



# Tied grid solar power system Sierra Leone

How many solar mini-grid sites are there in Sierra Leone?

In 2020 Power Leone signed an MOU with the Government of Sierra Leone to construct and operate 40 solar mini-grid sites with 1.4 MW capacity across rural Sierra Leone. In 2024, Sierra Leone is constructing and commissioning 17 of these mini-grid sites (800 kW).

When did power Leone start a mini-grid?

Power Leone's first commissioned mini-grid was in Petifu Junction. Phase 3 Project In 2020 Power Leone signed an MOU with the Government of Sierra Leone to construct and operate 40 solar mini-grid sites with 1.4 MW capacity across rural Sierra Leone.

Does Sierra Leone have a solar energy resource?

Ministry of Finance The Government of Sierra Leone (GoSL) recognises that the country is endowed with a significant solar energy resource. This potential however remains largely untapped.

What is the National Development Strategy of Sierra Leone?

This is one of the key documents on the overall national development strategy of Sierra Leone, including, among other areas - the energy and solar generation sector. It is a recent document, indicating the actual strategic direction of the Government with clear targets and policy actions.

Who regulates the energy sector in Sierra Leone?

The primary law regulating energy sector in Sierra Leone is the National Electricity Act 2011 ("Electricity Act"). This Act incorporates EGTC and establishes EDSA, both of which started operations in 2015. It also sets the legal provisions under which those entities are governed, managed, functioning and are funded.

What will GOSL do for Sierra Leone?

GOSL will remove barriers hampering the effective development, implementation and dissemination of renewable energy technologies. Also, the draft Energy Policy estimates that Solar PV generation capacity in Sierra Leone is expected to start at 31 MW in 2020 and increase to 156 MW by 2023.

This greenfield 50MW solar power project, developed by Frontier Energy and Planet One, will be the country's first large-scale grid-connected solar Independent Power Producer (IPP). The investment underscores the country's commitment to diversifying its energy mix and addressing the urgent need for clean, affordable, and stable power.

This report is prepared at the request of the Government of Sierra Leone as part of the World-Bank-funded project on Unlocking the Potential for Grid-Connected Solar Power through ...



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stewardship. This plan outlines how Sierra Leone can embark on a low-carbon development trajectory to become a middle-income nation by 2050. Energy will be a pivotal enabler in this endeavour. Through rapid adoption of renewable energy and energy efficiency across key sectors-- including power, mining, transport, industry, and

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This report is prepared at the request of the Government of Sierra Leone as part of the World-Bank-funded project on Unlocking the Potential for Grid-Connected Solar Power through Private Sector Investment Sierra Leone. This report provides the gap analysis of legal and regulatory framework for IPPs with particular focus on grid-connected solar

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By evaluating the capacity of solar power generation to meet consumer demands throughout the year, this study seeks to enhance the efficiency and effectiveness of solar energy systems in Southeastern Sierra Leone. Keywords: solar energy, power quality, grid-tied systems, stand-alone systems, Sierra Leone, mixed-method research design.

2. CONFIGURATION OF PROPOSED SCHEME The configuration of the proposed scheme is described in Fig. 1, showing the layout of the hybrid PV-battery system, ...

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Three Development Finance Institutions and a renewable fund manager have announced a co-investment of more than \$52 million for Planet Solar, a greenfield 50MW solar power project in Sierra Leone. Planet Solar will be the first large-scale grid-connected solar Independent Power Producer (IPP) project, driving a diversified approach to ...

Baoma 1 Solar PV Plant. This is Sierra Leone's first independent power project, a 5 MW solar farm that is part of a larger 25 MW solar PV project located in Yamandu, near Bo town. The project is expected to add ...

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2. CONFIGURATION OF PROPOSED SCHEME The configuration of the proposed scheme is described in Fig. 1, showing the layout of the hybrid PV-battery system, connected to the grid with diesel and hydro power.

2.1 Proposed Scheme Two scenarios have been proposed with cost in mind to maximize generation.

Baoma 1 Solar PV Plant. This is Sierra Leone's first independent power project, a 5 MW solar farm that is part of a larger 25 MW solar PV project located in Yamandu, near Bo town. The project is expected to add approximately 15% to the country's total electricity generation capacity. Status: The first phase has reached commercial operations.



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