

# Nokia Siemens Networks Corporate Responsibility 2009 summary

Nokia Siemens  
Networks



# Nokia Siemens Networks

## Corporate Responsibility report 2009 summary

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# Introduction



Corporate responsibility (CR) is fundamental to our values and an integral part of our business strategy. We see environmentally and socially sustainable operations as a competitive differentiator. This brief document highlights the key aspects of our corporate responsibility (CR) activity in 2009. (See our full report at [www.nokiasiemensnetworks.com/about-us/corporate-responsibility](http://www.nokiasiemensnetworks.com/about-us/corporate-responsibility)). The summary report is organized according to the three pillars of our CR and Sustainability plan.



Rajeev Suri, CEO,  
Nokia Siemens Networks

# Message from the CEO

Many will remember 2009 as a challenging year marked by a global economic recession which made business life difficult everywhere, including the telecommunications industry. For Nokia Siemens Networks, which started 2009 coming out of a long and complex merger process, the timing of the financial and economic crisis was particularly tough, and we felt the full force of its impact.

We responded by focusing on three areas to strengthen our business for the future: driving for revenue growth; cost leadership; and reinvigorating our organization to give greater focus to customer relationships and needs. We approached these goals within the context of our commitment to corporate responsibility: protecting the environment, conducting business with high ethical standards, and seeking to integrate sustainability to our work. Despite the difficult economic environment, our commitment to doing business responsibly remains not just intact, but strengthened.

This is the first Corporate Responsibility report I have been involved in since being named Chief Executive Officer, and I am delighted to share our progress. The foundation of our company is that our products and solutions make a positive contribution to society by driving productivity and economic growth and opening up new possibilities for people through communication. We also strive to be an active participant in the communities we serve in order to make life better in other ways as well.

Let me highlight two areas where I see we have gone the extra mile:

- First, we are using our existing portfolio combined with new partnerships to address opportunities in the energy sector. This demonstrates how we are pursuing the goal of “maximizing our positive impact”: saving energy and reducing greenhouse gas emissions in all industries, not only ours. Smart grids can be used to speed up the deployment of renewable energy and managing those grids more efficiently, in order to reduce peak loads and energy losses. It also means using existing subscriber and customer management capabilities to assist utilities in offering new services to help people save energy. The scope is tremendous, as is the potential to make a significant contribution.

- Second, health and safety of employees and contractors is an important concern of Nokia Siemens Networks, especially as we provide more and more network operation, construction and maintenance services. I am pleased that we have been able to continue strengthening our policies and performance in this area for the benefit of people working on our projects.

I would also like to touch on an issue of growing importance: which products and services we provide to which countries. Over the past year we have seen allegations that telecommunications technology, including that provided by Nokia Siemens Networks, has been used to suppress human rights instead of enhancing them. This is not a simple issue as technology that is designed to benefit society can be used for other purposes and, of course, governments can change over time.

While we believe that those who abuse technology need to be accountable for their own actions, we also believe that we have a responsibility to do what we can to see that people around the world get the benefits of free and open communications. We follow all relevant laws and embargos but go beyond that with an internal review process for a number of our products to assess what we sell where.

I am confident that corporate responsibility and ethical business conduct will continue to make Nokia Siemens Networks a stronger and better company. Working against corruption, raising standards in all our relationships, and promoting diversity as a driving force for innovation – these are just some of the areas I believe will make a difference for us and the communities where we do business. As we move forward, I look forward to your input and engagement.



Rajeev Suri, CEO, Nokia Siemens Networks

# Maximizing our positive influence

## Infrastructure for sustainable growth

Mobile broadband is the infrastructure of the 21<sup>st</sup> century - the steam engine of our era - transforming social and economic activity in a sustainable way. Increase in connectivity will bring important benefits to society through the free flow and availability of information, stimulating growth, productivity and prosperity in both developed and emerging economies.

Mobile internet access will be critical for expanding the use of information services in emerging markets. At the beginning of 2009, there were already 400 million users of mobile internet services worldwide and by 2013 the number is forecast to rise to 770 million – one fifth of all mobile phone users<sup>1</sup>. The number of mobile broadband subscribers around the world is expected to overtake fixed broadband in 2011, and by 2013 mobile broadband will represent 65 percent of the total broadband market<sup>2</sup>.

Affordability remains a significant barrier, preventing many people from accessing data services. Our technology is helping to make mobile data access more affordable.

The main capital expenditures for Communications Service Providers (CSPs) are in constructing the base station towers, powering the network and backhaul – transmitting from remote sites to the main network. We are helping to reduce costs with innovation at the network level, at the site level and at the equipment level.

Network sharing offers further potential to make data access more affordable. The potential cost savings are enormous – in the Middle East & Africa operators could save US\$8 billion over the next five years, by sharing towers<sup>3</sup>.

### Connectivity scorecard

In 2009 we continued to sponsor the Connectivity Scorecard<sup>4</sup>, a unique global study on “useful connectivity”, ranking economies around the world against approximately 30 indicators of ICT infrastructure and ICT usage and skills, giving countries a score from 1-10 depending on how well government, businesses and consumers are making

## Understanding affordability

In cooperation with Nokia, we investigated the cost of using the personal mobile internet in 78 emerging markets. We found the average total cost of using data services (including the cost of the device, voice and data services, and taxes) is US\$46.54 per month, 13 percent of the average GDP per person in the markets studied and unaffordable for many on low incomes.

There are significant differences between countries and one clear conclusion is that inappropriate regulation and taxation are hampering the spread of mobile data access. Taxes contribute 14 percent of the total cost.

400 million

mobile internet users at the start of 2009

use of ICT to enhance social and economic prosperity. (see Figures 1.1 and 1.2).

In Connectivity Scorecard 2010, the US was topped from #1 position among the advanced group of countries by Sweden, which scores consistently good performance in all areas while the US lags in consumer broadband.

In the group of emerging economies, Malaysia continues to lead but South Africa has made up ground because of strong corporate spending on IT hardware, software and services.

