



Energy Sector

Opportunities in the Sierra Leonean Energy Sector





Sierra Leone Netherlands Business and Culture Council- SLNBCC

The Sierra Leone Netherlands Business and Culture Council (SLNBCC) is an organization that *represents the business interests of both Sierra Leonean, Dutch and other foreign companies and institutions in Sierra Leone.*

The SLNBCC has been active since 2016, and is an extension of the Ghana Netherlands Business and Culture Council (GNBCC).

Both organizations work closely together with the Embassy of the Kingdom of the Netherlands in Ghana.





Energy sector



Background



Mandate

To formulate and implement policies, projects and programmes on energy, and provide oversight across the entire energy supply chain for all sub-sector agencies involved in the production, transmission, distribution and supply of Electricity and other forms of energy supply and utilisation.

With the overall objective of improving the performance of the sector, the Ministry led the enactment of the National Electricity Act (2011), which resulted in the unbundling of the National Power Authority (NPA) and established the Electricity Generation and Transmission Company (EGTC), the Electricity Distribution and Supply Authority (EDSA) and the Electricity and Water Regulation Commission (EWRC).

Energy



- **EDSA** is responsible for the supply of electricity to consumers and is the primary off taker of power from IPPs.
- Electricity Generation and Transmission Company (EGTC) inherited and runs all GoSL generation facilities including the Bumbuna Dam.
- Electricity and Water Regulation Commission (EWRC) monitors quality and compliance, provides tariff guidelines, and licenses for the safe, secure, affordable and reliable supply of water and electricity
- NSPRA regulates, controls and supervises the uses, acquisition, import, export, transportation and disposal of radioactive substances and devices emitting radiation.
- The Barefoot Women's Technical Facility trains Women from all districts to become solar technicians and provides them with a sustainable business enterprise upon graduation.

Current generation



- Currently the installed generation capacity 150.7 MW, whilst available capacity is 59.8 MW nationwide.
- Daily Demand hovers around 43 MW average, with a nightly peak of about 62 MW.
- The acute deficiency is mainly due to seasonality and also because Bumbuna is undergoing maintenance.
- Aggreko Contract Ends in July 2018. It's available generation dependent on fuel funding by EDSA/MoFED

Locations	Installed	Available _(As at present)
• Kingtom & Blackhall Rd.	26.5 MW	26.5 MW
• Lungi _MAN	6 MW	2 MW
• Kono_DFO	2 MW	1 MW
• Kono_HFO	6 MW	3 MW
• Port Loko	0.4 MW	0.4 MW
• Bo	6 MW	2 MW
• Makeni	3.6 MW	2 MW
• Magburaka	0.8 MW	0.8 MW
• Lunsar	1 MW	1 MW
• Bumbuna	50 MW	0 MW
• Goma	6 MW	0 MW
• Aggreko*	20 MW	20 MW
• Sunbird (ADDAX)	25 MW	5 MW
• Charlotte	2.2 MW	0 MW
• Port Loko <small>(Banksoka)</small>	2 MW	0 MW
• Makali	0.12 MW	0 MW
• Yele	0.125 MW	0.125 MW
TOTAL	150.7 MW	59.8 MW

Transmission networks

- Existing 161 KV Bumbuna to Freetown
- In Progress 225 KV CLSG
Cote D'Ivoire-Liberia-Sierra Leone-Guinea
- In Progress Bo-Kenema 33kV
- In Progress 225 kV with India Exim Funded Bumbuna II to Freetown
- Proposed 225 kV for Waterloo –Bo –Kailahun and Moyamba –Lanti-Pujehun

Opportunities

- Sierra Leone is a net importer of petroleum products at an estimated US\$25 million a year, largely in petrol and diesel
- The country's energy needs are hugely under-served and the lack of a reliable energy supply is the principal impediment to Sierra Leone's development.
- Sierra Leone currently has below 200 mw of installed power capacity nationally: comprises of thermal (fuel, oil and diesel), hydro and solar
- Interventions using thermal generation, hydroelectricity and solar energy generation in different parts of the Country is needed.
- A number of Donor partners including the World Bank, JICA and other Public Private Partnerships arrangements are being used.

