

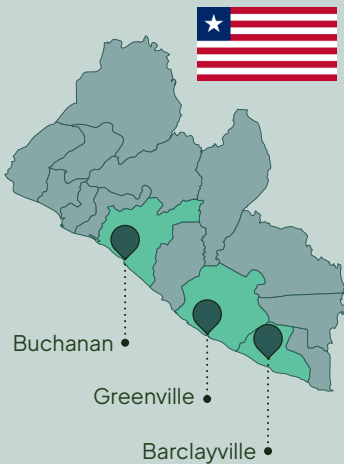
# FACTSHEET

Rural Renewable  
Electrification of  
South-East Liberia



Funded by  
the European Union

Republic of Liberia



## Programme summary

The objective of the programme is to stimulate socio-economic development and improve the living conditions of the rural population living in Buchanan, Greenville and Barclayville by increasing access to reliable and affordable renewable energy. A total of 17,064 new homes, 1,442 businesses and public institutions will have access to electricity and 700 streetlights will be installed.

The programme will attempt to catalyse private sector investment in the development of electricity mini-grids. This programme is part of the Global Gateway, a new European strategy to boost smart, clean and secure links in digital, energy and transport sectors and to strengthen health, education and research systems across the world.

**Project Areas:** Buchanan, Greenville, Barclayville

### Funding



European  
Union

### Programme Budget

€ 42,000,000

### Aid Modality

Indirect management  
with Republic of Liberia

### Direct management

for small studies

### Sustainable Development Goals



Population

**55,533**

27,905 women / 27,628 men



At least **300** construction full-time jobs created

**55** Buchanan  
**210** Greenville  
**35** Barclayville



Beneficiaries & new connections

**18,506**

**17,064** households  
**1,442** businesses, community and public institutions

At least **124** operation & maintenance long-term jobs created

**64** Buchanan  
**49** Greenville  
**11** Barclayville



New street lights

**700**

**500** Buchanan, **200** Greenville



Estimated CO<sub>2</sub> avoided

**1,740,624**

tonnes over 20 years

## How sustainability is ensured:

- A public-private partnership (PPP) involving private sector management of the public infrastructures, the operation and maintenance (O&M) of the assets and expansion of the power grid to continue to meet the electrical demand.
- The establishment of a financial mechanism ('revolving fund') to finance asset replacements and/or network expansion through a fee paid by consumers.

## Role of the Liberian Government:

- Facilitating financing and construction of the electricity generation and distribution networks.
- Granting operational licences to an operator capable to generate profit.
- Facilitating a stable and favourable tariff regime for the period of the PPP contract with favourable legislation (e.g. fiscal incentives in productive use of energy) and a private network operator to agree on a long-term PPP.



## SUB-PROJECT 1

### Construction of the distribution network in Buchanan

📍 Buchanan, Grand Bassa County

👤 Population: 34,270 (2008 Census)

## Type of Infrastructure

Development of the Côte d'Ivoire, Liberia, Sierra Leone, Guinea (CLSG) transmission line including a 33kV distribution system with transformers and main line from CLSG 225kV substation to Buchanan.

## Energy Sources

Electricity supply for Buchanan will be taken from a 225kV substation that is part of the CLSG transmission line. Overall the power is predominately hydropower and its development is offsetting a lot of diesel power.

## PROJECT DATA

**Estimated time of completion:** 36 months | May 2027

**CO<sup>2</sup> avoided:** 431,424 tonnes over 20 years

**Jobs created:** 119 full-time

55 construction sector

64 long-term O&M

**Beneficiaries:** 12,057 new service connections

11,000 households

1,057 businesses, community and public institutions

- 917 small and medium enterprises (SMEs)
- 42 large consumers
- 80 business and large consumers
- 18 large administration and community buildings
- 100% connection rate
- 500 streetlights installed



### SUB-PROJECT 2

Construction of the distribution network, solar power plant, and mini-hydro power plant including the rehabilitation of the feeder road in Greenville

📍 Greenville, Sinoe County

👤 Population: 13,370 (2008 Census)

#### Type of Infrastructure

Development of a distribution network in Greenville including 65 km of 33 kV distribution lines, 30 km of low voltage 0.4 kV reticulation (ABC), a 850 kW solar PV plant, and a 2 MW mini-hydro power plant (MHPP).

#### Energy Sources

- 850 kW solar power plant in Murrayville (supported by a diesel generator at night until the MHPP comes online).
- 2 MW mini-hydro power plant at the Sinoe River rapids.

## PROJECT DATA

**Estimated time of completion:** 38 months | August 2027

**CO<sup>2</sup> avoided:** 1,314,639 tonnes over 20 years

**Jobs created:** 259 full-time

210 construction sector

49 long-term O&M

**Beneficiaries:** 5,249 new service connections

4,980 households

269 businesses, community and public institutions

- 100% connection rate
- 200 streetlights installed



### SUB-PROJECT 3

Construction of a solar PV plant and mini-grid network with consideration of solar home systems for areas on the outskirts of Barclayville

📍 Barclayville, Grand Kru County

👤 Population: 7,893 (December 2023 field visit)

#### Type of Infrastructure

Construction of a 200 kWp solar PV plant located 1 km north-west of the city, coupled to a battery bank with 400 kWh storage and a 180 kW diesel generator, which will be connected to a 4 km long MV transmission line of 11 kV and a mini-grid (0.4 kV transmission line) of 11 km that will connect customers to the system. A further 70 solar home systems will be installed for households on the outskirts of the city.

#### Energy Sources

- A solar PV array with a nominal capacity of 200 kWp (max. output 195 kWp) and a diesel generator with a capacity of 180 kW (225 kVA) and average output 173 kW. A battery bank with 400 kWh of storage at 6 V Li-Ion batteries will be used. The solar resource in this part of Liberia is good with a direct normal irradiation of 2,045 – 2,118 kWh/m<sup>2</sup> with a peak in April and lower insolation between June and September.

## PROJECT DATA

**Estimated time of completion:** 28 months | February 2027

**CO<sup>2</sup> avoided:** 119,102 tonnes over 20 years

**Jobs created:** 46 full-time

35 construction sector

11 long-term O&M

**Beneficiaries:** 5,249 new service connections

1,084 households

116 businesses, community and public institutions

- 82% connection rate