



Foreign, Commonwealth & Development Office



SIERRA LEONE



Powering Hospitals in Sierra Leone

AT A GLANCE

CLIENT

Government of Sierra Leone
(Ministry of Health & Sanitation)

FUNDER

Foreign, Commonwealth and Development Office (FCDO), UK Government

IMPLEMENTER

SEforALL

PROJECT MANAGERS

Crown Agents

EPC CONTRACTOR

EMONE Energy Solutions

SECTOR

Hospital Electrification

SCOPE

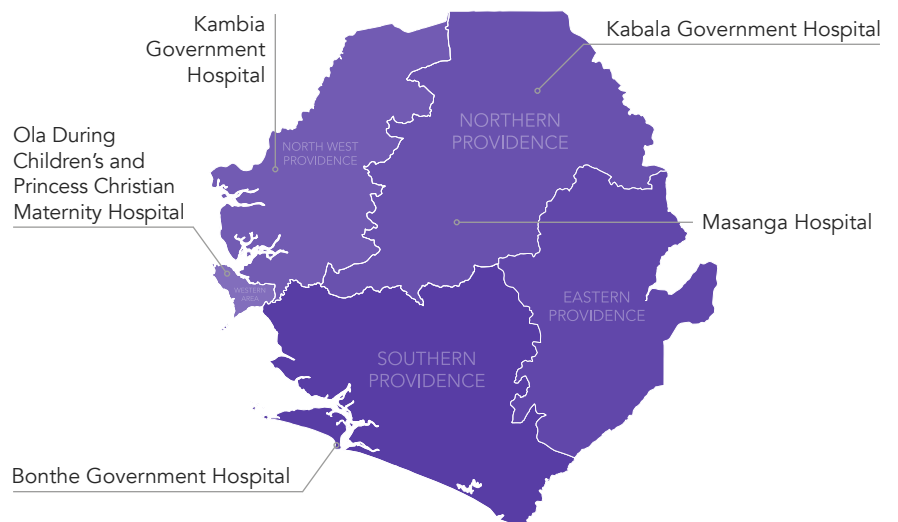
Electrification of 6 Hospitals using Solar Captive Power Plants

TARGET COMPLETION

October 2023

BACKGROUND

Health service delivery in Sierra Leone remains hampered by a lack of reliable electricity access in health facilities. This impacts health facilities at all levels, with several key hospitals still unconnected to the national grid. Those hospitals that are connected to a grid continue to suffer from frequent power outages. With support from FCDO and the Global Energy Alliance for People and Planet (GEAPP), SEforALL developed a 'Market Assessment & Roadmap' for the sustainable electrification of social infrastructure, most notable in the health and education sector. As part of this assignment, SEforALL commissioned detailed energy audits in 27 institutions, including in six key hospitals. These energy audits further showed the energy gap in hospitals (both on-grid and off-grid) and the opportunity to address this gap with renewable energy solutions (i.e., solar PV with storage).



CENTER	LAT	LONG
Ola During Children's and Princess Christian Maternity Hospital	8.490041	-13.218667
Kambia Government Hospital	9.12575688	-12.913558123
Masanga Hospital	8.750768	-11.83691
Kabala Government Hospital	9.5360549	-11.3688451
Bonthe Government Hospital	7.53002468	-12.50659973

PARTNERSHIPS & SUSTAINABILITY

SEforALL is providing hands-on technical training to 12 young graduate women under the STEM training Programme.

EMONE will train the hospital maintenance team on operation and Maintenance.

Crown Agents will develop an operation and maintenance model for implementation following commissioning of the solar power systems.

Crown Agents will develop a results framework to monitor and evaluate the health and environmental impacts of this project.

CONTACT

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OBJECTIVES

Building on the results of SEforALL's 'Market Assessment & Roadmap' and with funding from UK FCDO, SEforALL is now supporting a new health electrification Project that will electrify six hospitals – and their staff quarters – in Sierra Leone over the next nine months. The project is estimated to deploy approximately 530 kWp of solar PV installed capacity to the health sector. The goal of the project is to enable improved delivery of health services – particularly but not limited to maternal and child health services - in un-electrified or under-electrified health care facilities, through improved access to modern, affordable, and sustainable electricity services. The electrification of these facilities will be using decentralized solar photovoltaic (PV) systems with batteries and should adhere to the following principles:

- **Integrated and holistic:** Systems will be designed using a facility-wide and needs-driven approach.
- **State-of-the-art and reliable:** Designs will utilize state-of-the-art technologies (e.g., remote monitoring capabilities, zero-maintenance components) to improve reliability, functionality and sustainability.
- **Gender sensitive:** Gender considerations are considered in the final system design and installation. Particular attention should be paid to maternal and child health considerations.

EXPECTED OUTPUT

The output of the project is the installation of the solar power systems at six hospitals with capacities as shown in the table below.

S. NO	CENTER	PV CAPACITY (kWp)	BATTERY CAPACITY (kWh)	INVERTER SIZE (kW)
1	Ola During Children's and Princess Christian Maternity Hospital	300.8	547.2	375
2	Princess Christian Maternity Hospital (PCMH)			
3	Masanga Hospital	104.6	290.3	100
4	Kambia Government Hospital	61	184.7	100
5	Bonthe Government Hospital	70	217.7	50
6	Kabala Government Hospital	90	290.3	100

POPULATION CATCHMENT AREA

Ola During Hospital - 8,605,718

PCMH - 8,605,718

Masanga Hospital - 8,225

Kambia Govt. Hospital - 423,897

Kabala Govt Hospital - 249,974

Bonthe Govt Hospital - 16,419