest power plant in Alto Adige, supplying some 170,000 households with clean energy.

The scope of work for ANDRITZ Hydro includes design, manufacturing, transport and installation of most of the equipment present in the power plant. Four out of five units will be refurbished with new turbine parts and new generators. Spherical valves, pressure relief valves, governors and a closed loop cooling system will all be newly supplied. The scope will also comprise most of the LV, MV equipment and a new ACP system.

One of the key elements of the contract award was the logistics and installation time schedule. Dismantling of the existing equipment and the installation of the new equipment will have to be performed in parallel. Given the limited space available inside the powerhouse cavern and the availability of only one crane, the logistics have been carefully planned to reduce any interference between activities on the units and keep the plant outage to an absolute minimum.

This large variety of different systems will have to be supplied and installed in a relatively short time frame. Site activities started in December 2020 with plans to be completed in September 2022. ANDRITZ Hydro will deploy its internal resources and know-how from five different locations to perform design and manufacturing activities, showing both flexibility and outstanding capabilities as a provider of integrated systems and complex solutions.

Bressanone is one of the largest projects to be awarded to ANDRITZ Hydro in Italy in decades and follows the successful completion of several contracts

TECHNICAL DETAILS

Bressanone:

Total output: 150 MW

Scope Output: 3 × 38 MW / 1 × 18 MW

Head: 143 m / 155 m

Speed: 375 rpm / 500 rpm

Runner diameter: 2,220 mm / 1,530 mm

Av. annual production: 520 GWh

recently performed with Alperia, including San Pancrazio, Lappago, Molini di Tures and many other smaller projects. This makes Alperia one of the most relevant customers for ANDRITZ Hydro, not only in Italy but across the whole Europe.

This order represents an important success for ANDRITZ Hydro in the Italian hydropower market and follows many years of fruitful cooperation with customers in Italy.

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Bressanone is one of the largest projects to be awarded to ANDRITZ Hydro in Italy in decades and it follows the successful completion of several contracts recently performed with Alperia.