



# Common challenges drive energy efficiency

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# Why does environment matter in ICT sector?

CO<sub>2</sub>

Regulation

Ethical purchasing  
behaviour

Corporate  
responsibility

€

Energy  
consumption  
Energy sources  
New business  
opportunities



# ICT will have net positive impact on the environment



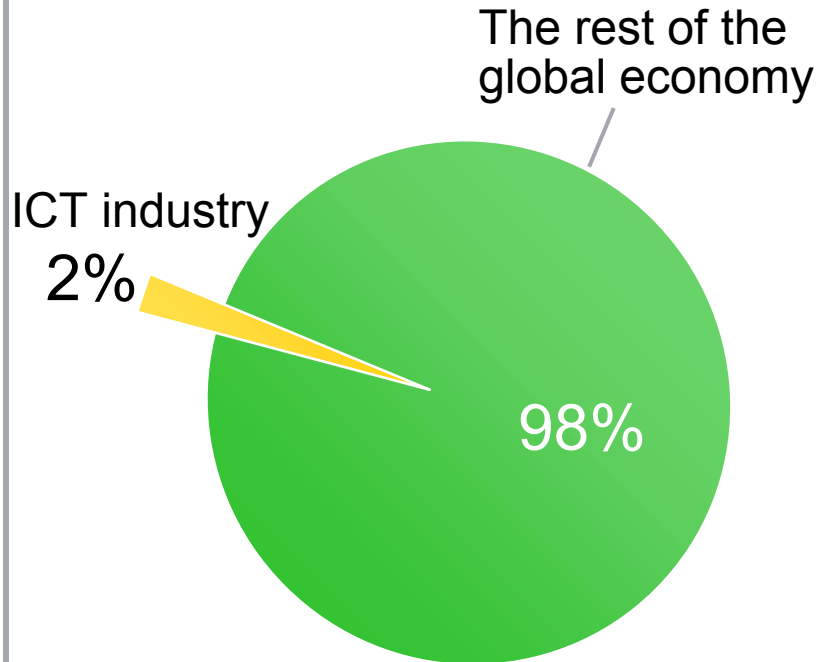
**Minimize**  
Life-cycle  
thinking

**Combine**  
Environmentally  
sustainable  
business solutions

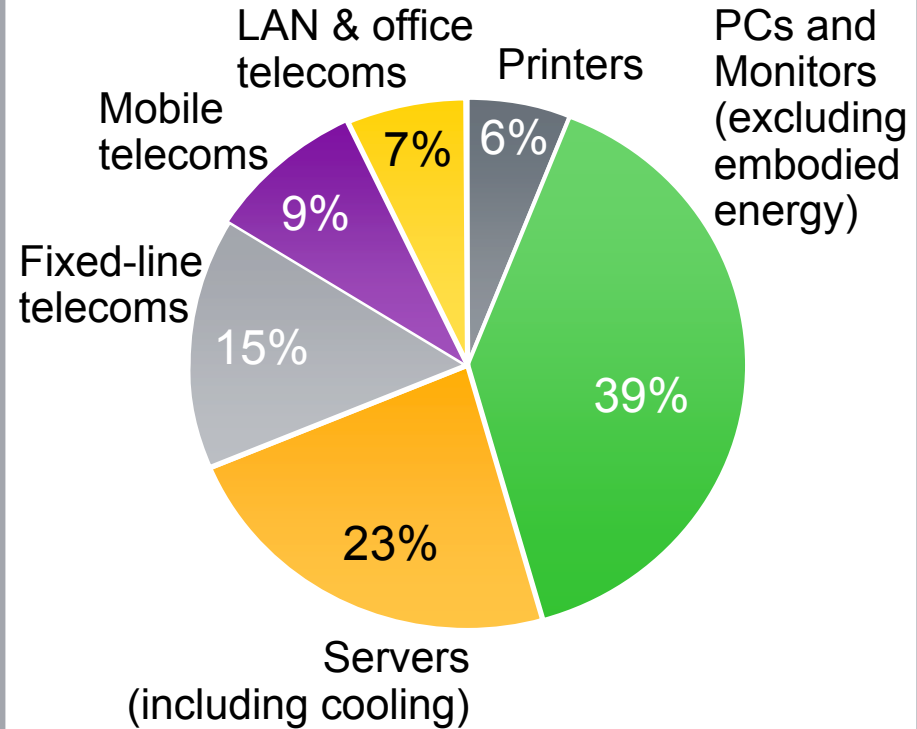
**Maximize**  
Expansion and  
innovations for use  
of communications  
technology and  
services in the society

