

Hadramout: lighting a solar path

Arabian Yemen Cement Co inaugurated the largest solar power plant in Mukalla, Yemen. The 13.75MW plant is expected to serve as an inspiration to Yemeni private and public sectors, enabling a shift towards renewable energy in the country.

■ by **Eng Waheeb Al-Azab**, Arabian Yemen Cement Co, Yemen

Increasing fossil fuels use and the need to decarbonise its energy mix were key drivers for Arabian Yemen Cement Co to turn to renewable energy sources for its Hadramout plant near Mukalla, Yemen, and take a ground-breaking step towards sustainable industrial operations in the country.

To reduce fuel consumption and achieve its decarbonisation goals, the company initiated a solar power project that would be capable of delivering a 13.75MW solar plant and a 5.7MWh storage system.

Expertise and co-operation

Cement plants have unique demands of heavy electrical loads, technical risks and a requirement to maintain the safety of a complex power system. Therefore, the plant's engineering team carried out a detailed technical study at the start of the project. To build the solar power plant, Pakistan-based REON Energy was selected after an extensive evaluation. Hadramout Cement's engineers worked hand in hand with REON to ensure the system was tailored to the factory's operational requirements. Their combined expertise delivered a solar plant that integrates seamlessly with the existing power infrastructure, reducing generator usage and optimising energy management even during full factory operation.

Plant description

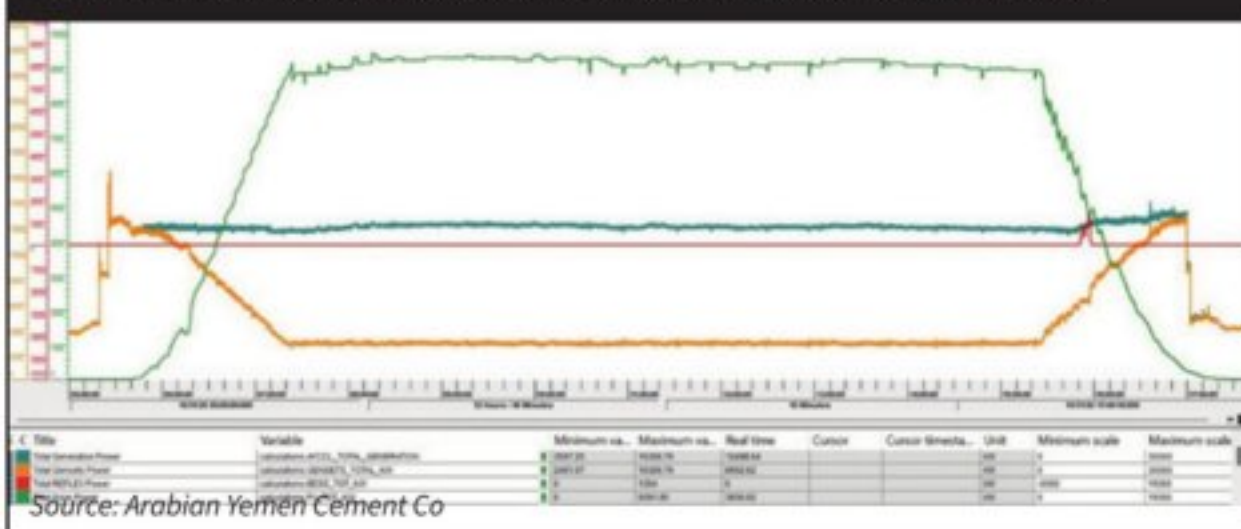
Arabian Yemen Cement Co invested ~US\$11m in the project to achieve a near-zero carbon footprint thanks to 22,000 bifacial panels that generate power from both sides, increasing energy output by 10-15 per cent when compared with standard solar panels. The system uses a smart solar tracking system that monitors the sun's movement to optimise its daily generation.

In addition, the plant includes a battery energy storage system that is designed to not only store 5.7MWh of energy but

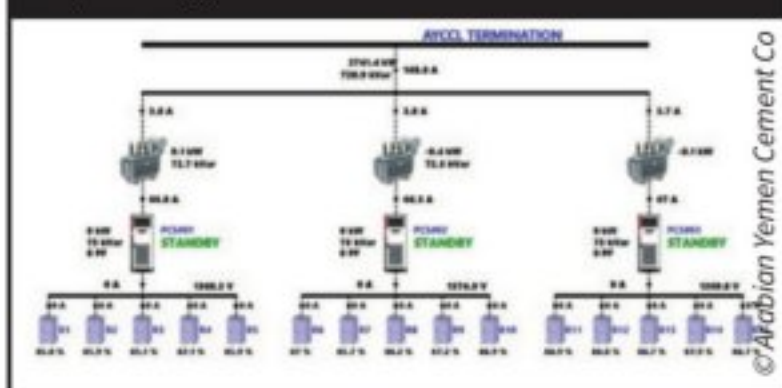
Leading the shift towards renewable energy use in Yemen: Arabian Yemen Cement Co's solar power project at its Hadramout plant in Mukalla, Yemen



