


# Energy efficiency

Energy efficiency plays an important role in the protection of the environment. Energy consumption also has significant financial implications for communications service providers. So if a service provider can achieve reductions in its energy consumption, this will have a direct impact on operational expenditure, as well as minimizing CO2 emissions.

Three butterflies are depicted, each constructed from a mosaic of small, colorful geometric shapes in shades of orange, yellow, green, and purple. They are positioned around a large green rectangular area that contains text.

Whether providers are extending network coverage or improving existing networks, our Energy Efficiency offering will provide the tools to minimize energy consumption at both site and network level.



## Our Energy Efficiency Offering is composed of the following main elements:

### Minimization of the number of base station sites

Building a network with a minimum number of sites is an effective way to be energy efficient. Intelligent network planning is needed so that site locations are optimized. Also, the use of innovative products means new types of sites can be created in previously unviable locations. A good example is the Flexi Base station concept. Its dimensions and weight make it possible to locate complete base stations in places and positions that were previously impossible. Small equipment also has the added benefit of less visual impact on the environment.

### Minimization of the need for air conditioning

In the traditional base station site concept, the equipment is located in the indoor site with air conditioning to control the typically allowed temperature of 25C. This increases significantly the total site energy consumption. By allowing the ambient temperature to reach 40C, savings up to 30 per cent are gained. This can be achieved by replacing air-conditioning units by fresh air cooling or by reconfiguring the air-conditioning units.

### Use the latest base station and Node-b technology

The industry has made remarkable strides in improving the energy efficiency of base stations. The clear leaders in the field are our Flexi WCDMA base station and Radio Server with radio Heads, both of them providing up to 60 per cent savings on energy. Due to its small size, Flexi base station is also best in class in material consumption. It has benefits too, in the ease of its implementation, as modules can be hand-carried as opposed to being moved by heavy equipment.

### Deployment of software features to optimize the use of carriers

On the software side there are a myriad of features aimed at improving energy efficiency of base stations. For example at night, base station traffic is much smaller than in the high peaks of day time traffic. During these low traffic periods, a major part of base station capacity is unused for many hours, so it can be set to power save mode, which shuts down part of the base station network to save energy. In extreme cases, a complete capacity base station may be shut down during low traffic.