

# SIERRA LEONE OFF GRID SOLAR MEANING



This would entail installations of at least 94 solar mini-grids to be operated and managed by private sector partners under public-private partnership agreements with the Ministry of Energy in Sierra Leone. It is ???



For this, we have surveyed beneficiaries of mini-grids in two villages of Sierra Leone, namely Mambolo and Kukuna, where solar mini-grid projects have been implemented since 2018. Our survey design allows measuring renewable energy potential, poverty reduction, and community engagement perceived by the respondents.



The report notes that, while investment into off-grid solar reached a record high of US\$1.2 billion between 2022 and 2023, US\$21 billion of new investment will be needed to provide off-grid solar



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ENERGY / OFF-GRID REVOLUTION IN SIERRA LEONE 27thMarch 2017 Ministry of Energy Republic of Sierra Leone High Level Workshop on (2016 ???2020) Short-term objective: Meeting the targets of the President's Delivery Plan by setting up solar PV systems for 50 Community Health Centres by June 2017 Mid-term objective: Extending the solar PV

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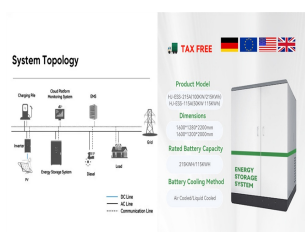
The policies provide for decentralized solar power and for mini-grids within the rural electrification strategy to increase access to energy in rural areas of Sierra Leone. The regulations provide for cost-reflective mini-grid tariffs necessary for market-driven mini-grid development and long-term sustainable mini-grid operations.



In 2014, the electricity access in Sierra Leone was almost 13.1%, consisting of 42% in urban areas and 1% in rural areas. The high transmission and distribution losses in the national grid, the



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37% of rural population to be served from off-grid (mini-grids and stand-alone) renewable energy electricity services 4. 75% of population to have improved cookstoves 4. Yele/Makali Dam, a 250 kW dam located in the north of Sierra Leone. Solar energy In February 2017, Sierra Leone was the first African country to sign the "Energy Africa



As of 2020, Sierra Leone's rural electrification rate stood at a mere 4.8%, making it one of the lowest rates in sub-Saharan Africa. Acknowledging the challenges posed by costly grid expansion, the Government of Sierra Leone (GoSL) has ???



off-grid locations, meaning that it is regarded technically difficult and/or too costly to connect them to the national grid in the foreseeable future (MoE 2016). Typically, electricity delivered through an established national or regional grid is cheaper on a Megawatt hour (MWh) basis than if it is

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supplied through off-grid solutions.

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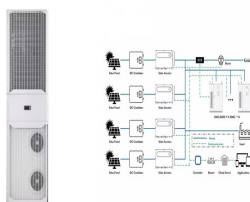
As per a request of the Government of Sierra Leone during the kick-off workshop in Freetown in April 2019, this analysis is focused on the potential of integrating grid-connected solar PV in the short term<sup>1</sup>. Background Installed capacity in Sierra Leone is about 160 MW with the main sources of power being



Off-grid Population: 6 million (World Bank) Narrative: Electricity access in Sierra Leone is at 20% and mostly confined to the capital, Free Town. Limited access to electricity and an unreliable grid has led to the use of diesel generators for domestic, public and commercial purposes especially in the towns outside the capital.



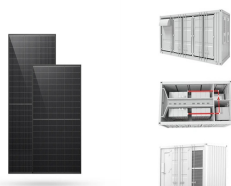
STAND ALONE SOLAR MARKET UPDATE - SIERRA LEONE | vi Figure 1: Sierra Leone at a Glance i. International Energy Agency (2019) ii. World Bank (2018) iii. World Bank (2019) iv. ESMAP (2019) v. Lighting Global (2019) vi. World Bank (2020) 5.8m Unelectrified Populationi 69 out of 100 2 7.8m 105 Total Populationii Framework for Stand-alone Systems Score



Development (DfID) ??? is an ambitious electrification project that will provide access to off-grid solar electricity to up to 94 communities in Sierra Leone by 2020. Sierra Leone is one of the world's poorest countries, ranking 179th out of 188 countries in ???



across 14 districts of Sierra Leone with access to off-grid solar electricity through the construction of 97 mini-grids. Overview of the research The findings are based on data collected during baseline (2019) and follow-up (2021) surveys to evaluate communities), the mean hours children study at home per week is 8.5. Among households who

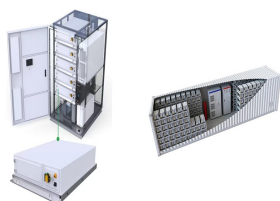


w Section 2 provides a short context to the Sierra Leone power sector, the off-grid solar sector, and the national revenue / fiscal situation. w Section 3 describes the methodology deployed for both stakeholder engagement and the quantitative analysis

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basic or full mini-grid licensees and or mini-grid consumers in Sierra Leone. (2) A mini-grid may be any one of the following: (a) Isolated mini-grid (b) Interconnected mini-grid (3) A mini-grid is required to have a generation facility in its network which may be operated by the mini-grid licensee or a third party.



