



# Nokia Siemens Networks and environmentally sustainable business

Good green business sense

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# Striking the right balance

Economic

Social

Environmental



# Our environmental vision



**Our world**  
Maximizing positive impact



**Our neighborhood**  
Combining environmental and business benefits



**Our house**  
Minimizing environmental footprint



# Our house: minimizing environmental footprint

## Achievements:

- 31% of electricity from renewable sources (17% in 2008), beating target of 25%
- Emissions from flights reduced by around 20% from 2008
- 5,729 tonnes of waste created, 13% less than 2008. Of this reused, recycled or used as energy 84%
- Each region has an energy saving plan - 23 energy audits carried out in 2009
- Green IT initiative launched

## Targets:

- Reduce CO2 emissions from our offices and facilities by 30% by 2012 (2007 baseline)
- Reduce emissions from new cars in Europe to 139g/km by 2010
- Full material content data collection for 90% of components in use by 2012
- 100% of take-back handled by globally authorized contractors by 2010
- Reduce CO2 emissions from IT unit's operations and use by 10% by 2010 (2008 baseline)



# Industry wide cooperation needed

## - Climate Savers programme leading the way

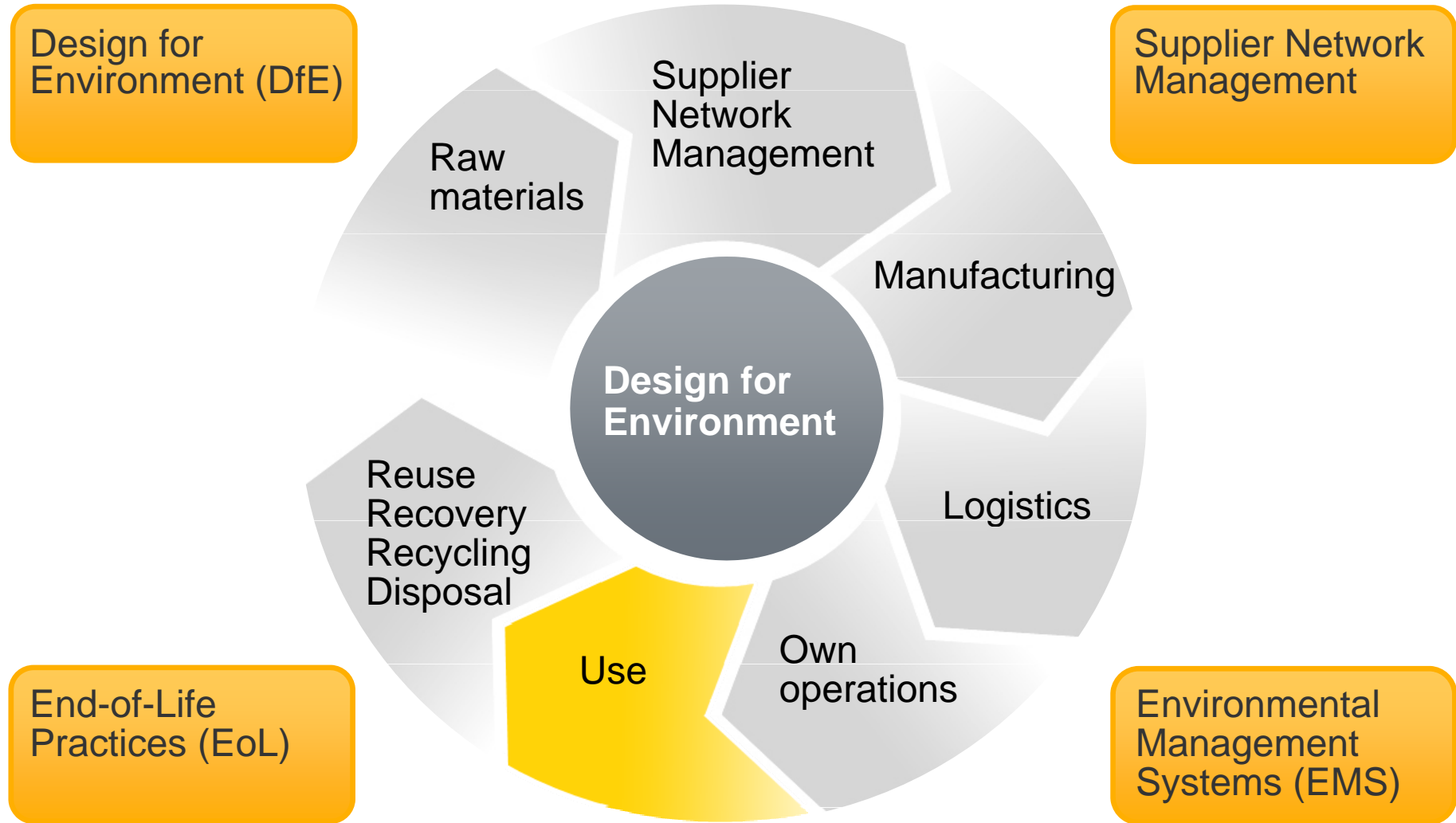
- Group of companies accepting responsibility for the impact of their business and demonstrating their willingness to take measures to fight climate change
- Public targets are audited, measured and followed up
- Nokia Siemens Networks commits to improve the energy efficiency of its base station products and facilities
- Consequent reduction in emissions amount to approximately 2 million tonnes of CO2 annually



