Seventh Session of the Assembly of SIDS DOCK
Via Telephone and Videoconferencing
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PROJECT SUMMARY

Ocean Energy - A Game Changer for São Tomé and Príncipe

'Bringing home Dominique'... The World's First Floating OTEC Platform

Dominique - 1.5 MW OTEC Barge

How Ocean Thermal Energy Conversion (OTEC) will address the acute shortage of carbon-free, affordable energy to the power grid across São Tomé and Príncipe

The Project

To develop and deploy the world's first Floating Ocean Thermal Energy Conversion (OTEC) Platform, "Dominique," in 2024, under a Public-Private Partnership (PPP), increasing to 10 MW of installed OTEC capacity.

The Partners

- The Government of the Democratic Republic of São Tomé and Príncipe
- Global OTEC - a United Kingdom (UK) based innovative technology company
- SIDS DOCK - the Small Island Developing States (SIDS) Sustainable Energy & Climate Resilience Organization
- United Nations Industrial Development Organization (UNIDO)

Scope

- Installation of 10 MW-net capacity through a series of floating OTEC Platforms
- Total annual generation of 82,629 MWh
- Aquaculture/mariculture Research & Development (R&D) program

Timescales

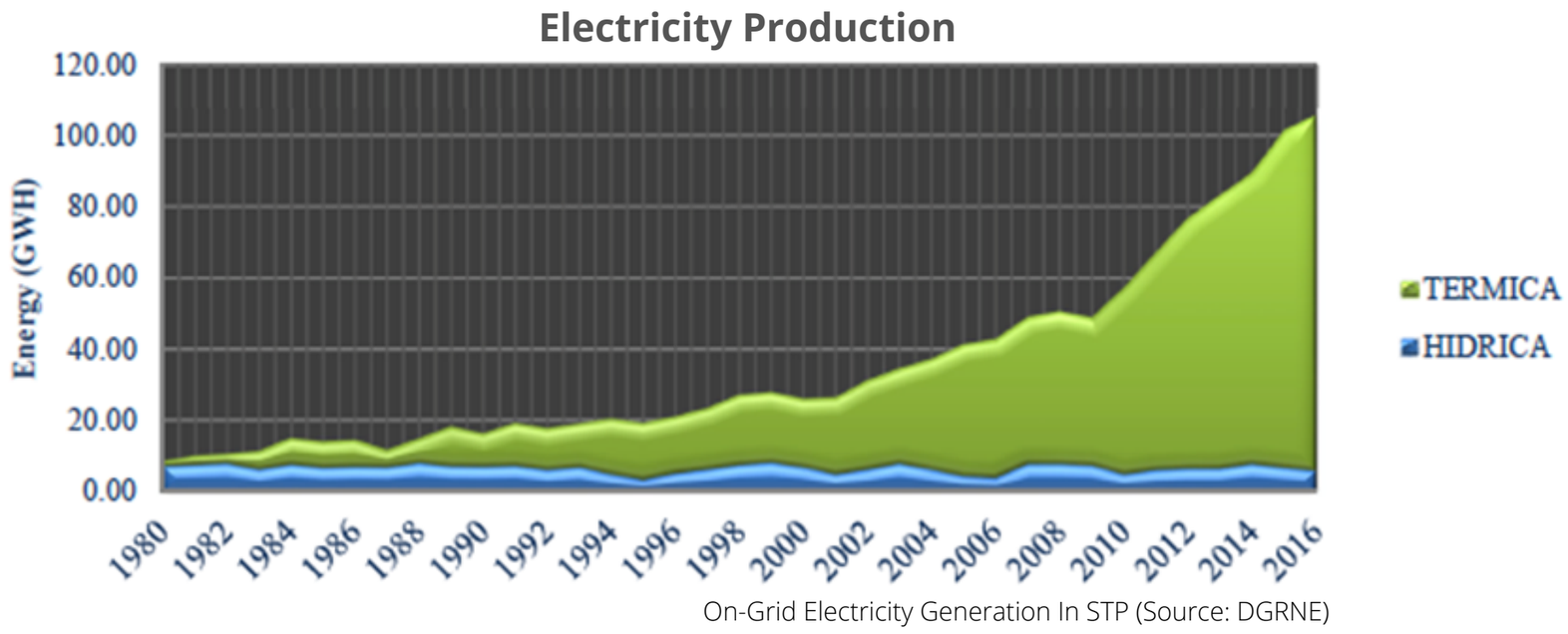
Phase	Year	Milestone
1	2024-25	Pilot 1.5 MW OTEC Barge Deployed
2	2028-29	5 x 1.7 MW OTEC Barges Deployed
3	2029-2030	Full 10 MW Commissioning Complete

São Tomé and Príncipe

<u>Population</u>
2020: 219,000
2024: 250,000 (H. Plecher Forecast, Statista)

<u>Electricity Sector</u>
Installed Capacity: 35 MW
Electricity Access Rate: 70%
Isolated Diesel Grids: 10 MW
Thermal Capacity: 95%

São Tomé and Príncipe simultaneously faces challenges of affordable energy, energy security and climate change mitigation/adaptation. The population's greatest need is access to affordable, reliable and sustainable energy services. The country's National 2030 vision places a strong emphasis on integrating renewable energy into its energy mix and moving away from dependence on imported diesel for power generation.



On-Grid Electricity Generation In STP (Source: DGRNE)

Due to biodiversity and grid stability concerns, solar PV and hydro technologies have some limitations. The Floating OTEC Platform has similar technology and components to a floating oil platform, except OTEC pumps water from the ocean and converts it to energy, versus pumping oil, which significantly reduces the risk to the ocean. The 160,000 km2 exclusive economic zone (EEZ) around STP is an untapped solar heat battery, which Ocean Thermal Energy Conversion (OTEC) platforms could convert to supply carbon-free, baseload power and research the supply of value-add services such as offshore mariculture.

Project Contacts

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