<sup>1</sup> Source: National Regulators, ITU, Nokia Siemens Networks May 2009, Strategy Analytics

<sup>2</sup> Informa: Future Mobile Broadband: HSPA & EV-DO to LTE Networks, Devices & Services 3rd Edition, April 2009

<sup>3</sup> Tower Sharing in the Middle East and Africa: Collaborating in competition, Delta Partners, April 2009

<sup>4</sup> The Connectivity Scorecard was authored by Professor Leonard Waverman, Dean of the Haskayne School of Business at the University of Calgary and Fellow at the London Business School, in conjunction with the economic consulting group LECG of London.

Figure 1.1: Connectivity Scorecard 2010 Results: Innovation Driven Economies. [Note: 2009 rankings in parenthesis]

Rank	Country	Score	Rank	Country	Score
1	Sweden [2]	7.95	14	Hong Kong SAR [14]	6.10
2	United States [1]	7.77	15	Belgium [17]	6.08
3	Norway [5]	7.74	16	New Zealand [16]	6.07
4	Denmark [3]	7.54	17	Germany [13]	5.77
5	Netherlands [4]	7.52	18	France [15]	5.65
6	Finland [11]	7.26	19	Czech Republic [20]	5.03
7	Australia [8]	7.04	20	Spain [21]	4.79
8	United Kingdom [6]	7.03	21	Portugal [22]	4.45
9	Canada [7]	7.02	22	Italy [19]	4.35
10	Japan [10]	6.73	23	Hungary [23]	4.31
11	Singapore [9]	6.68	24	Poland [25]	4.06
12	Ireland [12]	6.37	25	Greece [24]	3.44
13	Korea [18]	6.33			

Figure 1.2: Connectivity Scorecard 2010 Results: Resource & Efficiency Driven Economies. [Note: 2009 rankings in parenthesis]

Rank	Country	Score	Rank	Country	Score
1	Malaysia [1]	7.14	14	Iran [12]	3.59
2	South Africa [4]	6.18	15	Vietnam [19]	3.42
3	Chile [3]	6.06	16	Sri Lanka [18]	3.18
4	Argentina [7]	5.90	17	China [15]	3.14
5	Russia [6]	5.82	18	Egypt [17]	2.97
6	Brazil [8]	5.32	19	Philippines [16]	2.92
7	Turkey [2]	5.09	20	Indonesia [21]	2.13
8	Mexico [5]	5.00	21	India [20]	1.82
9	Colombia [9]	4.76	22	Kenya [22]	1.80
10	Ukraine [13]	4.67	23	Nigeria [25]	1.78
11	Botswana [10]	4.30	24	Bangladesh [23]	1.69
12	Thailand [11]	4.11	25	Pakistan [24]	1.53
13	Tunisia [14]	3.87			

See more at [www.connectivityscorecard.org](http://www.connectivityscorecard.org)

### Broadband Impact Study

In 2009, we examined the links between broadband deployment, productivity and economic growth in Europe and the United States over the last 10 years. We found that in countries with widespread adoption and use of ICT the economic benefit from improved broadband penetration was significant. However, in countries with low ICT adoption, broadband has spread more slowly and has not had a measurable impact on productivity. We estimated that adding 10 additional broadband lines per 100 individuals in the US could increase GDP by over US\$100 billion.

See more at: <http://www.connectivityscorecard.org/broadband/>

### Village connection

Nokia Siemens Networks Village Connection is an innovative approach to promoting access and extending coverage in remote and rural areas. Users can benefit in many ways, including access to information on healthcare, education and business. We launched Village Connection version 2.0 in 2009.

The system uses a low-cost, franchise-based, entrepreneurial business model:

- Operators set up village-based mobile access points linked to regional centers
- Village “hosts”, in contract with the network operator, are trained to maintain the access point equipment and run the village network

- These local entrepreneurs sell prepaid mobile phone subscriptions to other villagers and are thus incentivized to increase the subscriber base
- The entrepreneurs also pass on basic ICT skills and knowledge to help people access and use the information services available.

## Partnership for the Pacific

In October 2009, we announced a ground-breaking partnership with the International Telecommunication Union (ITU) to bring affordable connectivity to the world's rural and remote areas. As a first step, we are connecting villages in island countries of the Pacific region.

We are providing our Village Connection platform and expertise at no charge. An initial shipment of thirty platforms will be deployed at trial sites. The partnership forms part of the ITU's Connecting Villages initiative.



## Supporting a low carbon economy

Our industry is in a unique position to reduce the environmental impacts of other industries by:

- Making their operations more efficient (through automation, monitoring and optimization)
- Replacing physical products with virtual versions (dematerialization)
- Enabling environmentally friendly services
- Reducing the need for travel and transport.

We are applying the skills and expertise we have developed in the telecoms sector to these opportunities. In 2009, we launched solutions to manage electricity grids more effectively and to support generation of renewable energy.

### Managing energy consumption

Trials have shown that peak loads can be reduced by 20 percent by using "smart meters" to make energy consumption and cost data easily available to consumers. Smart meters will also help to reduce CO<sub>2</sub> emissions because they support feeding power into the grid from local, renewable generation.

Our smart metering solution is based on the same billing software which is already used by our CSP customers, serving more than 500 million telecoms subscribers around the world.

### Managing renewable energy generation

Reducing greenhouse gas emissions requires a massive expansion of renewables, especially wind

power. But wind generation is variable and erratic, requiring sophisticated management to achieve maximum productivity and supply to the grid.

In 2009, we formed a partnership with ServusNet, a software provider, to create a management solution for wind farm operators. Using our Open Element Management System Suite, ServusNet developed and began trialling software to help operators improve wind farm productivity and the predictability of electricity supply.

### Researching energy opportunities

Our research and development teams are working on the use of our technology to provide telecommunications, networking and software solutions for the energy sector. Our work on smart grids is an example and in 2009 we began work on five projects under the umbrella of Smart Grids and Energy Markets.

## Uniting people through communication

Our social responsibility work with communities aims to unite people through communication, helping people to fulfil their potential, develop knowledge and skills and raise productivity. We look for extended engagement where we can demonstrate the power of communication to help people with disabilities, the elderly and socially or economically disadvantaged members of society.

Education is a priority area in Nokia Siemens Networks community involvement activities and in 2009 we worked with partners in the United Nations' Global Alliance for ICT and Development to develop a framework for an international education partnership for the use of ICT in development.

We also focus on natural disasters, helping to provide the communications that support the emergency response. In 2009, we demonstrated a new emergency communications package at the Mobile World Congress in Barcelona, which will be further developed in collaboration with the Finnish Red Cross during 2010.

