

# Quality control in solar power plant South Sudan

Why is solar energy important in South Sudan?

As characterised by ample sunshine with strong solar power potential, South Sudan remains as one of key destinations on African continent for solar energy investment. In addition to this, it has been documented that evolution of solar PV is of great significance in South Sudan.

How solar energy can transform South Sudan's economy?

A solar energy can also be transformative to South Sudan's economy. For example, solar energy is affordable, cleaner and last longer as compared to energy from diesel-powered generators because generators need diesel to burn and they also need to be replaced after few years.

Does South Sudan need electricity to drive industrial development?

Electricity prices in South Sudan are twice the prices of electricity in Africa and are five times the prices in other developing countries (Ranganathan and Briceno-Garmendia, 2011). As a resource rich country that needs to attract direct foreign investment, South Sudan definitely needs power to drive industrial development.

How long does solar energy last in South Sudan?

Proponents of solar energy argue that a solar system can produce reliable electricity for about 25 years. Having recognised solar energy potential, South Sudan is expected to put more emphasis on development of solar energy sector as part of its fight against energy poverty and economic diversification.

How much solar energy does South Sudan have?

South Sudan receives about 8 hours of sunshine daily, providing an estimated solar energy capacity of 436 W/M<sup>2</sup>/year (REEP, 2013). Similarly, wind energy density ranges between 285 and 380 W/M<sup>2</sup> (REEP, 2013). Both the solar sunshine duration and wind density meet the threshold required to produce high quality electricity.

How does lack of electricity affect business in South Sudan?

Specifically, over 75% of firms surveyed in South Sudan complained that lack of energy hinders business operation. Second, lack of electricity drives up costs as businesses and families try to produce their own power, which is extremely expensive.

With support from Creating Hope in Conflict, a Humanitarian Grand Challenge, EarthSpark helped SunGate take a critical step towards addressing this challenge by launching South Sudan's first solar microgrid in September 2022 in Wanyjok.

This work presents a model predictive control (MPC) approach to manage in real-time the energy generated by a grid-tied photovoltaic (PV) power plant with energy storage (ES), optimizing its ...

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South Sudan faces a serious energy crisis due to a number of factors, including devastating conflicts (e.g. 1955-172, 1983-2005 & 2013-present) and reliance on the fossil fuel source.

Juba Solar PV Park is a 20MW solar PV power project. It is planned in Central Equatoria, South Sudan. According to GlobalData, who tracks and profiles over 170,000 power plants worldwide, the project is currently at the under ...

This information is drawn from GlobalData's Power Intelligence Center, which provides detailed profiles of over 170,000 active, planned and under construction power plants worldwide from announcement through to operation across all ...

Aptech Africa's 26MWp solar installation in Juba, South Sudan, alleviates energy demand issues, reduces costs, and benefits over 525,000 residents, hospitals, schools, and businesses, while also mitigating CO2 ...

South Sudan; however, little is empirically known currently of the condition of energy in Juba in particular and South Sudan in general following the war and economic crisis in the last 4 years. Therefore, this paper provides an up-to-date empirical evidence by answering questions

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