

# Total investment cost of utility scale ESS project in Ghana

Is there value in delaying utility scale re investments in Ghana?

Real options provide a better estimation of investment value than DCF models. There is value in delaying investments for utility scale RE technologies in Ghana. Investment value is largely impacted by the volatility in costs and revenues. Policy support is required for RE investments to thrive and remain competitive. 1. Introduction

What are base year costs for utility-scale battery energy storage systems?

Base year costs for utility-scale battery energy storage systems (BESSs) are based on a bottom-up cost model using the data and methodology for utility-scale BESS in (Ramasamy et al., 2023). The bottom-up BESS model accounts for major components, including the LIB pack, the inverter, and the balance of system (BOS) needed for the installation.

How much does electricity cost in Ghana?

The price of electricity currently stands at US\$0.106/KWh. Consumer bargaining power is also low in Ghana; prices are determined by the government with little input from the public. Consumers do not have the option of transferring from one electricity distribution company to another because there are no other options.

What are the three main sectors of electricity in Ghana?

There are three primary segments in the electricity sector: generation, transmission and distribution. Ghana's power suppliers are completely state-owned. Since the government control both transmission and generation of power across the country, it has the authority to set power prices that consumers must pay.

Why does Ghana rely on solar energy?

It is undeniable that Ghana receives nearly constant sunlight throughout the year, allowing it to rely on solar energy for its whole electricity demands.

How much did the African Development Bank grant to Ghana?

The African Development Bank granted approximately US\$27 million for the Ghana Mini-grid and Solar Photovoltaic Net Metering Plan in 2021. The project entailed the installation of 67.5MW of capacity split among 35 mini-grids and several independent solar capacity projects across the Volta Lake region.

Projected Utility-Scale BESS Costs: Future cost projections for utility-scale BESS are based on a synthesis of cost projections for 4-hour duration systems as described by (Cole and Karmakar, 2023). The share of energy and power ...



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