These pages include snapshots of the work we did in 2009.

### Germany – 'Help children'

Launched in 2009, our 'Help Children' initiative in Germany brings new ways of virtual communication for disabled children and young adults to stay connected to their loved ones.

### India – training for telecoms

We partnered with the NGO Sarthak to help people with disabilities live independently, help them to get a job and to earn a living. The project trains people in technical and specialized courses which meet demands in the telecom services market.

### China – RICE

We initiated project RICE (Rural-defined Information



& Communication Engine) in June 2009 to provide information exchange and communication between farmers and the Chinese government's Technical Task Force. Through RICE, farmers will contribute and get access to relevant local market information such as the price of goods, equipment cost, and availability of transport.

*South East Asia – after the disaster*

Countries in Southeast Asia suffered a series of natural disasters in September 2009. We provided mobile phones, fuel, food, medicine, water and logistical support in the Philippines and Indonesia. Our people organized relief teams to help provide supplies to those trapped in their homes by the floods.

*South Africa – MXit for math*

We partnered with Nokia and a South African social network platform MXit to provide a pilot for mobile mathematics learning, working with the South African president's office. Over 5,500 pupils have used their handsets to access mathematics lessons on MXit and tutors help approximately 50 pupils an hour.

**20 percent**  
Peak load reduction using smart meters

**Building CR capability with suppliers**

Engaging with suppliers on CR issues helps them to understand our requirements and improve their practices, but also builds their capability to manage CR issues with their own suppliers.

We run workshops to raise their awareness of CR and drive improved standards further down the supply chain. Following our pilot workshop in China in 2008, we held two workshops in India in 2009 and plan two more in high-risk countries in 2010. We focused on health and safety and energy efficiency.

Through the Global e-Sustainability Initiative (GeSI), we work with other companies to raise standards and performance throughout the sector's supply chain. In 2009, we joined its task force to improve learning and capability among suppliers and plan to begin rolling out online training to our suppliers in 2010.

**Spreading a safety culture**

Emerging markets can lack effective safety regulations, making it even more important to work closely with subcontractors to improve procedures and performance in health and safety.

In Indonesia, we set out to inform, support, and train our 300 subcontractors. Working closely with them has dramatically improved safety performance – from six fatalities in 2007 to 10,317,650 collective hours without work accidents in 2009.

We carry out regular spot checks at project sites and if any problems are identified, the site will be closed until they are rectified. Working in this way creates a domino effect amongst contractors, as the consequences of non-compliance to our policies and guidelines become very clear. We also actively encourage and reward those who are performing well.

**An engaged workforce**

Our employees make Nokia Siemens Networks the company it is. They determine how successful we will be and how well we live our values.

We want everyone to reach their full potential and be fairly rewarded for the work they do. Our personalized Performance Development Plan provides a framework for employees to agree personal and career development aspirations. As well as learning on the job, our internal Academy offers 5,400 different training courses with facilities in more than 40 countries. In 2009, we provided 25,470 days of training through the Academy. A total of 3,751 employees participated in leadership training.

We believe that clear and open communication is essential for an engaged workforce. Nokia Siemens Networks Community Chat offers a real-time moderated discussion forum for up to 19,000 employees to come together online and exchange views with leaders and experts in the business.

Feedback from our annual employee survey helps us measure engagement levels and identify where we can improve. In 2009, the response rate was very high and largely positive, with 89 percent completing the survey (up from 74 percent in 2008). A smaller, more targeted survey later in the year was less positive, reflecting the impact of difficult market conditions, organization changes in the company and the need for further personnel reductions.

Since the inception of Nokia Siemens Networks it has been essential to carry out synergy-related restructuring to build a competitive company. This was expected to result in a reduction of 9,000 jobs and was completed by the end of 2009. But acquisitions, expansion and managed service deals meant that the total number of employees rose by more than 5,000.

**Employment changes in 2009:**

• Total number of employees at 31 Dec:	63,927
• Total number of new employees:	12,226
• Total number of leavers:	7,137
Of which, Voluntary leavers:	4,992

**25,470**  
days of training provided to employees through the Academy

# Minimizing environmental impacts

## Less energy and cleaner energy

Providing products and services that use less energy and have a lower carbon footprint is essential to meet our objective of minimizing our environmental impacts. The energy efficiency of our products is important to us because around 90 percent of the total lifecycle energy consumption arises during use (see figure 1.3). It is important to our customers because 86 percent of a mobile operator's total energy consumption typically occurs in the network infrastructure.

Improved energy efficiency and renewable energy help CSPs meet three objectives: expanding into areas with no grid or an unreliable grid supply, reducing operating costs, and cutting greenhouse gas emissions to meet climate change targets.

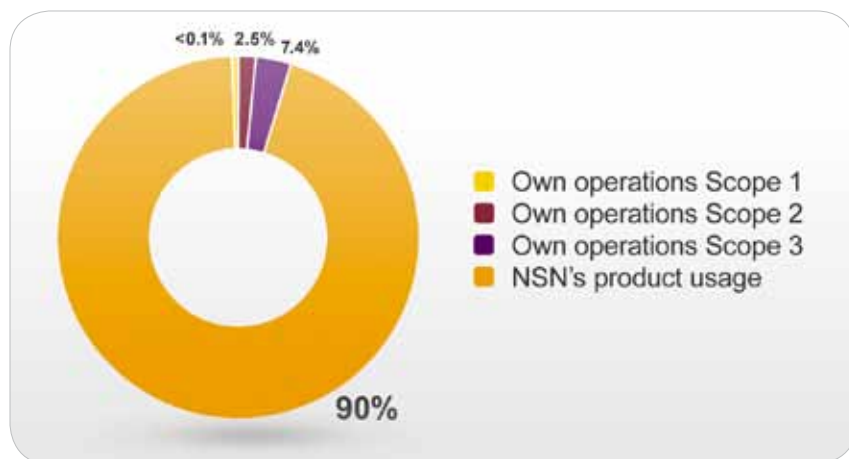


Figure 1.3: lifecycle energy consumption





### Replacing fossil fuels

Renewable energy is particularly important because an estimated 75,000 off-grid sites – usually diesel-powered – are being built each year in developing countries. Wind and solar power are attractive alternatives to diesel and, by 2012, up to half of new off-grid base stations in the developing world could be powered by renewable energy<sup>1</sup>.

