

Turboden and Siemens Energy upgrade gas compressor station in Egypt

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Dahshour, Image credit: Gasco



Turboden, a Mitsubishi Heavy Industries Group company, has been selected to supply a high-temperature Organic Rankine Cycle (ORC) system to GASCO's Dahshour gas compressor station (GCS) in Egypt.

The ORC system will be coupled with 20MW electric motor driven (EMD) compressors supplied by Siemens Energy, to boost the efficiency of the gas station.

GASCO is the state-owned operator of Egypt's natural gas transmission networks in Egypt and the Dahshour GCS project is considered a first-of-its-kind. It will exploit the heat from four existing gas turbine trains and from the new high efficiency, low emissions gas turbines supplied by Siemens Energy.

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Thanks to the recovery of exhaust gas heat and high efficient compressor trains, this integrated solution allows the generation of 192GWh per year of fuel-free electricity. This energy, powering two 10MW EMD compressors, allows GASCO to save 65 Million Sm³ of natural gas per year and consequently avoids 120,000 tonnes of emissions annually.

“As this system can work completely disconnected from the electricity grid and does not need water, it is perfectly suitable to be installed in remote or deserted areas. Moreover, the opportunity to replicate the project is a concrete step ahead towards the path to decarbonisation of the oil & gas industry,” said Paolo Bertuzzi, managing director and CEO Turboden S.p.A.

“This unique project comes as part of our commitment to support the government in adopting energy-efficient and sustainable solutions and business models to further sustain the country’s energy infrastructure, which Egypt already has. Dahshour project, with this game-changing solution, will help reinforce the availability and boosting of natural gas to support [the] South of Egypt,” said Emad Ghaly, managing director of Siemens Energy in Egypt.

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This project is financed by the EBRD (European Bank for Reconstruction and Development) as part of its five-year decarbonisation programme, which focuses on modernisation and energy efficiency.

GASCO intends to leverage EBRD’s funding to invest in infrastructure efficiency improvements, consistent with the Green Economy Transition Approach (GET) and contributing to the enhanced sustainability of the industry.

“This unique project is a concrete demonstration that ORC systems are energy efficiency solutions that allow the O&G industry to improve the sustainability of its processes, supporting the industry on its path toward decarbonisation. We are very proud to cooperate with GASCO on this integrated solution which can become a best practice for a new generation of sustainable gas compressor stations,” stated Nicola Rossetti, sales & business development manager – Oil&Gas and Combined Cycle at Mitsubishi Heavy Industries Group.