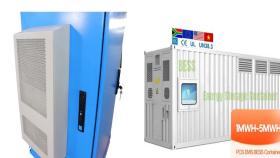
Thanks to this project, 49 villages in Sierra Leone and Uganda will be equipped with off-grid and remotely controllable solar solutions ??? Remote Power Units (RPU) ??? that will supply power to nearly 60,000 people. The RPUs will be designed and manufactured by Winch Energy through its assembly facility in Sicily, Italy (Photo below).



To help encourage the off-grid solar market, Sierra Leone's government has already adopted several policy measures including exempting solar energy kits that meet the Lighting Global Quality Standards<sup>8</sup> from import taxes (25%) and goods and services taxes (GST) (15%).<sup>9</sup> Sierra Leone also participated



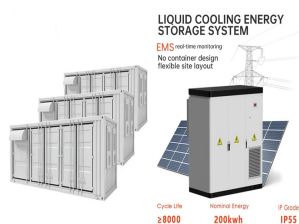
Sierra Leone Telegraph: 21 July 2021: The European Investment Bank and the International Solar Alliance today published a new study outlining solutions to overcome key affordability and investment challenges holding back off-grid solar investment across Africa.



Human Development Index ranked Sierra Leone 177 out of 186. Sierra Leone was already one of the world's poorest countries when a devastating 11-year civil war began in 1991. The war destroyed most of the very little infrastructure that existed in the country in the late 1980s.



One of the barriers facing the off-grid solar sector in Sierra Leone, is poor access to enterprise finance. The interest rates charged by commercial banks are sig-due to the high risk of companies in sec-tor. Risks are associated with the fact that most sup-pliers of products in the off-grid ???



PowerGen, through their Sierra Leone project company Off-Grid Power (SL) Ltd\*, has tendered 20 containerized solar systems for implementation in Work Package 2 of the RREP. InfraCo Africa) aimed to provide first-time electricity to 6,657 households & businesses in Sierra Leone, making it the largest off-grid solar energy initiative in the



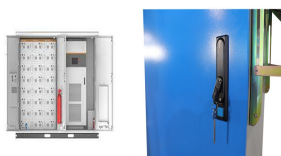
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Bonthe Government Hospital, an off-grid hospital that experiences an average of more than 12 hours of outages each day. The CHCs, all of which were grid-connected, experienced worse power quality due to the below-nominal voltage on large parts of the Sierra Leonean grid; off-grid hospitals were powered by solar and generator-provided power that



Chad: Merl Solar to supply 100 MWp from two solar power plants in Gaoui. The Sierra Leone Electricity and Water Regulatory Commission (SLEWRC) regulates electricity and water. Mini-Grid and Off-Grid Systems. SLWERC is rated high in the development of mini-grid and off-grid systems. The country is implementing the Rural Renewable Energy



Read also AFRICA: universal electrification through off-grid solar mini-grids. In 2019, the two partners signed a shareholder agreement. Through this agreement, InfraCo Africa has committed USD 6.9 million for the development of green ???



In 2020, Sierra Leone had a rural electrification rate of just 4.8%, one of the lowest in sub-Saharan Africa. The Government of Sierra Leone's (GoSL) National Renewable Energy Action Plan recognises the potential of off-grid solutions to address the electricity needs of the country's rural population where the economies of grid deployment are prohibitive.



This would entail installations of at least 94 solar mini-grids to be operated and managed by private sector partners under public-private partnership agreements with the Ministry of Energy in Sierra Leone. It is important to emphasize that although the mini-grid tariff in Sierra Leone might be considered unaffordable by many, a large

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Sierra Power (SL) Limited is a leading off-grid solar company committed to providing clean and reliable energy solutions in Sierra Leone. With a focus on sustainability and innovation, Sierra Power aims to revolutionize the energy landscape by delivering affordable and accessible solar power to communities across the nation.



in solar off-grid electrification in a single country to date. Already, MCC's public-private partnerships have delivered clean energy access to approximately 185,000 people through the sale of nearly 37,000 solar home systems. In addition, MCC and private companies are co-financing the construction of 55