



ICT has a unique role in helping all sectors meet the challenge of climate change

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The potential of information and communication technologies (ICT) to have a positive impact on climate change has been recognized by many global studies, such as the work of The Climate Group on the “SMART 2020”¹ report of 2008 with the Global e-Sustainability Initiative (GeSI), and “Mobile’s Green Manifesto,”² produced in collaboration with GSMA in 2009. However, this understanding has to be brought to the attention of governments so that they take the role of ICT into consideration when defining environmental policies and those for sustainable development.

Energy efficiency is a key focus

The ICT industry is taking serious measures to improve its own energy efficiency, but it is imperative that attention is also turned to the benefits that ICT can bring to other business sectors. In line with this thinking, Nokia Siemens Networks recently announced that it is using its existing portfolio, combined with new partnerships, to address opportunities in the energy sector. Energy producers can benefit from the technologies and expertise of the telecommunication sector and apply it to make power grids more intelligent and efficient — thereby enabling whole economies to use less energy.

For example, we are collaborating with Irish software company ServusNet to help wind farm operators optimize generation and delivery of energy from a renewable source. A customer of ServusNet might have multiple wind farms distributed across Europe, each comprising up to hundreds of turbines. As energy markets evolve, these operators face increased competition to supply national or regional grids, and must guarantee their prices and levels of supply. ServusNet is carrying out customer trials of their solution, which is based on Nokia Siemens Networks Open Element Management System (OES) Suite, in order to raise the productivity and efficiency of wind farms. It also improves the predictability of their energy supplies, thus optimizing energy generation.

Bringing the intelligence of ICT networks into the energy sector can bring such benefits as the management of energy consumption in real time, distributed generation using renewable energy sources, and optimization of generation versus use of energy. For this reason, we are involved in various research programmes and initiatives concerning smart grids. For example, in the Nordic region the company is working with fourteen others, including leading energy and network companies and a number of research institutions.

¹ “SMART 2020: Enabling the low carbon economy in the information age”, The Climate Group, 2008.

² “Mobile’s Green Manifesto”, The Climate Group, 2009.

Stephan Scholz spoke on the topic of ICT and climate change as part of the ITU programme of business talks at the United Nations Climate Change Conference, held in Copenhagen, Denmark, in December 2009. "ICT is fundamental to measuring — and directly improving — energy efficiency across all industries, including its own, which makes it different from all other industry sectors", he said. In a demonstration of one aspect of this potential, Mr Scholz gave his presentation at the "iseeT@the Climate Change Kiosk" via telepresence from Finland (see pages 20–21).

We are also constantly working on minimizing our own and our customers' carbon footprints. Around 86 per cent of energy used by a mobile operator is consumed by its network, and energy is a significant percentage of a service provider's operating costs. In mature markets it accounts for up to 10 per cent of costs, while in developing markets it can range from 15 to 30 per cent. The solutions offered by Nokia Siemens Networks are designed to reduce network operating costs and lower the power consumption of telecommunication networks. The range of solutions consists of elements that target specific areas of network energy consumption, management and sourcing. They also allow for the profitable and efficient expansion of networks in rural and remote areas by eliminating the need for diesel generators to power base stations, providing a more cost-efficient and environmentally friendly way to extend connectivity.

Expanding connectivity

Mobile telecommunication providers Telenor Pakistan and Zain recently signed contracts with Nokia Siemens Networks to build off-grid solar-powered sites for communication facilities in Pakistan and in East African countries. So far, our company has deployed more than 390 sites running on renewable energy in 25 countries in the Asia-Pacific region, China, Europe, the Middle East, Africa and Latin America. By 2011, renewable energy will be our first choice for powering base stations in remote and rural areas.

The potential investment in energy improvements across the world's telecommunication networks is of the order of many billions of euros — but with a return on investment measured in just a few years, not decades. All told, the telecommunication industry has the key to uniting people and businesses to meet 21st century environmental standards. Now it also has the tools to play its own part in the energy stakes.



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