Nokia Siemens Networks has already deployed more than 390 base stations powered by renewable energy in roughly 25 countries in Africa, Asia, Europe and the Middle East, generating more than 1.7GWh of energy so far. Renewable energy will be the first choice for all our remote base station sites by 2011.

<sup>1</sup> GSMA Development Fund

### Solar power in Pakistan

We are supplying Pakistan's network operator, Telenor Pakistan, with base stations using solar energy so they can operate in rural areas without using diesel. Our Green Energy Control software will help operate the base stations efficiently.

Khalid Shahzad, chief technology officer of Telenor Pakistan, says solar power would cut costs as well as avoid damaging diesel emissions. "Expanding into rural areas is a challenge and traditional fuel such as diesel generators are neither environmentally-friendly nor cost-efficient."

**1.7GWh**

generated by our 390 renewable energy base stations in 2009 so far.

### Energy Solutions portfolio

In 2009, we launched an Energy Solutions portfolio bringing together products, services and software to create the industry's most comprehensive approach to efficient and sustainable telecoms growth. The portfolio includes five Nokia Siemens Networks solutions, helping CSPs to:

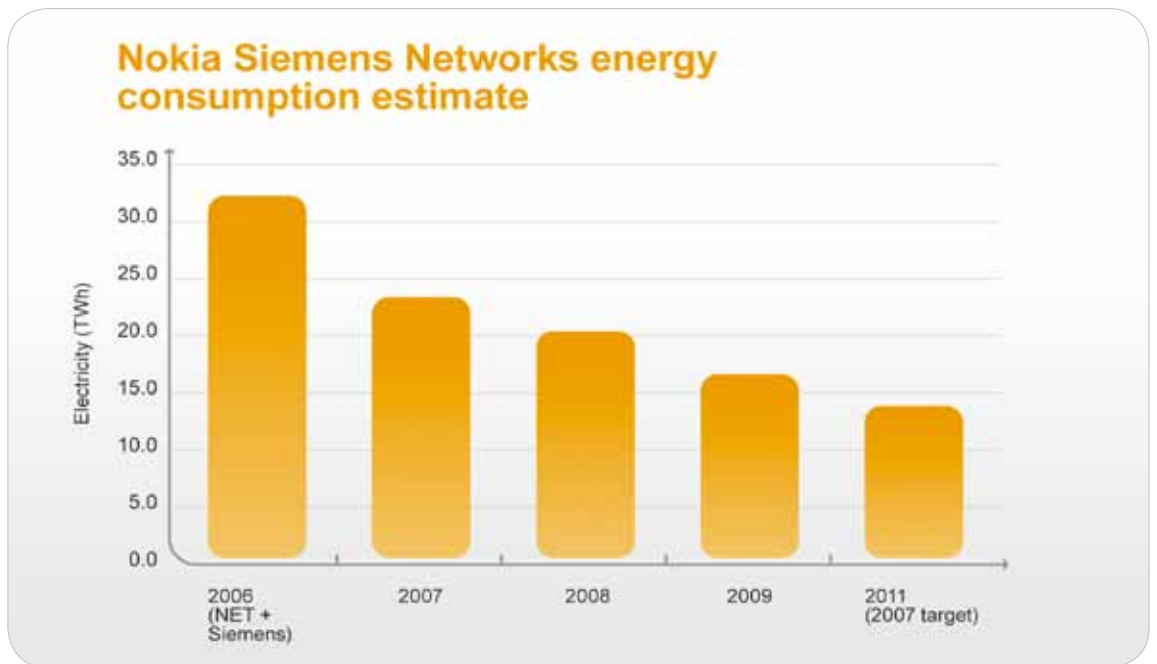
- examine their networks' energy use and identify ways to reduce it
- expand to rural and remote areas, where grid connectivity is limited or non-existent
- reduce fuel consumption, saving up to 70 percent of network operating expenditure (OPEX)
- retrofit existing network equipment to save energy, for example through automatic or remote shut-down of a base station during periods of low traffic

- save energy and operating expenses with tailored services from basic field support to integrated remote monitoring and infrastructure management.

Energy Solutions is an end-to-end approach, with three steps. First, a team examines the energy use of a customer's network and proposes ways to make it more efficient. Then we deliver the relevant services and products. In the third phase, maintenance services ensure that the improvements in energy efficiency are sustained.

Figure 1.5: Product energy improvements. Lifetime energy consumption is based on the number of products delivered, their average power consumption and typical life time.

<sup>3</sup> based on our joint study with a European operator



### Energy efficient products

We achieved our 2009 target to reduce energy consumption from our broadband network products by 29 percent for ADSL lines and 49 percent for VDSL lines, compared to 2007. We are on target to improve the efficiency of GSM/EDGE and WCDMA/HSPA base station products by 40 percent by 2012 (compared to 2007).

The chart shows the development of our product energy footprint and our target for further improvement to 2011.

Our award-winning Flexi Base Station already has the lowest energy consumption on the market. It has been developed to work without the need for external air conditioning to save 30 percent of site energy. It also saves energy because up to 30 percent fewer base stations are needed in the network (compared to alternative technology).

In 2009, we launched the Flexi Multiradio Base Station which is even more energy efficient because it supports three technologies in one unit. An average site running second and third generation technology consumes as little as 790W, compared to 1,230W for the equivalent previous product.

**30 percent**

Energy saved because Flexi base stations don't need external air conditioning

### Green radio for existing networks

CSPs need to make existing networks more energy efficient without necessarily changing the hardware. Our mobile networks have many features to achieve this. We call this smart way of operating the network "Green Radio". Here are three examples:

- software that allows more traffic transmitted on a given spectrum, such as orthogonal sub-channel (OSC), demonstrated in 2009
- Smart Energy Control™, introduced in December 2008, which manages radio network capacity and traffic consumption and safely deactivates cells that are not needed, saving CSPs up to 2GWhrs of energy a year
- Multi-Layer Optimization (MLO) – a combination of consulting services to identify the most efficient network architecture and technology, reducing power consumption in the network by up to 55 percent<sup>3</sup>.