クライメート・セイバーズ  
**Climate Savers**



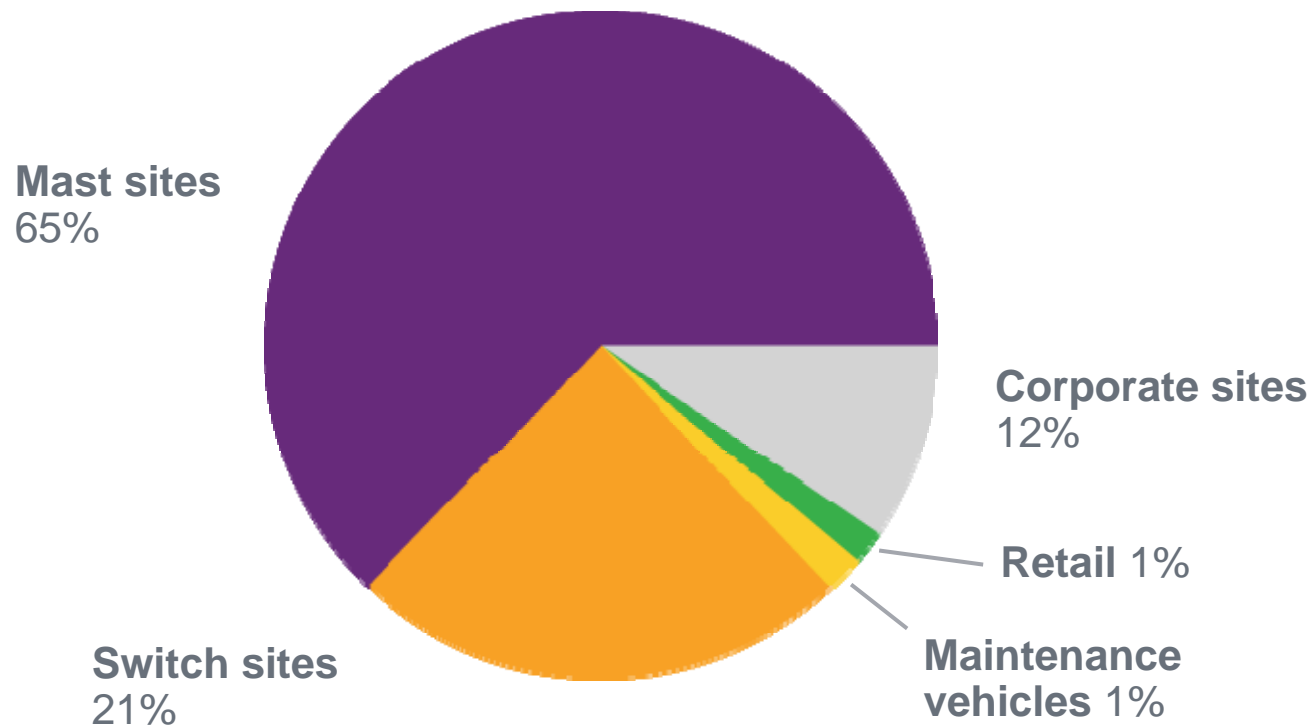
# Basis for our environmental work – life-cycle thinking



# CSPs' energy use is mostly in the network...

## Communications Service Providers (CSP)

~ 86% of a CSP's energy is used by the Network



Source: ABI Research

# CSPs' are announcing environmental targets

**15% Reduction**  
In the intensity of  
GHG emissions by  
2012



**Reduce CO2 by 20%**  
(for FT Group below  
2006 levels by 2020)



**30% increase**  
of eco-efficiency  
indicator for 2008



**Reduce worldwide  
CO2 by 80%**  
per unit of BT's  
contribution to GDP by  
80% from 1996 levels



**Reduce CO2 by 50%**  
against the 2006/07  
footprint baseline,  
by 2020.



**Reduce CO2  
by 20%**  
For DT Group  
below 2006 levels  
by 2020



*"We are focusing our efforts on our networks, which account for more than 80% of the CO2 emissions from our total energy use. Gains in network energy efficiency are being achieved by collaborating with equipment suppliers."*