# ICT accounts for 2% of worldwide emissions

Minimize



Total carbon emissions



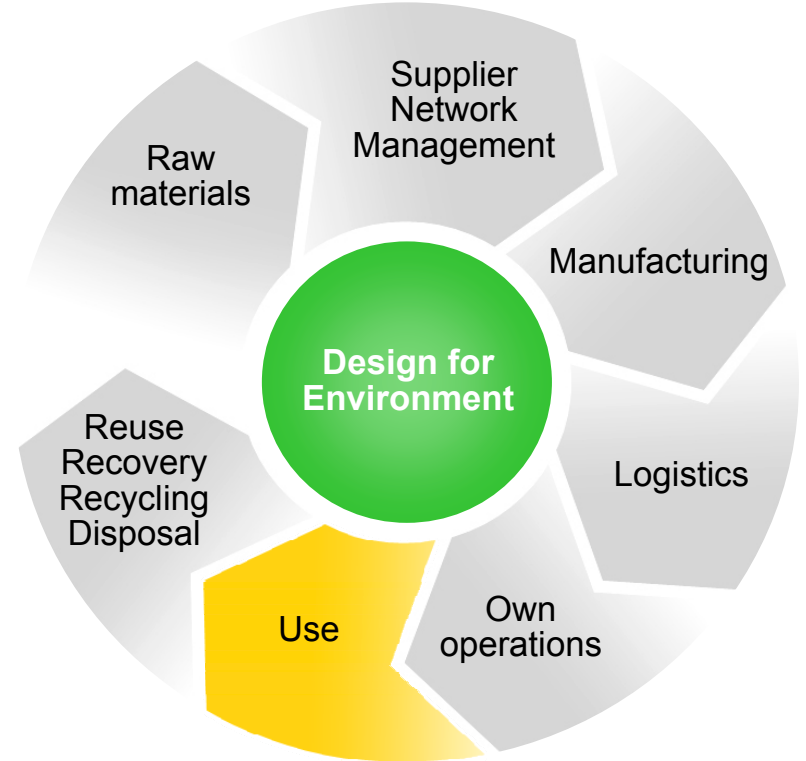
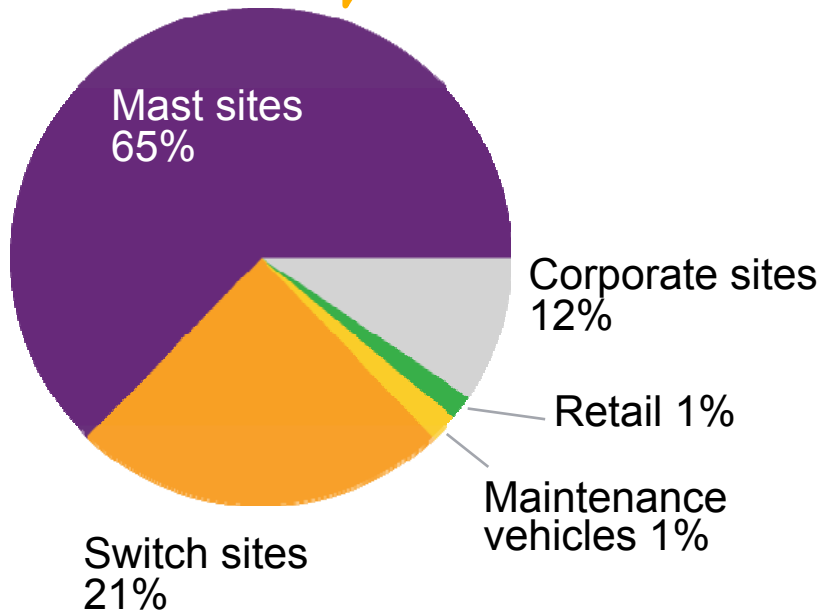
ICT carbon emissions breakdown

Source: Gartner – IT Vendors, Service Providers and Users Can Lighten IT’s Environmental Footprint, December 2007

# Common challenges drive energy efficiency

Minimize

~ 86 % of a mobile operators energy is used by the Network (ABI research)



Over 90% of Nokia Siemens Networks' CO2 emissions come from our products during their use time

# Renewable energy – goals for mobile industry

Minimize

## GSMA Green Power for Mobile

- Renewable energy sources, such as solar, wind, or sustainable biofuels, to power 118,000 new and existing off-grid base stations in developing countries by 2012.
- => Would save up to 2.5 billion litres of diesel per annum and cut annual carbon emissions by up to 6.8 million tonnes.