### Targets

- Improve the efficiency of GSM/EDGE and WCDMA/HSPA base station products by up to 40 percent by 2012, compared to 2007

### Less power in Japan

Softbank Mobile in Japan has achieved 60 percent reduction in power consumption with Flexi Base Stations, helping the mobile operator towards its target of reducing its carbon emissions to zero.

## Lifecycle design

Design for Environment (DfE) principles are integrated in our product development processes. We want to improve impacts over the whole product life cycle, considering the interdependence of environmental impacts at different phases.

Our objectives are to:

- minimize material and energy use
- minimize the use of materials detrimental to the environment
- design equipment to be easily or remotely maintainable or maintenance free
- maximize reuse and recycling.

Our aim is for each design program or project team to include a member with specific responsibility for DfE. These experts are responsible for communicating the issues, training design teams, and reviewing progress. In 2009, we reviewed seven specific programs in depth to confirm that environmental considerations are being incorporated.

We also maintained the training and communications drive begun in 2008.

## Targeting supply improvements

We are tackling impacts from our supply chain as well as from our own manufacturing operations. Our total carbon dioxide footprint for 2009 is 0,907 million tonnes out of which more than half is from purchased components.

In 2010, we are asking suppliers to set targets to improve the energy efficiency of their operations and – for component manufacturers – their products. We invited 22 suppliers to share ideas on how to achieve this in 2009. Suggestions ranged from improving the efficiency of buildings and equipment to streamlining specific manufacturing processes.

Suppliers must have systems in place to manage their environmental impacts and those who manufacture components for our products must be certified to the international ISO 14001 standard.

In 2009, we asked our 150 biggest suppliers to confirm they have an environmental management system in place at each of their sites – over 400 in total. Three-quarters of sites met our requirements and we are continuing to help other suppliers come up to scratch.

**76 percent**

of our 150 biggest suppliers' sites have an environmental management system

## Saving energy, cutting waste

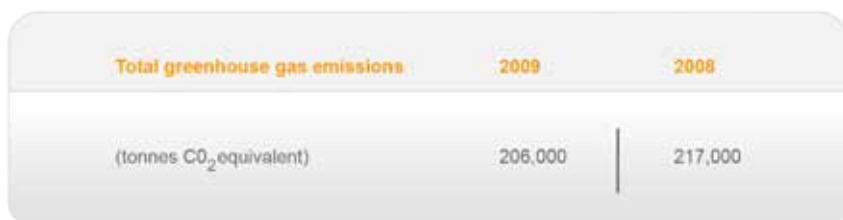
Our priority for our own operations in 2009 was to cut energy use and related CO<sub>2</sub> emissions. We successfully reduced the total energy used in our buildings to 551 GWh, nine percent lower than the previous year and 21 percent below the 2007 baseline. CO<sub>2</sub> emissions fell by nine percent (see chart). We reduced CO<sub>2</sub> emissions in all areas except Real Estate, where emissions have increased slightly as a result of relocations to Asia. This has been more than compensated by the purchase of additional renewable electricity in Finland and Germany, resulting in lower total property-related CO<sub>2</sub> emissions.

Our target is to reduce emissions from our offices and facilities by 30 percent by 2012 (compared to 2007). We will do this by increasing renewable energy and improving the energy efficiency of buildings.

In 2009, we reached 31 percent of electricity from renewable sources (compared with 17 percent in 2008) beating our target of 25 percent. Most of this comes from hydropower in Finland and Germany. Our aim is to increase renewable energy to 50 percent of electricity use in 2010.

We launched a Green IT initiative to reduce emissions from computers, other office equipment and data centers, which are almost 10 percent of the total from offices and facilities. We cut emissions by nine percent in 2009, almost reaching our 10 percent target for 2010.

Efforts to reduce environmental impacts from business travel were boosted by the continued company-wide travel restriction in 2009. This helped us reduce emissions from flights by approximately 20 percent from 2008. We facilitated more face-to-face meeting without the need to travel through the installation of a further 11 video conferencing facilities, bringing the total to 31.



### Reducing and recycling waste

Tackling the amount of waste we create and recycling as much as we can is also helping us to reduce our environmental footprint. In 2009, we created 5,729 tonnes of waste, 13 percent tonnes less than 2008. Of this we reused, recycled or used for energy 84 percent. The amount of waste sent to landfill increased from nine to 15 percent, because more sites were included in the data from regions where infrastructure for recycling is not yet available. We recycled 73 percent of all waste, beating our 70 percent target.

### The packaging matters

We aim to reduce the environmental footprint of packaging through the choice of materials and packaging design. Packaging requirements are considered early in the product design process, using DfE principles that aim to:

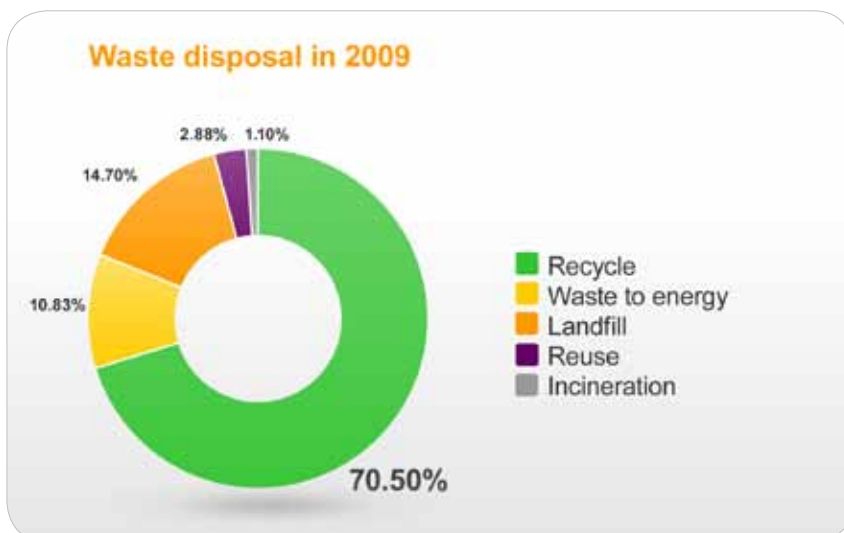
- Eliminate hazardous substances
- Minimize the use of material
- Reduce the number of different materials used
- Use recyclable materials
- Minimize the size of packaging.

