



# Liberia Solar Power Supply System

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How can Liberia improve energy security? One strategy is to diversify the energy mix by increasing the share of domestic renewable energy sources, such as solar and wind power, for electricity generation. By harnessing these indigenous and sustainable energy resources, Liberia can decrease its reliance on imported fuels and enhance its energy security. Will Liberia get a 20 MW power supply in ? In addition, the government signed a Power Purchase Agreement with a solar energy company to provide the country  $\geq 20$  MW of electricity in . Despite these efforts, much work remains to be done to improve access to reliable and affordable energy in Liberia. What are the main energy sources in Liberia? The primary energy sources in Liberia are traditional biomass fuels such as firewood and charcoal, which account for more than 80 % of the country's total energy consumption [5, 12, 13]. Petroleum products, including gasoline and diesel, account for about 10 % of energy consumption, while hydroelectric power accounts for just over 6 % . How much solar power does Liberia have? According to estimates by the World Bank Group, Liberia has a solar potential of  $\sim 5.4$  kWh/m<sup>2</sup> per day, with up to 6.5 h of sunshine per day on average . Similarly, Liberia has considerable hydroelectric power potential due to its numerous rivers and other resources. How much energy does Liberia produce a year? Liberia also has abundant biomass resources, with estimates suggesting that the government can produce up to 27,452 GWh of electricity from biomass annually . Expanding these resources can provide sustainable and decentralized energy solutions, particularly in rural and remote areas. Is electricity available in Liberia? In Liberia, the availability of grid-connected electricity is limited, which has one of the world's lowest electricity consumption rates with

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