



Solar Powered Water Desalination for Small Islands: Rodrigues Island of Mauritius



Sustainable Development Goals Addressed



<p>Organization, Institution or Company</p>
<p>Rodrigues Regional Assembly of the Government of Mauritius, in cooperation with Mascara Renewable Water and Quadran Companies (France) and financial support of Indian Ocean Commission, European Commission, and French Agency for International Cooperation (AFD)</p>
<p>Location of project site, Country</p>
<p>Rodrigues Island, Republic of Mauritius</p>
<p>Brief narrative description of objective/project/activity/initiative</p>
<p>The island and the economy of Mauritius in the Indian Ocean is well endowed with water resources. However, some 580 km to the East of Port Louis lies the small island of Rodrigues, which has a population of some 41,000 inhabitants. Rodrigues island is suffering from recurring droughts and natural water resources and rainfall harvesting does not supply sufficient water for the inhabitants. The effects of climate change are noticeable, especially with drinking water becoming increasingly scarce. Residents are forced to travel long distances for water whereas Rodrigues is surrounded by sea water.</p> <p>The local island authorities started a desalination programme a few years back, which has a significant energy consumption, high operating cost, and significant greenhouse gas emissions. Then, in 2018, Rodrigues pioneered an innovative project with the construction of a solar desalination plant. The plant is producing 80 m³ of fresh drinking water every day. At night, it uses its grid connection to produce another 300 m³ of drinking water.</p> <p>With Rodrigues' inhabitant's average consumption of 125 liters per person per day the solar powered desalination facility can supply drinking water in a reliable way throughout the year to some 2,400 residents in its vicinity, representing a part of the island's population.</p>
<p>Economic, environmental and climate benefits, challenges and lessons learned</p>
<p>In March 2019, the islands of Mauritius were hit and seriously affected by cyclone Joaninha which passed north of Rodrigues Island and caused serious material damage and major power outages. However, the water desalination plant, powered by solar energy, resumed operation just a few hours after the fierce cyclone. Whereas the solar-powered drinking water supply system showed adequate resilience it took the island several weeks to fully restore the entire power system.</p> <p>The Mascara Renewable Water and Quadran Companies which provided the equipment and the expertise have demonstrated on Rodrigues Island that solar powered desalination systems may</p>

offer sustainable water and energy solutions that may also be suitable and affordable for other remote communities on the African continent and in the Indian Ocean region.

Additional information: website addresses and contacts

Ministry of Foreign Affairs of Republic of Mauritius (2019): Voluntary National Review Report of Mauritius 2019 (for HLPF 2019)

<http://foreign.govmu.org/English/Documents/2019/Ministry/vnr/Final%20VNR/VNR%20Draft%20-04.06.19.pdf>

Rodrigues Regional Assembly Website:

<http://assembly.rra.govmu.org/English/Pages/Intro/The-Parliament.aspx>

Alliance for rural electrification (website):

<https://www.ruralelec.org/project-case-studies/mascara-renewable-water-solar-powered-seawater-desalination-mauritius>

Information on solar powered water desalination technologies:

<https://mascara-nt.fr/project/osmosunsw80-ile-de-rodrigues-maurice/>



Photos by Maxime Therrillon (m.therrillon@mascara-nt.fr)