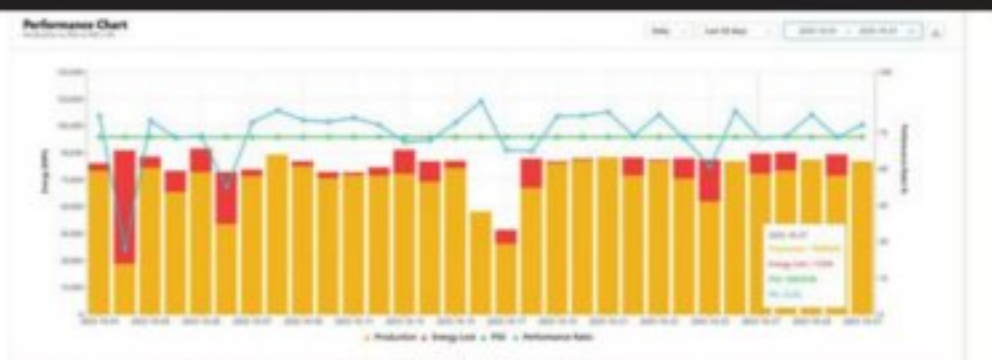
Hadramout's solar plant employs a solar tracking system to optimise its energy yield



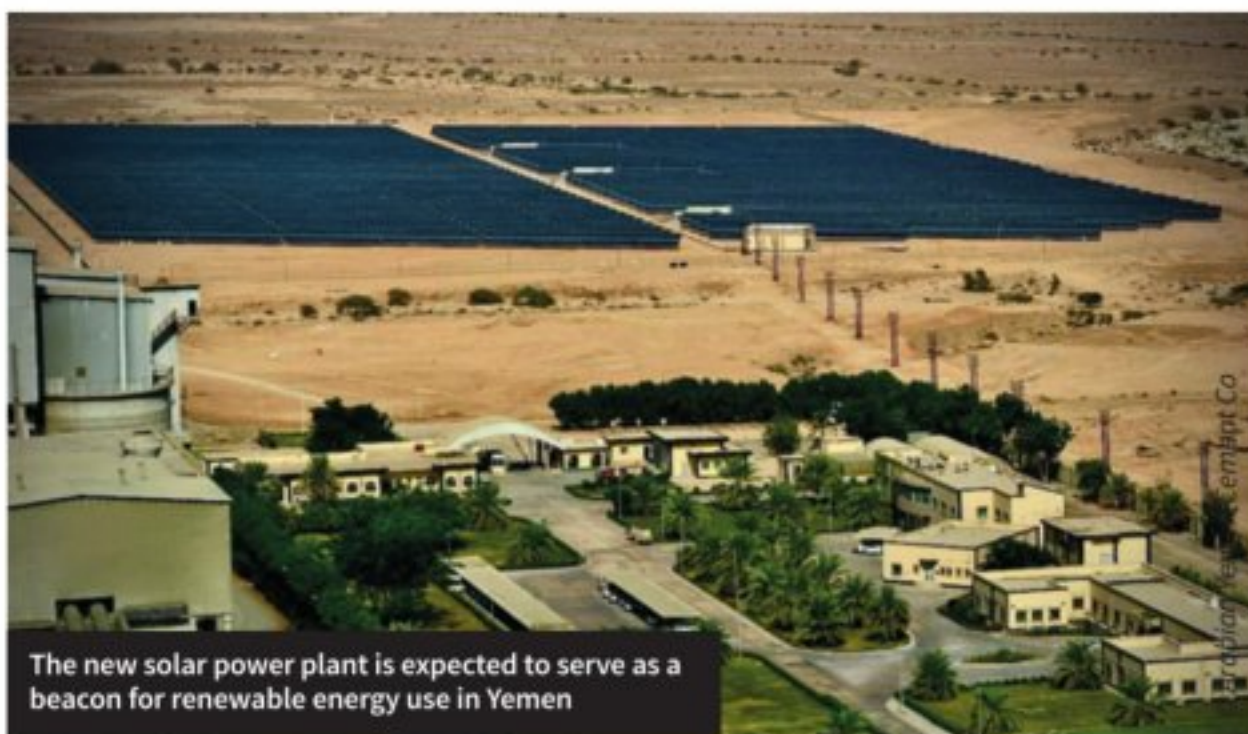
The solar facility benefits from a 5.7MWh battery to store surplus energy



Performance at the solar plant is tracked



Source: Arabian Yemen Cement Co



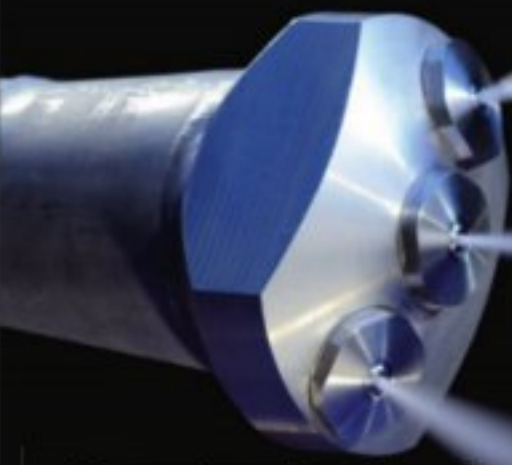
The new solar power plant is expected to serve as a beacon for renewable energy use in Yemen

also protect the factory's equipment. The system helps to reduce generator usage and optimise power management.

Source of inspiration

Going forward, the new solar power plant is expected to provide the cement producer with 34,027,633KWh of clean and green energy as well as reduce annual CO₂ emissions by 21,439t.

In addition, Arabian Yemen Cement Co believes that its new solar power plant will become a model for other companies and government initiatives as Yemen taps into the global trend for clean energy and decarbonisation of its production. ■



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