SolarInnovate Energy Solutions

Pretoria communication base station photovoltaic cells

Overview

Can solar power power mobile cellular base station in South Africa?

Also found was that the use of solar PV cellular base station will lead to about 49 % reduction in operation cost compared to using the diesel generating sets. Therefore, this article, as a feasibility study, explore the use of solar energy capacity of South Africa towards powering the mobile cellular base station.

Can a solar photovoltaic (PV) power a mobile cellular base station?

In attempting to find a solution, this study presents the feasibility and simulation of a solar photovoltaic (PV) with battery hybrid power system (HPS) as a predominant source of power for a specific mobile cellular base station site situated in Soshanguve area of the city of Pretoria, South Africa.

Why do we need solar power communication base station systems?

In addition to cost and environmental factor, abundant supply of solar radiation in Southern part of Africa, and the drive to reduce the emission of carbon dioxide by the year 2020 and to improve the quantity of power supply are also part of many incentives to power communication base station systems with solar PV cells.

Are solar powered cellular base stations a viable solution?

Cellular base stations powered by renewable energy sources such as solar power have emerged as one of the promising solutions to these issues. This article presents an overview of the stateof- the-art in the design and deployment of solar powered cellular base stations.

Can a solar PV-battery HPS power a base station site?

It also presents the technical development, showed the environmental advantage and cost benefits of using a solar PV-battery HPS to power a base station site of a 24 hrs daily load of 241.10 kWh/d and the peak load of 20.31

kW as compared to using the HPS of solar PV-diesel generating set-battery.

Where are solar power plants located in South Africa?

there are manysolar plant stations within the country such as;(i) 75 MW Kalkbult solar power station located near Petrusville in the Northern Cape; (ii) 75 MW Lesedi solar power project near Kimberley; (iii)75 MW Letsatsi Solar Power Project near Bloemfontein; (iv) 96 MW Jasper located in the Northern Cape;

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