We have banned the use of PVC, polyurethane, silica gel and composite materials in packaging. We are replacing wood with heavy duty corrugated board wherever possible because it is lighter and more easily recyclable.

All our delivery packaging is designed to be reused wherever possible and in 2009 we recycled €2.6 million of packaging materials in our distribution hubs, compared with €3 million in 2008. The reduction in 2009 was due to lower sales.

Continued use of legacy packages developed under former Nokia and Siemens operations means we do not yet have full statistics. We now have weight data for 2,680 packaging modules in legacy systems, covering 25-30 percent of the business.

Figure 1.5: Waste disposal in 2009



9 percent

reduction in energy use of our buildings in 2009

31 percent

of electricity we used in 2009 came from renewable sources

70 percent

Waste recycled in 2009

In 2009

we began to extend ISO 14001 certification to all facilities.

### Motivating employees

Employees can make a real difference by being aware of the energy and resources used in the workplace and in 2009 we launched a campaign to promote the idea of the 'environmentally sustainable office'. This is part of a three-year partnership with conservation organization WWF. Nokia Siemens Networks is also the only telecoms infrastructure provider to be part of WWF's Climate Savers program, which helps to ensure our environmental targets and data are robust.



## Taking back used equipment

We offer an equipment take-back service to avoid waste and hazards to people or the environment – including other vendors' telecom equipment. Depending on their needs, customers can purchase all or part of our service for decommissioning, collection, warehousing, contract recycling and reporting.

More than 90 percent of the material used in our base stations can be reused or recycled and our aim is to recover the material and energy content of obsolete products as well as ensuring safe treatment of substances they contain.

In 2009, we created a take-back management team to strengthen our service and handling of equipment. We recycled 1,800 tonnes of used network equipment, compared to 375 tonnes in 2008. Of this, 84 percent was reused and 13 percent incinerated for energy recovery. Less than 1 percent went to landfill.

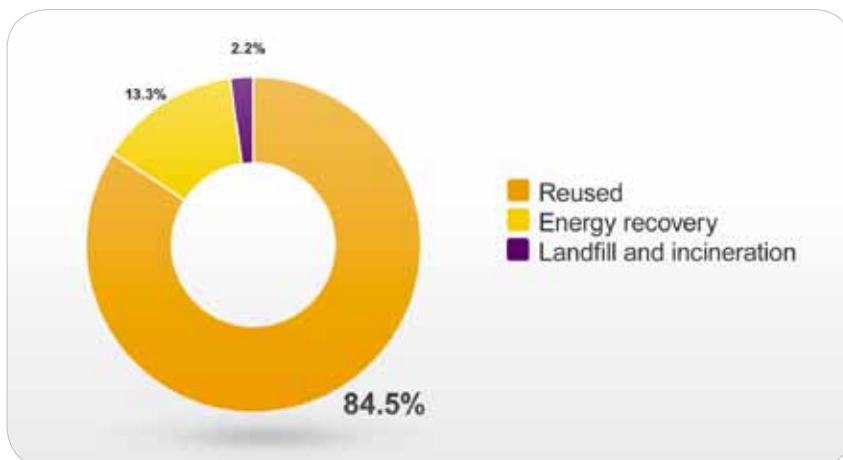


Figure 1.6: What happened to our equipment at end of life in 2009

We subcontract treatment of equipment that is not reused to authorized recycling companies which dismantle it, separating materials. Contractors comply with ISO 14001 or similar international certification standards as well as national and international laws and regulations. We expect the highest standards and will terminate contracts if significant non-compliance is discovered. In 2009, we stopped using one subcontractor that was reselling used equipment without our permission.

In some cases it is not practicable to use an authorized contractor because they have no local sites, in which case we select a local recycler. We are building up the recycling network so that all regions will have globally approved recycling vendors .

### Targets

- reduce CO<sub>2</sub> emissions from our offices and facilities by 30 percent by 2012, compared to 2007 baseline
  - reduce energy use by 6 percent through improved energy efficiency
  - increase use of renewable energy to 50 percent of our total electricity use by 2010
- 100 percent coverage for packaging in corporate level IT system & environmental reporting system in 2013
- 100 percent of take-back handled by globally authorized contractors

# Mitigating CR risks

We aim to manage CR risks proactively and have robust management systems covering labor conditions, occupational health and safety, anti-corruption, human rights and environmental protection standards. Our aim is to protect the brand and reputation of Nokia Siemens Networks and our customers by minimizing CR-related risks in our own operations and our supply chain. Our Code of Conduct is central to this, reinforced with annual training for every employee and supported by detailed policies and guidelines, such as ethical supply chain management.

## Safe work and fair conditions

We provide decent, safe labor conditions and employment practices, and work with suppliers to help them meet the same high standards.

Protecting the people who work for us and with us is a fundamental objective. We operate in some difficult and challenging environments, and the nature of our business means that employees and contractors are involved in risky activities, especially in the network deployment and management phases.

Ultimately, safety depends on a culture in which accidents are unacceptable. We are working to build a culture in which everyone accepts a responsibility for safe working, including communicating guidelines and providing training.

### Safety training in India

We begin raising awareness and changing attitudes on safety as soon as people join the company, with a mandatory induction session. 4,517 people had received specific safety training by the end of 2009, including 91 of our 105 contractors. The third level is onsite training for people carrying out hazardous jobs. More than 1,300 employees have been trained in emergency management and medical first aid.

In addressing health and safety risks, we have concentrated first on the highest risk activities, such as tower building and equipment installation. We introduced the Network Implementation Health & Safety (H&S) program in 2009, which will be implemented in all our operating countries.

Since the creation of the joint venture we have not been able to report statistics on a unified basis, but in 2009 we developed a global accident reporting tool to gather accurate and comparable information. This database will help us to analyze accidents, plan corrective actions and target resources at "hot spots" where we have the highest risks and can achieve the biggest impact. This has been operational since January 2010 and we will report accident statistics next year.

### High standards

Our Code of Conduct and detailed Global Labor Standard set out clear principles on labor conditions. We have integrated the standard into our global employment policies and guidelines, and are beginning to roll it out across the business, prioritizing high-risk countries.

