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The purpose of using green energy in base stations

Overview

The main goal of designing green base stations is for saving energy and reducing power consumption while guaranteeing service and coverage for users and ensuring the capability of base station for evolution.How to make base station (BS) green and energy efficient?

This paper aims to consolidate the work carried out in making base station (BS) green and energy efficient by integrating renewable energy sources (RES). Clean and green technologies are mandatory for reduction of carbon footprint in future cellular networks.

What is a green base station?

The Green Base Station which is introduced is equipped with the regenerative energy sources wind power and photo-voltaic energy to reduce the power consumption taken out of the public grid to a minimum, whenever sunlight or wind is present.

Are green cellular base stations sustainable?

This study presents an overview of sustainable and green cellular base stations (BSs), which account for most of the energy consumed in cellular networks. We review the architecture of the BS and the power consumption model, and then summarize the trends in green cellular network research over the past decade.

How can a base station save energy?

That means each base station can help operators save up to 5700 kilowatt hours of electricity each year, which is equivalent to reducing the carbon dioxide emissions of 1.7 tons of coal.

What are the benefits of green energy?

The use of sustainable renewable (green) energy can also help in cutting down the harmful C O 2 emissions. In fact, research shows that green BSs are

equally beneficial in energy cost savings and maximization of energy efficiency in networks that are connected to the grid or off the grid (Wang et al., 2013).

Why is a base station important?

Environmental protection is a global concern, and for telecom operators and equipment vendors worldwide, developing green, energy-saving technologies for wireless communications is a priority. A base station is an important element of a wireless communications network and often the main focus of power saving in the whole network.

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