

September 27th 2019

John Cockerill puts its first 'H24' solar power plant into operation

The start of operations of the first molten salts solar power plant from John Cockerill took place successfully on September 21st at Haixi (China). Within this project, John Cockerill supplied the molten salts thermo-solar receiver located at the top of the tower. Thanks to this new technology entirely developed by the John Cockerill teams, this power plant is capable of producing solar power electricity 24 hours a day. Outside of thermo-solar, the portfolio of John Cockerill products and services in the domain of renewable energies also extends to green hydrogen, battery storage, wind power, biomass and hydro-electricity.

The Haixi thermo-solar power plant (located between the Gobi desert and the Tibet plateau) has a capacity of 50 mWe, or enough to supply the equivalent of 50,000 households with electricity. Its development required two years of work at John Cockerill. A specific feature is its ability to produce electricity by night as well as by day, thanks to the use of molten salts as a heat transfer fluid. These salts are delivered to the receiver at the top of the tower, heated to more than 600°C and, once they are brought down again, they retain their heat for 17 hours, which enables the production of steam and then of electricity, at night as well as during the day.

Another innovation by John Cockerill at Seraing: Infrared cameras enable the variation in temperature of the exchangers to be monitored. The software developed by John Cockerill detects variations in temperature and allows for the adjustments necessary not only to protect the condition of the equipment, but also to ensure that it always remains at the correct temperature.

Jean-Luc Maurange, CEO of John Cockerill: "We are extremely proud of this major first. Starting up this power plant is a bit like launching our own Ariane rocket some 7,000 km from Seraing. With this storage capacity and thus 24 hour production, our teams are once again demonstrating the strength of innovation which forms part of the DNA of our Group. Storage is the great challenge for renewable energies. Alongside solar, we are also working on this through the Miris project, the largest industrial energy storage pilot project in Europe, and through our projects in green hydrogen. More than ever, John Cockerill is striving to respond to the needs of our times by developing its activities in renewable energies, whether solar, wind, green hydrogen, biomass or hydro-electricity."

It will be recalled that the Haixi power plant is the second power plant in operation equipped with a John Cockerill solar receiver, following the Khi Solar One plant (50 mWe), in service in South Africa. Two other power plants are currently under construction: one in the Atacama desert in Chile (110 mWe), the other in the Mohammed bin Rashid Al Maktoum park in Dubai.

The Haixi power plant in figures :

- A 150 metre high tower, at the top of which is installed the John Cockerill boiler (itself 40 metres high)
- A solar receiver weighing 1,500 tonnes
- More than 4,500 mirrors located at the foot of the tower
- 300 thermal mW, or 50 electric mW
- Electricity for 50,000 households

John Cockerill, enabler of opportunities

Driven since 1817 by the entrepreneurial spirit and passion for innovation of its founder, the John Cockerill Group develops large-scale technological solutions to meet the needs of its time: preserving natural resources, contributing to greener mobility, manufacturing sustainably, combating insecurity and facilitating access to renewable energy.

Its offer to businesses, governments and communities consists of services and associated equipment for the sectors of energy, defence, industry, the environment, transport and infrastructures.

With over 6000 employees, John Cockerill achieved a turnover of 1.3 billion euro in 23 countries on five continents in 2018.

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