In 2009, we published information on the Global Labor Standard on our intranet and provided training for our HR staff to spread common understanding and share best practices and challenges from factories around the world.

We are developing a management system to monitor and assess labor conditions, beginning with manufacturing operations. In 2009, each of our manufacturing facilities completed a self-assessment on labor conditions using E-TASC, the risk management tool created by the Global e-Sustainability Initiative and the Electronics Industry Citizenship Coalition. We also defined a Child Labor Remediation Plan in 2009, to be used if child labor is ever found at one of our facilities.



### Collaborating with suppliers

We expect suppliers to be fair and responsible employers. The Nokia Siemens Networks Supplier Requirements set out our expectations and we monitor compliance through self-assessment questionnaires and on-site audits.

In 2009, we did 147 on-site compliance audits and six in-depth audits of higher risk suppliers, focusing specifically on labor conditions and environmental management. We have followed up with suppliers on all audit findings to ensure non-conformance has been resolved. We also invited 22 key suppliers to join E-TASC.

We aim to ensure not only that suppliers comply with our requirements, but also that they push improvements through the supply chain by having similar requirements for their own suppliers.

Our Global Procurement teams are central to this process and we provide training to them to ensure they understand how to communicate our CR requirements effectively. By the end of 2009, more than half (57 percent) of global procurement staff had been through training sessions and 96 percent had completed our online ethical business training.

147

on-site audits against our Supplier Requirements in 2009

### Working with integrity

We are committed to the highest standards of ethical conduct and integrity in all our business activities. Our employees, who are well-placed to judge, say we are living up to that aspiration – 79 percent in our 2009 employee engagement survey said Nokia Siemens Networks operates with integrity in its external dealings.

All employees must follow our robust Code of Conduct and we provide regular training to ensure they understand the issues it covers. By the end of 2009, 82 percent of all employees had completed training designed to help them identify and solve ethical dilemmas, know where to get support and where to report concerns.

We encourage them to contact their line manager, local Human Resources department or the global Ethics and Compliance Office to seek advice or report a concern. They can also report suspected violations of our Code of Conduct anonymously through a dedicated web page.

The Compliance Office investigated 137 alleged violations of our Code of Conduct in 2009, mainly concerning conflicts of interest, embezzlement and small-scale frauds. Nineteen employees were dismissed as a result while a further eighteen

employees received a written warning and mandatory additional training on ethical conduct.

### Anti-corruption action

As a company with a global reach, we can play an important role in fighting corruption and encouraging others to adopt equally high standards. In March 2009, we appointed a dedicated Chief Compliance Officer, reporting to the General Counsel, with responsibility for our strict policy of zero tolerance on corruption. We provided 100 training sessions in 2009, reaching around 2,900 employees.

The Compliance Office uses a four-step strategy to tackle corruption:

1. **Prevention** – raise awareness through clear policies and training to prevent employees making mistakes
2. **Detection** – encourage people to report any concerns or suspected cases of corruption and develop tools to identify potential issues
3. **Correction** – investigate all reported concerns and take appropriate action when cases of corruption are confirmed
4. **Interaction** – collaborate with others in our industry to promote wider adoption of anti-corruption measures.

82 percent

of employees completed our Ethical business training in 2009

### Clarifying third party roles in sales and promotion

The use of third parties is essential to obtain business opportunities in some markets, but they must be properly monitored and we stepped up this activity in 2009.

The appointment of new third parties in sales and promotion roles and the extension of existing contracts is now subject to strict due diligence requirements and in some cases approval by our Chief Compliance Officer.

We have introduced detailed guidelines on the terms of any third-party sales and promotions agreement. We plan to improve the information we hold about third parties and monitor due diligence procedures centrally in 2010.



## Confronting privacy challenges

The desire to keep communications private is challenged by the demand for widespread access to communications technology, tailored content and services, and the right of governments to intercept certain communications. Individual companies like Nokia Siemens Networks have an important role to play in respecting users' and employees' privacy and in limiting the potential for abuse.

There is increasing demand for control over what individuals send or receive and for knowledge of the content. CSPs may require this control for reasons such as optimizing network traffic or complying with anti-pornography laws. A level of content inspection is also necessary to meet security needs and to run and charge for services effectively. For example, operators need traffic information to tailor services to user needs and to charge separately for different services. The constitution of the International Telecommunications Union, also decrees that UN Member States reserve the right to intercept communication in order to ensure the application of their national laws (Lawful Interception).

As with any tool, administrations may abuse the access they have to communications networks in ways that could compromise the human right to privacy and confidentiality of communications. We condemn such abuse and endeavor to minimize the potential, but the risk remains.

We believe it is possible to meet user requirements for privacy as well as the requirements of society for public safety and protection against crime. This can only be achieved when authorities are transparent about the security mechanisms that are in place, the rule of law is respected, individual human rights are recognised and when clearly understood protocols, responsibilities, and processes are followed.

We promote awareness of how communications networks can potentially be misused by hackers, criminals or non-democratic forces. We are eager to work with governments, NGOs, industry groups, and other parties to address these issues and to maximize the benefits of communications technology while minimizing the potential for their abuse.

### Understanding privacy concerns

In 2009, Nokia Siemens Networks commissioned a study to improve understanding of people's willingness to share information and their concerns about the use of such information.

The research, among 9,200 people in 14 markets, demonstrated that most people are concerned about privacy, but are still prepared to share information if they think the benefits are worth it. Almost half (45 percent) felt they lack control over their personal data and more than three quarters were concerned about privacy violations, with identity theft the biggest concern.

## Minimizing environmental risks

Products carry some environmental risks over their entire life cycle, from raw material extraction to end-of-life. One of the aims of our Design for Environment (DfE) principles, which are integrated in product development processes, is to minimize the risks to people or the environment from materials in our products. (See more on DfE on page 13)

We want to have full knowledge of all substances in our products and be able to provide this information to respond to customers expectations as well as to meet regulatory requirements. We are currently working through the laborious process of collecting the extensive material content information for the 80,000 parts and 20,000 complex assemblies in our products.

We maintain a list of substances (Nokia Siemens Networks Substance List) that are banned or restricted in our products and packaging, such as lead, mercury and cadmium, or that we plan to reduce or phase out in future. The substance list is integrated in our DfE requirements and product development processes. It is included in supplier requirements and is available to them online.