Opportunities

Potential business areas that could be of interest to Business Institutions for future intervention, these include:

- thermal electricity generation and sale, construction and installation of hydroelectricity systems and the construction and installation of solar electricity systems and sale of solar energy products.
- Another prime area identified is the use of palm products in the production of diesel.
- Sierra Leone has ventured in offshore oil exploration in which according to initial results prospects are much greater for gas
- There are strong prospects for commercial discoveries but this requires huge capital injection
- There are also prospects for onshore oil exploitation, according to initial exploration feasibility activity.
- Highly profitable investment opportunities in power generation as well as in distribution

Opportunities

- The planned electrification project for Provincial HQ towns funded by the GoSL Generation, Transmission and Distribution, never materialized due to lack of funding
- The ministry will now pursue the President's Vision for the restoration of electricity to these areas by encouraging IPPs to develop solutions and invest in these markets
- 16 Towns in 5 Bid Lots
 - ❖ Lot 1: Portloko, Lungi, Kambia and Lunsar Townships.
 - ❖ Lot 2: Bo and Kenema Townships.
 - ❖ Lot 3: Makeni, Magburaka, Matotoka and Kabala Townships.
 - ❖ Lot 4: Pujehun, Moyamba and Bonthe Townships.
 - ❖ Lot 5: Kailahun and Kono Townships.

Concerns of the sectors

- Load-Shedding
- High Commercial and Technical losses
- High operating costs and Government subsidies
- The stated aims of unbundling are yet to be fully realized.
- Peak of the Dry Season. Bumbuna Generation at its lowest, and between May 20 to 30, annual maintenance regime shuts down turbines and the ability for Addax to transmit.
- Solution: Negotiations on-going with IPP for provision of medium term, 2-year, 30MW solution .

GoSL has discussed with the World Bank, the possibility of securing funds for a thorough review of the network and to confirm the actual losses.

All GoSI offices to be retrofitted with pre-pay meters. All back-log invoices to be addressed.

Current Renewable Projects

Several Renewable projects are:

- PRESS-D funded by EU
- UNOPS – funded by DFID
- Barefoot Women Engineers
- Matru-Jong 120 KW - ECREE
- 6MW Solar Park – Abu Dhabi Fund for Dev and GoSL
- 5MW Solar Era

Institutional Capacity Building



Resource Development

- Establish engineering training schools and workshops for EDSA & EGTC engineers
- Establish project management capability in both utility companies through assignment of experts for 2-3 years to locals and delivery of relevant software
- Management Information Systems (MIS): Deliver MIS to support: planning and investment, corporate functions, asset and works management



Motivation to Dutch companies

- increase generation capacity
- the construction of new transmission and distribution lines to improve access to more reliable power in Sierra Leone.
- Solar energy and products in all chiefdoms in the country
- Explore and establish additional electricity/power capacity from diverse sources including Biomass, hydro and solar energy
- Marketing and Capacity building institutions in the energy sector

Highly profitable investment opportunities in power generation as well as in distribution.
Invest in low-cost renewable projects Solar, Hydro, Wind and Biomass.

Wind energy generation is yet to be explore and try in Sierra Leone

Summary & Conclusion



- With thorough planning, investment and commitment by all sector agencies, they will enhance access to electricity and other energy related activities throughout the country.
- Gosl will increase transparency and accountability in our procurement processes and day-to-day activities.
- Gosl will secure a robust reform through the milestones identified in the Roadmap.
- GoSL will encourage low-cost renewable energy investment in all districts
- GoSL will rehabilitate existing infrastructure to improve quality and reliability of service for customers

Thank You!



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