WATER SECTOR

2025

Solar power mini-grids for water treatment plants in Bo, Kenema and Makeni

Existing and expanded generation

Bo, Kenema, and Makeni – three of Sierra Leone's provincial capitals – have significant challenges with unreliable water supplies and costly, unstable electricity. These challenges have been identified as major obstacles to their growth and development. To tackle these issues, the Sierra Leone Water Company (SALWACO) is initiating a US$15 million solar power mini-grid project aimed at powering water treatment plants with clean, sustainable energy. This initiative is expected to significantly improve water supply reliability and reduce operating costs.

Investment proposition

As part of this project, three 2 MW solar farms will be constructed – one in each of the three cities – with a combined expected output of 1,533 MWh per year. This renewable energy will replace the current unreliable grid electricity, ensuring consistent power for water treatment operations. In the medium-term, once the national grid is stabilised, the solar farms will be integrated into the grid, further enhancing energy reliability.

SALWACO is seeking US$15 million in funding from donors, with strong potential to access climate funding due to the project's alignment with global renewable energy and sustainability goals.

Additionally, SALWACO is seeking a private sector partner to build, own, operate and transfer (BOOT) the solar farms. This approach will provide a clear exit strategy for investors while ensuring long-term operational success.

- **Social impact:** This project will directly improve water supply and public health in three key regional cities.
- **Environmental benefits:** A shift to renewable energy reduces greenhouse gas emissions, supporting global climate change efforts.
- **Stable returns:** The BOOT model offers long-term returns with a clear pathway for private sector participation.
- **Scalability:** Once proven successful, the model can be expanded to other regions in Sierra Leone.



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Kenema Treatment Plant