We have begun studies to replace PVC in our products where alternatives are technically and economically viable. In 2009, we also began examining the feasibility of phasing out phthalates – plasticizers used in plastics – which have raised some concerns for human health. These chemicals can be substituted in some applications but it is difficult to find suitable replacements for use in cabling and insulation. The feasibility study will be completed in 2010.

## Radio waves and health

Based on overwhelming scientific evidence, we are convinced that exposure to radio waves from wireless technologies within the limits recommended by World Health Organization (WHO) is harmless. However, we recognize that some people remain concerned about the safety of radio waves and it is essential that we respond to concerns.

We engage with governments, mobile network operators and other stakeholders and monitor the latest scientific studies. We are involved in scientific events and organizations such as the Bioelectromagnetics Society and the European Bioelectromagnetics Association.

We support the move by the WHO to harmonize global regulations based on current guidelines from the International Commission on Non-Ionizing Radiation Protection (ICNIRP). In 2009, ICNIRP published a review of recent literature (<http://www.icnirp.de/documents/RFReview.pdf>) and concluded “literature published since the 1998 guidelines has provided no evidence of any adverse effects below the basic restrictions.”

### Key targets for 2010

- Report health and safety data using the new reporting system
- Roll out industry-wide CR training among key suppliers
- Simplify reporting channels for ethical concerns and the process for handling reports
- Achieve full material content data collection for 90 percent of parts by the end of 2012
- Complete feasibility study in 2010 into replacing phthalates

# Nokia Siemens Networks

## Data and targets summary

Report section	Performance		Targets	Progress	2010
	2009	2008	2009		
<b>Environmentally sustainable business</b>					
Low carbon products and services			Reduce energy consumption from our broadband network products by 29 percent for ADSL lines and 49 percent for VDSL lines, compared to 2007	Achieved	
			Improve the efficiency of GSM/EDGE and WCDMA/HSPA base station products by up to 40 percent by 2012, compared to 2007 performance	On track	Continuing
Managing substances					Achieve full material content data collection for 90 percent of components in use at Nokia Siemens Networks by the end of 2012 Complete feasibility study in 2010 into replacing phthalates
Packaging	Value recycled €2.6m	€3m			100 percent data coverage for corporate level IT system & environmental reporting system in 2013
End of life services	Equipment recycled (tonnes)				100 percent of take-back handled by globally authorized contractors
	1800	375			Develop an understanding of the carbon footprint of the take-back process
Operations	Net CO <sub>2</sub> emissions from real estate (thousand tonnes)		Reduce CO <sub>2</sub> emissions from our offices and facilities by 30 percent by 2012, from the 2007 baseline	Ongoing	Reduce CO <sub>2</sub> emissions from our offices and facilities by 30 percent by 2012, from the 2007 baseline
	205	217	Increasing our use of renewable energy to 50 percent of our total electricity use by 2010 (from 10 percent in 2007) Improving the energy efficiency of our buildings to reduce associated energy use by six percent by 2012 (from the 2007 baseline).		
IT	CO <sub>2</sub> emissions (thousand tonnes)				Reduce CO <sub>2</sub> emissions from our IT unit's operations and use of IT products in Nokia Siemens Networks by 10 percent by the end of 2010 from 2008 baseline
	23.2	25.5			Improve Data Center infrastructure Efficiency (DCiE) through data center consolidation, virtualization and optimization Reduce PC energy usage through employee behavior
Travel			Reduce miles flown by a further 10 percent by the end of 2009	Achieved	
			Reduce emissions from new cars in our service fleet in Europe to 120g/km by 2010	Ongoing	
Waste	Total waste (tonnes)		Recycle 70 percent of all waste	Achieved	
	5729	4979			
	Waste recycled				
	4039	4471			
Water	Consumption (m <sup>3</sup> )				
	800,000				
<b>Ethics and compliance</b>	% who believe we operate with integrity in external dealings				Review and simplify reporting channels for ethical concerns and the process for handling reports
	79				

Report section	Performance		Targets		
	2009	2008	2009	Progress	2010
Employee relations	Number of employees at end of year		Every employee will have a Personal Development Plan	Achieved	
	63,927	60,295	Every line manager with a team of 50 or more will have engagement targets	Achieved	
	% participating in engagement survey		Values will be on the agenda of every leadership team and business unit	Values have been embedded into our core people processes such as Performance Management	
	89	74			
Training and development	Academy training days				Launch Nokia Siemens Networks Leadership Code eLearning
	25,47	n/a			
Health, safety and labour conditions			Awareness raising of labor conditions and related issues will be carried out within the HR organization	Achieved	Continue awareness raising of labor conditions with a focusing on high risk countries
			Complete the baseline review and roll out the global incident and accident reporting process	Achieved	
			Occupational safety: focus on the health and safety practices in the Services/Network Implementation projects	Network Implementation health and safety program developed and roll out in progress	Aim to report global health and safety data using the new reporting system from 2010
					Achieve zero fatal accidents by collaborating closely with our customers and contractors
					Introduce the International Safety Rating System (ISRS) framework to improve the maturity of Health and Safety management
					Develop and maintain a Health and Safety management system that is aligned with OHSAS 18001 Health and Safety Management System Standard in all operating countries
				Achieve OHSAS 18001 certification in selected countries with special focus on Global Services	
		Health: focus on promoting wellbeing at work and especially work-life balance	Piloted wellbeing at work programs in some regions		
Suppliers	Supplier audits				Implement a pilot assessment program on supplier occupational health and safety
	147	103			Conduct at least two supplier workshops in high-risk countries in 2010
					Roll out industry-wide CR training among our key suppliers through our participation in the Global e-Sustainability Initiative
					Invite a further 30 suppliers (based on high energy intensity and business significance) to participate in our energy efficiency program
					Drive implementation of good practices through meetings and target-setting on energy efficiency
					Conduct at least 100 system audits
					Conduct in-depth process audits of eight suppliers
					Develop our internal reporting process on supplier audit findings
					Ensure that 70 percent of employees in our Global Procurement organization have received training on CR
					Increase the number of auditors qualified to conduct in-depth audits to eight.
					Invite a further 25 suppliers to join E-TASC
					Continue to review supplier responses submitted via E-TASC and work with these suppliers to help them implement recommendations for improvement.

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