Ghana telecom site solar retrofit case study

Overview

In 2023, Ghana's leading telecommunications company, MTN Ghana (Scancom), commissioned Dutch & Co to design, engineer, supply and construct the 506KWp solar PV rooftop solution at their Sakaman Switch site in Accra. Helios Towers Ghana operates a national portfolio of 1,100 telecoms tower sites supporting mobile connectivity across the country, hosting network equipment for mobile network operators, including MTN Group, under a shared infrastructure model. Utilizing Jinko's Tiger Pro modules with a 550 power class, Huawei Sun2000 KTL50. This thesis assess the technical and economic viability of a solar- hybrid system to power a telecom base station. Technical information was obtain from an outdoor telecom based station in Ghana located at is latitude 50 46' N longitude 00 4' E which has an annual solar radiation of 5. Our order books are full to the brim, and not even torrential rains can stop us. The hybrid system deployed is to enhance sustainability, reliability and stability of electricity supply to meet the telecom. Solar energy as an innovative source of energy will aid in examining the environmental benefits and influences of solar photovoltaic technology across its full life cycle (from frame to grave), with energy benefits.

Article Content

A Case Study

Solar-biomass drier at the Ejura Market in the Ashanti region of Ghana Drier built by Pens Food Bank in collaboration with the Agricultural Engineering Department of the Kwame Nkrumah University of

Helios Towers – Solar rollout in Ghana

Helios Towers'' commitment to sustainable business is being actively implemented across its markets, with Ghana emerging as a standout example. In 2023, the company installed solar panels at 313

A review of renewable energy based power supply options for telecom ...

Moreover, information related to growth of the telecom industry, telecom tower configurations and power supply needs, conventional power supply options, and hybrid system

FEASIBILITY STUDY OF SOLAR PV-FUEL CELL HYBRID POWER

The feasibility study evaluates a solar PV-fuel cell hybrid power system intended for remote telecom base stations in Ghana, specifically focusing on the Bududuram ATC Telecom Base Station. The

Banks, Telcos increasingly turn to solar power to cut energy costs — Study

13th Mar 2026 | Source: CNR Citinewsroom Banks, Telcos increasingly turn to solar power to cut energy costs — Study The adoption of solar power is steadily increasing in Ghana''s finance and

Telecom Site Energy Retrofit Payback Period (2026): Real Costs, ROI ...

Bulk purchasing can result in significantly lower costs. For instance, in a domestic centralized procurement project involving 320 base stations—where the average solar capacity per site was

An inventive source of using solar energy in operating ...

This research seeks to assess the comparative advantage inherent in the use of solar renewable energy as an innovative source of power supply to telecommunications networks.

Sustainable Retrofitting of Existing Buildings: Techniques and Case Studies

Additionally, the integration of renewable energy sources, such as solar panels and wind turbines, can further enhance the sustainability of retrofitted buildings. Several case studies illustrate the

Eric Ogene 2022 Ghana Retrofit | PDF | Efficient Energy Use | Solar

1. Eric Ogene 2022 Ghana Retrofit - Free download as PDF File (.pdf), Text File (.txt) or read online for free.

Assessment Methods for Building Energy Retrofits with

The building sector remains one of the largest contributors to global energy consumption and CO2 emissions, yet selecting optimal retrofit strategies

MTN Ghana House Solar Project |

When MTN Ghana committed to accelerating its Project Zero ambitions, the absence of renewable energy at MTN House, the company''s head office in Accra, stood out as a critical gap.

Advancing Rural Electrification in Ghana: Sustainable

This study examines the integration and sustainability of solar energy technologies as a tool for rural electrification in Ghana, using the Lofetsume

Optimization of Electricity Supply to Mobile Base Station with

The main aim of this study is to model and optimize power supply for selected cellular cell sites for MTN-Ghana within the Accra metropolis. The model will consider the total power consumption of the

Powering rural connectivity: How Vertiv enabled 100% solar telecom ...

Vertiv meets this with integrated power solutions engineered for reliability, energy flexibility, and sustained performance in demanding conditions. This case study highlights how Vertiv is

Decarbonising critical connectivity through solar hybridisation |

Helios Towers Ghana operates a national portfolio of 1,100 telecoms tower sites supporting mobile connectivity across the country, hosting network equipment for mobile network

Techno-economic assessment of solar PV/fuel cell hybrid power

This study has investigated the possibility of deploying a solar PV/Fuel cell hybrid system to power a remote telecom base station in Ghana.

An Inventive Source of using Solar Energy in Operating ...

An inventive source of using solar energy in operating Telecommunications cell sites in Ghana. Quest for an important power enhancement in Infrastructures taken into consideration of involving thermal

(PDF) Advancing Rural Electrification in Ghana ...

This study examines the integration and sustainability of solar energy technologies as a tool for rural electrification in Ghana, using the Lofetsume community as a case study. Persistent ...

MTN Ghana''s Sakaman Switch Site now powered by solar

In 2023, Ghana''s leading telecommunications company, MTN Ghana (Scancom), commissioned Dutch & Co to design, engineer, supply and construct the 506KWp solar PV rooftop solution at their

Full article: Techno-economic viability and environmental ...

Abstract Ghana is home to some of West Africa''s largest markets which have high energy consumption levels. This presents significant opportunities for solar energy investments. The study

Decarbonising critical connectivity through solar hybridisation |

Between 2023 and 2024, Helios Towers Ghana implemented solar hybrid systems across 409 of its tower sites. Cross-functional teams worked with technology partners and local contractors

Optimization and techno-economic assessment of concentrated solar

This study presents a techno-economic assessment on two different types of CSP technologies (Solar Tower and Parabolic Trough) at two different sites in Ghana, which gives

Feasibility and retrofit guidelines towards net-zero energy buildings ...

This study investigates the feasibility and proposes retrofit guidelines that achieve net-zero energy targets for existing buildings in a tropical climate. A two-storey residential building, a typical

Greening TVET for the solar energy sector in Ghana

It draws on both existing research and empirical data collected during a study visit in June 2024. By highlighting the perspectives and experiences of key stakeholders in Ghana''s TVET system and

TELECOM CELL SITE

Despite Ghana having a good solar radiation and sunshine durations, telecom companies are yet to take full advantage of the falling cost of installing a solar PV system. This thesis assess the technical and

Managing the deployment of telecommunication towers in Ghana: an

The objective of this study is to reflect on the challenges to the deployment of BTS sites in Ghana and to propose a more proficient urban sustainable way of implementing the deployment of

EWIA Infrastructure, operating at full capacity, withstands the deluge

Between 2020 and 2026, we have now implemented telecommunications projects at 91 locations in Ghana, either by erecting new towers or retrofitting existing ones with solar panels. 39 of these

Contact Us

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