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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.

Can DG power a GSM cellular network in Greece?

Kaldellis et al. [134] designed a solar-powered system with DG as a backup power source for a GSM cellular network in Greece. The proposed system can effectively address the lack of energy in remote BSs in Greece given its high reliability and low maintenance requirements in considering the tilt angle of optimum PV panels.

What is a green communication initiative?

The green communication initiative primarily aims to improve the energy efficiency, reduce the OPEX, and eliminate the GHG emissions of BSs to guarantee their future evolution [2, 3]. Cellular network operators attempt to shift toward green practices using two main approaches.

Are cellular network operators moving towards green cellular BS?

Figure 10 reveals that many cellular network operators in the world have still not shifted toward green cellular BS. Most of these operators are located in developing countries with limited electricity supply and unreliable electric grids. The financial issues in these countries must be investigated further. 4.5.

Kenya Communications Green Base Station Equipment Safaricom, the largest mobile operator in Kenya, had 1,700 base stations that covered 80% of the population. These base stations were ...

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