

Discover some surprising ways to save energy with Nokia Siemens Networks end-to-end energy solutions

Communications Service Providers (CSPs) are increasingly aware of energy consumed by their networks. There are 3 reasons for this:

- 1. OPEX** – 86% of CSPs energy OPEX comes from their network in use
- 2. Networks** are expanding into areas where there is no electricity grid available, or the grid quality is not good enough
- 3. CSPs** are targeting to reduce their CO₂ emissions to contribute to the global battle against climate change

CSPs can benefit from improving the performance of their networks and boost competitiveness, profitability and differentiation by improving energy efficiency. The best way to do this is to look at the entire network, and take action in all – sometimes quite surprising – places.

Key challenges

Did you know that telecommunications infrastructure accounts for approximately 80% of the total energy consumed by a CSP? According to our recent study, in mature markets, up to 10% of network OPEX is used on energy. In developing markets, it can be anywhere from 15% up to even 30%.

At the same time there is also growing pressure on CSPs to reduce their power consumption for environmental reasons, and to run their networks in a smarter, cleaner way. It's no secret: environmental values have reached the mainstream, affecting the decisions people make about the brands with which they do business.

What's more, there is a major thrust to cover new potential markets in rural and remote areas where grid connectivity is limited or non-existent. CSPs are therefore looking at alternative energy solutions to reach new markets and reduce their reliance upon expensive diesel.



Nokia Siemens Networks Energy Solutions

The Nokia Siemens Networks Energy Solutions address all of these issues with an offering that is built around 3 steps which form a continuous cycle of energy efficiency management:

Understand and propose

This step covers consulting services to analyze the CSP's current energy system and its efficiency, followed by specific proposals on how the efficiency can be improved as well as consulting on technical solutions.

Deliver

In the delivery phase, the full set of services and products required for implementing the energy efficient networks while maintaining or improving service quality.

Operate and maintain

This phase includes Operations and Maintenance and Care services as well as proposals on how to continuously improve the energy efficiency of a network.



Our end-to-end energy solutions include:

Nokia Siemens Networks Off-Grid Site Solution

This solution is applicable for sites where there is no power grid at all. These sites are typically located in rural areas, on hilltops, islands or in remote areas that are sparsely populated. Nokia Siemens Networks Off-Grid Site Solution not only reduces the generator runtime by up to one-tenth and the fuel consumption (down to 2K liter/year), but also aids in reducing the CO₂ emissions per site to 5 tons/year. The Nokia Siemens Networks solution based on solar panels and wind turbines also captures the performance of infrastructure elements such as fuel consumption, generator runtime and health, and the rectifier health and temperature.



Nokia Siemens Networks Bad-Grid Site Solution

This solution is applicable for sites where the grid is not constantly available and/or reliability of the grid is low. These sites are typically located in rural or suburban areas. The Nokia Siemens Networks solution for these sites is similar to the off-grid solution, but the availability of grid reduces the generator runtime and thereby saves on the solar and wind solution.

Nokia Siemens Networks Green Energy Control

This interfaces all power sources including grid, battery, generator, solar system, wind turbine system and smartly manages the battery charging and discharging to create increased fuel savings. It contains intelligent algorithms to enable efficient fuel consumption by the generator and is able to make the most of bad grid situations. Nokia Siemens Networks Green Energy Control also captures other site-related parameters to aid in better site maintenance. In addition, Nokia Siemens Networks Green Energy Control enables a remote monitoring solution, which provides an interface for remote data collection and control.

Nokia Siemens Networks Energy OPEX management

This focuses on optimizing the CSPs energy OPEX, generating energy savings and CO₂ reductions, enhancing efficiency and growth.

- Efficient field maintenance and optimal use of batteries and generators
- Regular power source performance monitoring
- Network Management for monitoring and controlling site power sources remotely, delivering OPEX savings for CSPs
- Infrastructure lifecycle management

And can be tailored from basic field support services to advanced services such as integrated remote monitoring and infrastructure management. Nokia Siemens Networks offers all of this packaged in business models with a varying degree of total cost of ownership (TCO).

Nokia Siemens Networks Energy Modernization

By offering a comprehensive portfolio of products and services, Nokia Siemens Networks can help optimize the energy consumption on the site or at the network level. Retrofitting the installed base can lead to significant savings as new network equipment (e.g. Flexi Base Station) features a functionality that enables automatic or remote shut-down of a base station during periods of low traffic. The extensive portfolio of energy saving site solutions allows for optimized energy consumption in cooling and air-conditioning of the site equipment.

Nokia Siemens Networks Energy Efficiency Consulting

Apart from generating extreme network efficiency, Nokia Siemens Networks provides service efficiency enhancing solutions for CSPs. One of them is Nokia Siemens Networks Energy Efficiency Consulting where we help CSPs examine their overall plans and approach to energy efficiency and the current energy usage of their telecommunications infrastructure to explore ways to reduce energy usage, whilst maintaining service quality.

Our credentials

Nokia Siemens Networks is an end-to-end energy solutions provider, offering:

- Best-in-class energy consulting to help analyze a CSP's energy needs
- Complete renewable energy system portfolio to offer environmentally friendly energy systems anywhere in the world
- Proven turnkey capability
- Global services coverage (including Operations & Maintenance)

In addition, Nokia Siemens Networks helps CSPs:

Make significant CAPEX and OPEX savings

Drawing on global experience in deploying networks of various sizes and types, Nokia Siemens Networks can simultaneously help you improve network quality, reduce costs and help you reach your environmental targets.

To learn more about the Energy solutions and Network Implementation services offered by Nokia Siemens Networks or other offerings in the Nokia Siemens Networks' Services portfolio, contact your Nokia Siemens Networks representative.