Mobile Internet Energy Efficiency



Overview

New technologies are dramatically improving the energy efficiency of mobile networks, while reducing their greenhouse gas emissions. That was one of the key takeaways from a recent GSMA webinar exploring the impact of 5G-Advanced on energy efficiency. As demand for widespread connectivity grows, so too does demand for mobile data. Throug. Mobile networks are essential complements to fixed infrastructure, but they are not necessarily energy-efficient substitutes for high-capacity broadband access. These rules do not apply to tablet computers, to. Today, the Next Generation Mobile Networks Alliance (NGMN) published “Green Future Networks: A Roadmap to Energy Efficient Networks,” offering new guidance and recommendations on reducing energy consumption in mobile networks. This comprehensive roadmap aims to enhance energy-saving methods for. The rapid evolution of wireless communication toward Fifth Generation (5G) networks has enabled unprecedented performance improvement in terms of data rate, latency, reliability, sustainability, and connectivity. Recent years have witnessed an excessive deployment of new 5G networks worldwide.

© 2026 DOLPHIN FIBER SYSTEMS - All rights reserved

Article Content

Energy efficiency | Mobile Policy Handbook

Energy efficiency is high on the agenda of mobile operators for both financial and environmental reasons, as network energy makes up the majority of their own emissions and a rising

Advancing green mobile networks

To cut energy use and environmental impact, this work reviews standardized energy metrics and data-driven solutions for greener mobile networks.

Mobile vs Fixed Fiber Internet: Which is Most Sustainable

Mobile networks are essential complements to fixed infrastructure, but they are not necessarily energy-efficient substitutes for high-capacity broadband access. Although fiber

A new era for mobile energy efficiency

New technologies are dramatically improving the energy efficiency of mobile networks, while reducing their greenhouse gas emissions. That was one of the key takeaways from a recent

Smartphones and Tablets

Product Energy Efficiency - Smartphones and Tablets. The 2023 regulations cover smartphones, feature phones, cordless phones and slate tablets. They do not apply to tablet

New guidance on reducing energy consumption in mobile networks

Today, the Next Generation Mobile Networks Alliance (NGMN) published “Green Future Networks: A Roadmap to Energy Efficient Networks,” offering new guidance and recommendations

A Comprehensive Review of Energy Efficiency in 5G Networks: Past

Energy efficiency has become a central design objective in contemporary 5G networks, driven by the rapid growth of mobile data traffic, the densification of radio access networks, and the

ITU-T Rec. L.1331 (01/2022) Assessment of mobile network energy

Recommendation ITU-T L.1331 aims to provide a better understanding of the energy efficiency of mobile networks. The focus of this Recommendation is on the metrics and methods of assessing energy

© 2026 DOLPHIN FIBER SYSTEMS - All rights reserved

Optimizing Energy and Spectral Efficiency in Mobile Networks: A ...

This framework supports network auditing, benchmarking, monitoring, and energy efficiency optimization while ensuring the desired Quality of Service (QoS).

White Paper 6G Energy Efficiency and Sustainability

Regarding the more scientific related and technology-oriented scope of this white paper the following chapters will concentrate on new technologies and issues related to energy efficiency of a mobile

Energy Efficiency and Sustainability in Mobile Communications Networks

and other alternatives for efficient, flexible and scalable networks. The chapters also investigate RAN sharing and shared infrastructure as ways to increase sustainability and energy efficiency in mobile

Nokia expands network portfolio for premium performance in the AI

Nokia expands its industry-leading AirScale portfolio with Doksuri Radios, delivering advancements in energy efficiency, capacity, and deployment simplicity.Doksuri RRHs enable telecommunications

Advancing green mobile networks

Mobile communication underpins society, evolving from calls to AI and increasing network demands. To cut energy use and environmental impact, this work reviews standardized energy

Energy Efficiency: An Overview

Energy Efficiency: An Overview Why is energy important for MNOs? For many operators, energy consumption has historically been a significant consideration as it is one of the highest

Energy Efficiency and Sustainability in Mobile Communications Networks

The paper underscores the importance of energy efficiency in 5G and future mobile generations, urging operators and vendors to adopt existing technical capabilities and invest in new, optimized

A new era for mobile energy efficiency

A new era for mobile energy efficiency 5G, AI, passive cooling and integration combine to reduce network energy consumption New technologies

A comprehensive survey of energy-efficient computing to enable ...

© 2026 DOLPHIN FIBER SYSTEMS - All rights reserved

As such, energy-efficient computing, or "green computing," has become a focal point for researchers seeking to deploy large-scale IoT networks. This study provides a comprehensive

This is a Whitepaper of the GSMA

This document on Mobile IoT Energy Efficiency is part of the GSMA mobile IoT initiative, designed to support service providers, developers and manufacturers using mobile IoT technology to accelerate

Contact Us

Continue your research online:

Website: https://dolphinspreschool.co.za
Technical inquiry: https://dolphinspreschool.co.za/project-desk.html
African project coordination: Waterfall City, Midrand, Gauteng, South Africa

This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

© 2026 DOLPHIN FIBER SYSTEMS - All rights reserved