

# Qatargas completes region's first innovative Waste Water Treatment plant

The Peninsula

**DOHA:** Qatargas recently completed the works of a Waste Water Treatment Plant at one of its Liquefied Natural Gas plants using Membrane Bio-Reactor (MBR) Technology. The facility, set up at the Qatargas 1 (QG 1) plant with a capacity to treat nearly 1,300 cubic meters of waste water per day, is a first for the LNG industry in the region.

The project was designed in response to an internally identified gap in the QG1 process waste water treatment facility in order to treat waste water and get irrigation grade water that could be reused in line with Qatar's Ministry of Municipality And Environment (MoME) regulations.

The design, procurement and construction works of the project were led by a multi-disciplinary team at Qatargas including members of the Environmental Affairs, Engineering and Ventures Departments that was set up in 2008.

"This is a very important accomplishment for Qatargas as we have set a precedent in the LNG industry in the region to reuse waste water at the Qatargas 1 plant. This project is a



Members of multi-disciplinary team that undertook implementation of the project with senior Qatargas officials.

clear manifestation of our commitment to environmental conservation and is part of the huge investments we have made in the recent past to minimise our environmental footprint, in line with the values spelled out in the Qatargas Direction Statement. I congratulate all those who worked on the planning, design and construction phases of this project and those who contributed to its successful operation," said Sheikh Khalid bin Abdulla Al Thani, Chief Operating Officer – Engineering & Ventures, Qatargas

An innovative solution has been introduced to set up this facility using a Membrane Bio-Reactor which uses a combination of bacterial bio-reactor to consume and breakdown the pollutants. The downstream of this bio-reactor's man-made membranes are used to screen out larger particles, bacterial-biomass and other compounds.

The pilot MBR Plant was first tested for six months in 2008, following which Qatargas 1 embarked on the Front End Engineering Design

(FEED) and the Execution Phase Contracts (EPC) and the start-up between 2011 and 2015 for installation of a full scale MBR at QG1. The MBR now operates at the expected design efficiencies obtaining removal rates of more than 95 per cent for key parameters including Chemical Oxygen Demand (COD) and Nitrogen compounds. These results have allowed the treated water to be significantly better than other conventional technologies and an indication of the project's success.