

# An advanced energy-efficient desalination pilot plant



Such plant shall be more energy-efficient than current state-of-the-art desalination systems.

Potentially powered by 100% renewable energy sources with minimal environmental impact, this innovation will be reliable, robust, and suitable for United Arab Emirates seawater and environmental conditions.

Coordinated by **SUEZ ENVIRONNEMENT (Degrémont)**, the project will be conducted in collaboration with the **Masdar Institute of Science and Technology, Masdar** and **GDF SUEZ (Laborelec)**.

The Pilot Project comprises the design, engineering, procurement, construction, commissioning, operation, maintenance and evaluation of Pilot Plant, over the course of **18 months**.

Masdar's mandate is to drive the Masdar Initiative, a multi-billion dollar strategic initiative designed to leverage Abu Dhabi's financial resources and energy expertise into innovative solutions for cleaner and more sustainable energy and water production.



**THE R&D PROJECT GOAL: demonstrate that the desalination technology can be powered by 100% renewable energy**

To select the most practical and economical solar energy technology to supply a full scale Sea Water Reverse Osmosis unit (SWRO) with locally produced renewable energy.

To develop a technico-economical optimized design of a full-scale solar energy power plant coupled with the SWRO plant taking advantage of any energy and/or water storage capacity leading to a more economical solution.

To demonstrate by simulations, according to the particular conditions of a selected UAE site, the ability to produce the required quality and quantity of fresh water on a large scale SWRO unit.

## A DISRUPTIVE SEAWATER DESALINATION PROCESS

### GDF SUEZ WILL PROVIDE:

The techno-economic assessment and design of solar renewable energy sources, by the analysis of several scenarios.

An overall cost optimization of the desalination process to come to the lowest water production cost.

**GDF SUEZ**

BY PEOPLE FOR PEOPLE

**Masdar**  
INSTITUTE

