Muscat solar thermal energy

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MUSCAT: Omani upstream energy firm ARA Petroleum is preparing to commission one of the world"s first solar thermal powered, zero emission desalination plants in the Sultanate of Oman - a groundbreaking facility designed to transform highly saline produced water into drinking water.

Muscat-based ARA has tapped Austrian solar tech startup Heliovis to set up the plant at its Qarat Al Milh site - a 5,700 sq km small oilfields cluster in Dhofar, carved out from majority state-owned PDO"s Block 6 license.

The plant utilizes Vienna-based Heliovis" proprietary, low-cost solar thermal technology to produce up to 140 cubic metres of drinking water per day from "produced water" - naturally occurring water that flows from wells during hydrocarbon production. Often contaminated with hydrocarbons, this produced water also contains high levels of dissolved mineral salts.

Following an agreement signed by the two companies in November 2022, Heliovis has since completed the deployment of a forward osmosis (FO) water desalination with a direct-osmosis zero liquid discharge (ZLD) unit to extract potable water from the produced water generated within ARA"s Qarat Al Milh concession.

Commenting on its participation in the OPES show, Heliovis noted in a post: "(ARA Petroleum"s) support allows us to showcase our recently installed solar field at the Qarat al Milh oilfield firsthand. Our groundbreaking technology has the potential to significantly decarbonize industry. Furthermore, we"re honoured to have our technology featured on the Technology Innovation Portal of Petroleum Development Oman (PDO)."

According to Heliovis, renewable energy for the project is generated by inflatable tubes and mirror films that collect and concentrate sunlight to provide clean industrial process heat in the hard-to-decarbonize mid-temperature range of 90?C to 400?C.

"The technology gives major cost advantages in manufacturing, shipping/logistics, installation, cleaning, maintenance, and freshwater usage compared to conventional parabolic troughs that employ bent glass mirrors. In the context of the oil & gas industry, it can be used amongst others to power refineries and gas scrubbing facilities, to generate steam for enhanced oil recovery (EOR), or to desalinate produced water as in the present case," the company stated.

Miraah solar farm (???? ???? ?????? ????????, ???? ???? ?????? ????????, ???? ???? ?????? ????????) is an operating solar thermal farm in Seeb, Muscat, Oman.

To access additional data, including an interactive map of global solar farms, a downloadable dataset, and

summary data, please visit the Global Solar Power Tracker on the Global Energy Monitor website.

MUSCAT: Austrian solar tech startup Heliovis has announced that a groundbreaking Solar Water Treatment Plant, constructed at a remote oilfield location in Dhofar Governorate, will be brought into operation by around the middle of this month.

Billed as a globally pioneering project, it harnesses the sun"s energy to convert highly saline, oil-contaminated "produced water" into freshwater. Installed at the "Small Oilfield Cluster" of Omani upstream energy firm ARA Petroleum at Qarat Al Milh in Dhofar, the project will serve to showcase the viability of zero-emission water desalination technology utilising a waste resource like produced water.

"We can announce now the mechanical completion and commissioning of the first Solar Water Treatment Plant (SWTP) for produced water at Qarat al Milh, Oman!" said Vienna-based Heliovis AG in a post.