Energy storage for renewable energy sao tome

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The people of São Tomé and Príncipe face significant health challenges, including non-communicable diseases, and maternal and child health concerns, exacerbated by unreliable energy supply. Frequent power disruptions undermine essential healthcare services, hindering the country’s ability to provide consistent and reliable care.

Drawing from primary data collected across various health facilities and stakeholder interviews, this report sheds light on the energy-related challenges faced by the healthcare system in São Tomé and Príncipe. The findings underscore the utility of enhancing energy infrastructure with renewable sources in order to achieve sustainable healthcare services.

The United Nations Industrial Development Organization (UNIDO) has taken a step forward in the development of the first floating Ocean Thermal Energy Conversion (OTEC) platform in S?o Tom? and Pr?ncipe.

The contract for an Environmental and Social Impact Assessment (ESIA) Scoping Report was signed at the beginning of July, with the Lisbon-based engineering consultancy AQUALOGUS Engenharia e Ambiente Lda. This will guide the final design and requirements of the ESIA, enabling any environmental and social impacts to be identified and addressed, securing the OTEC installation and operations.

The UNIDO support is provided in the context of the Green Climate Fund (GCF) financed project Building institutional capacity for a renewable energy and energy efficiency investment program for S?o Tom? and Principe. The assignment has the objective of safeguarding Dominique, the First-Of-A-Kind 1.5MW floating OTEC platform, as there is currently a small number of OTEC plants globally (USA, Japan, Korea, for example). This is the first time a floating OTEC platform is being developed in a Small Island Developing States (SIDS) and Least Developed Country (LDC).

The learnings from the ESIA in S?o Tom? and Pr?ncipe will be disseminated through the Global Network of Regional Sustainable Energy Centers (GN-SEC), coordinated by UNIDO, benefiting future OTEC projects. The Scoping Report consists of reviewing previous preliminary studies and update data collection, as well as technical papers and existing protocols, standard procedures, and quality standards to provide definitions for the full design of the ESIA. The work will also be executed with local experts contributing to significant knowledge and technology transfer.

The efforts are part of the Global Ocean Energy Alliance (GLOEA), which was launched by UNIDO, SIDS DOCK and other partners at the UN Ocean Conference in Lisbon, Portugal, in 2022. S?o Tom? and Pr?ncipe, a pioneering SIDS, took the lead and the risk in demonstrating the commercialization of OTEC in SIDS,

which is proving to be the shining example to the rest of the world of how diesel fuel imports can be replaced with clean baseload energy from the ocean.

This will be a starting point and the catalyst for a whole portfolio of OTEC projects around the world, with needs for ocean energy already identified in countries such as Antigua and Barbuda, Belize, Fiji, Grenada, Tonga, among others. "The GLOEA has highlighted 700 MW of OTEC projects which are required urgently. Our first-of-a-kind platform de-risks this floating technology for infrastructure investors and will accelerate the technologies rollout through our standardized, modular systems," highlights Global OTEC Founder and CEO, Dan Grech.

In June, Global OTEC was awarded Approval in Principle (AiP) for the project by Lloyd"s Register (LR), which means Dominique meets the necessary requirements for providing a structural basis for the OTEC technology implementation. This followed on the heels of a Certificate of Approval for the methodology of installation of a Cold-Water Riser, provided in April, by the Marine Warranty Surveyor company, ABL Group. Dominique"s design is set to overcome the technical challenges faced by OTEC installations in the past, and the ESIA Scoping Report will further safeguard Dominique.