## Nokia Siemens Networks commitment

- Renewable energy will be our first choice for remote base stations by 2011



# Double challenge - Cost of energy and sources for energy

Combine

- Cost of energy out of overall network operational cost can be as high as 15 - 30 % in developing markets\* (in developed markets around 10%)
- Every year 75,000 new mobile base stations requiring their own power source as they are not connected to a main grid\*\*
- Unpredictable cost of fuel + logistical challenges of building and maintaining more remote sites => renewable energy sources can bring significant financial and environmental benefits



\*NSN operational efficiency benchmarking

\*\* GSMA

# The opportunity: half a trillion euros

Maximize

Offset potential of ICT industry  
can be up to five times its  
own footprint\*

*\*A report by The Climate Group on behalf of the Global eSustainability Initiative (GeSI)*

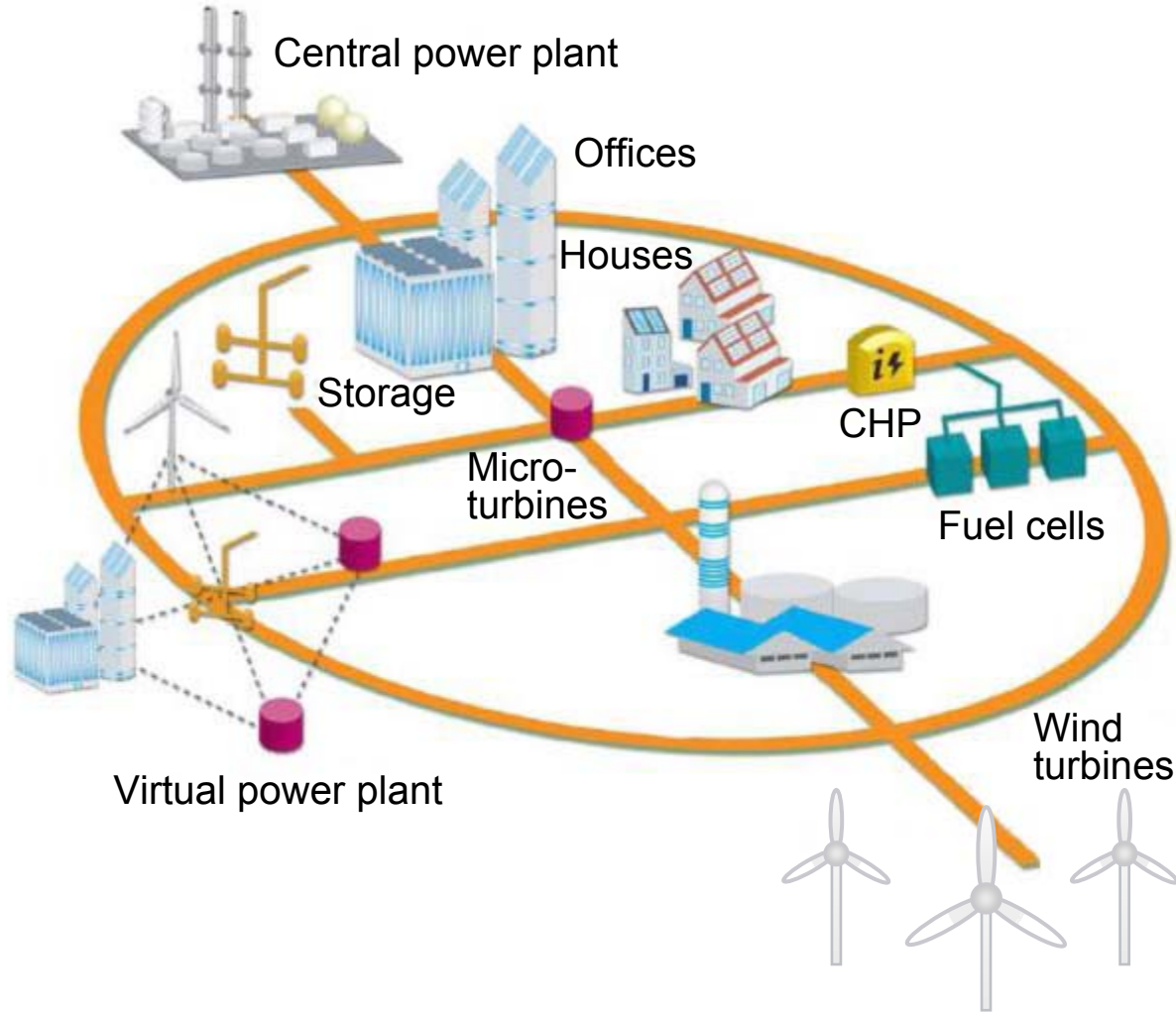


# New opportunities emerging – Smart grids

Maximize

- Electricity grids function partly based on decisions made 120 years ago
- EU, US and various nations supporting Smart Grids

- Smart grids = intelligence in the grid + intelligence in the energy consumption
- People will reduce energy use based on information on current consumption
- ICT solutions make Smart Grid a reality



Nokia Siemens  
Networks

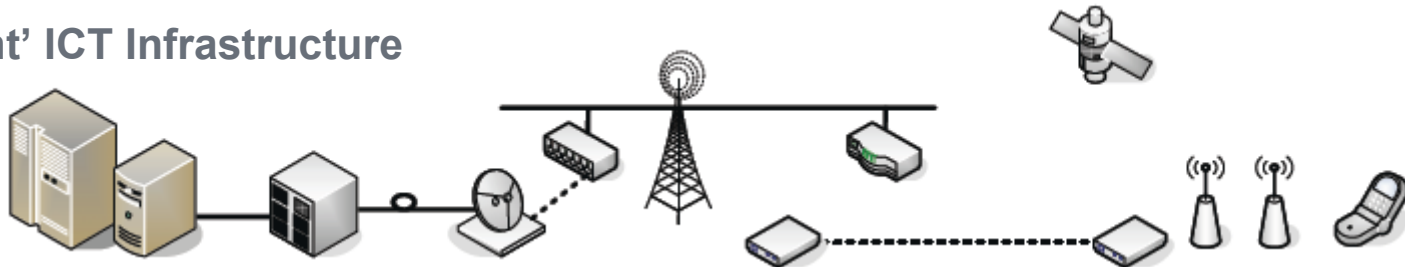
# Changes in energy markets open up an growth opportunity for ICT

today

## Electrical 'blind' Infrastructure



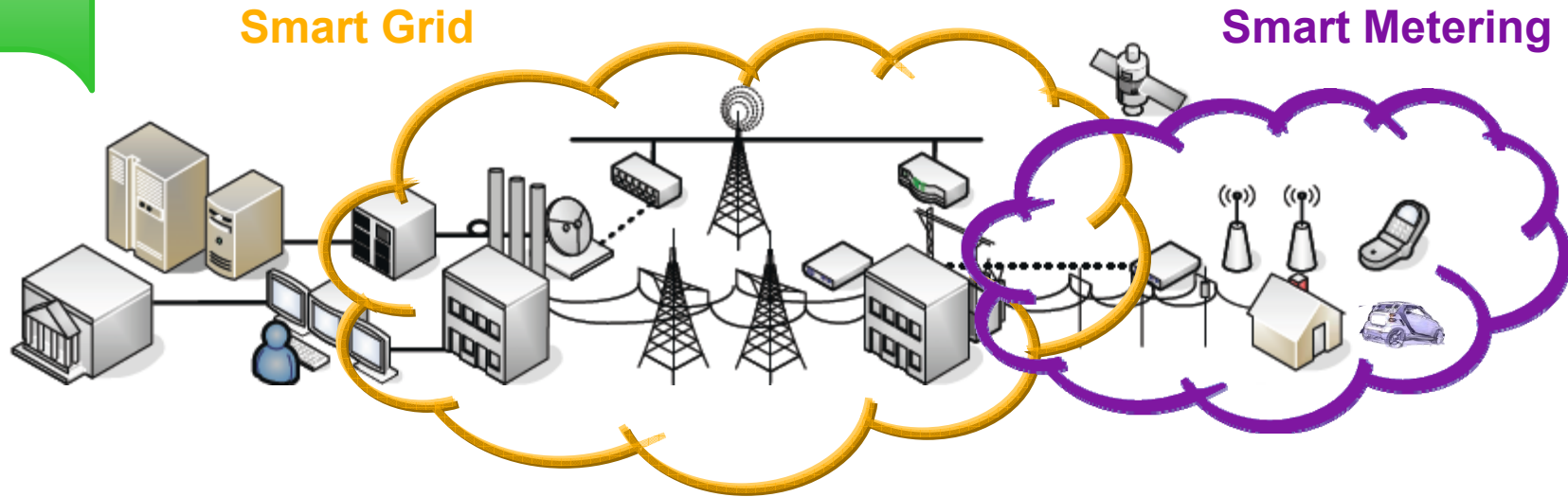
## 'Intelligent' ICT Infrastructure



Source: Electric Power Research Institute (EPRI)

# ICT infrastructure will make electricity grids interactive for both power generation and power consumption

tomorrow



Source: Electric Power Research Institute (EPRI)

‘It takes a new way of thinking  
to solve the problems that we  
created by the old way of thinking.’

- Albert Einstein

Thank you