# Three reasons why energy efficiency matters

Energy efficiency  
= OPEX efficiency



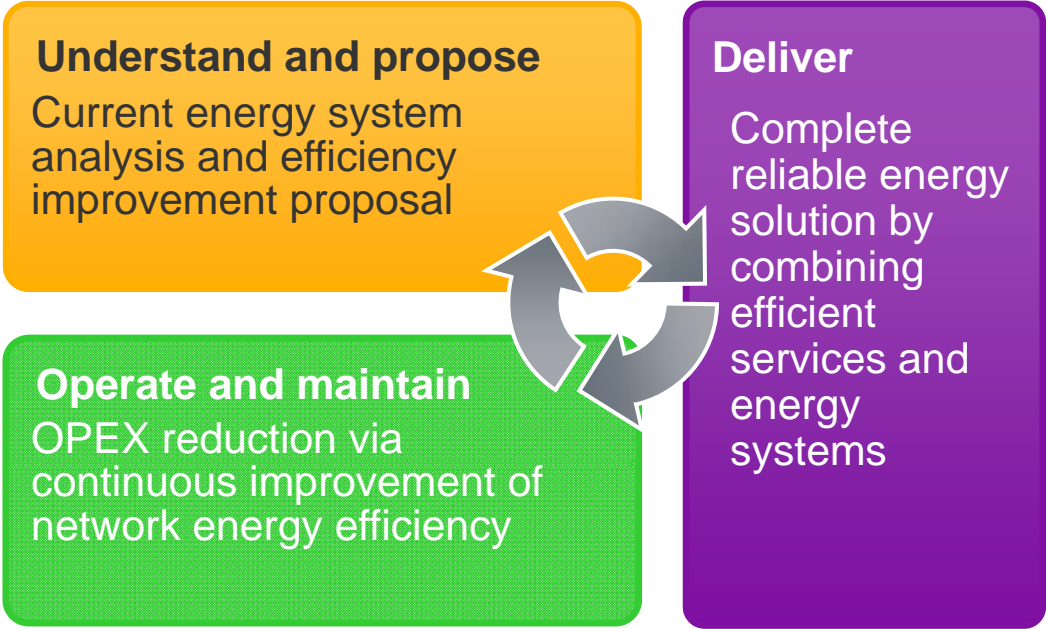
Lack of  
electricity supply



Environmental  
sustainability



# Nokia Siemens Networks Energy Solutions: an innovative combination of services and systems



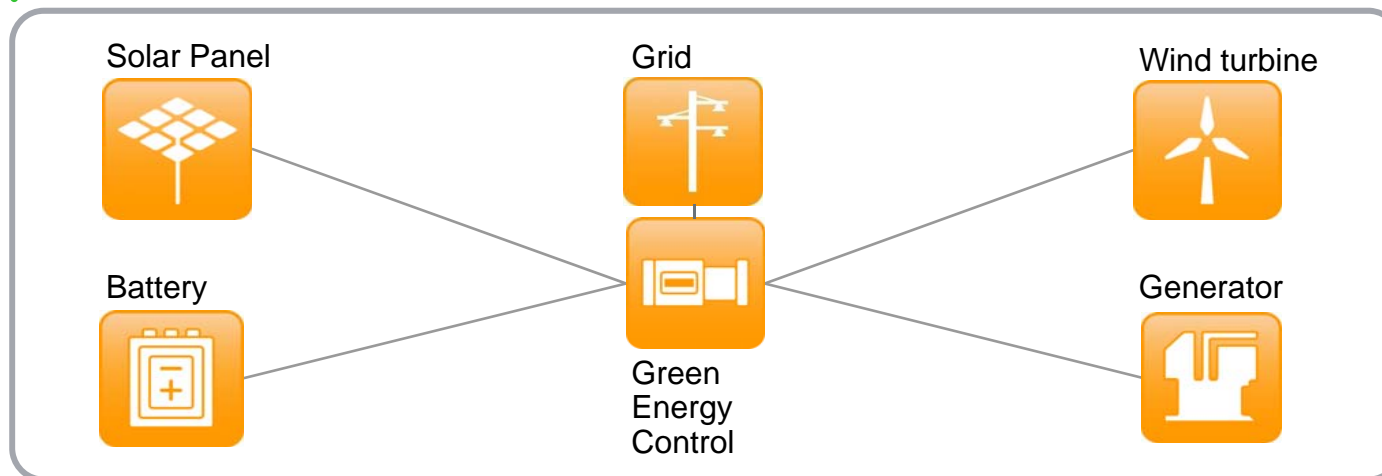
Network Experience	Nokia Siemens Networks Energy OPEX Management
Service Efficiency	Nokia Siemens Networks Energy Efficiency Consulting Nokia Siemens Networks Green Energy Control
Network Efficiency	Nokia Siemens Networks Off-Grid Site Solution Nokia Siemens Networks Bad-Grid Site Solution Nokia Siemens Networks Energy Modernization





# Nokia Siemens Networks Bad-Grid Site Solution

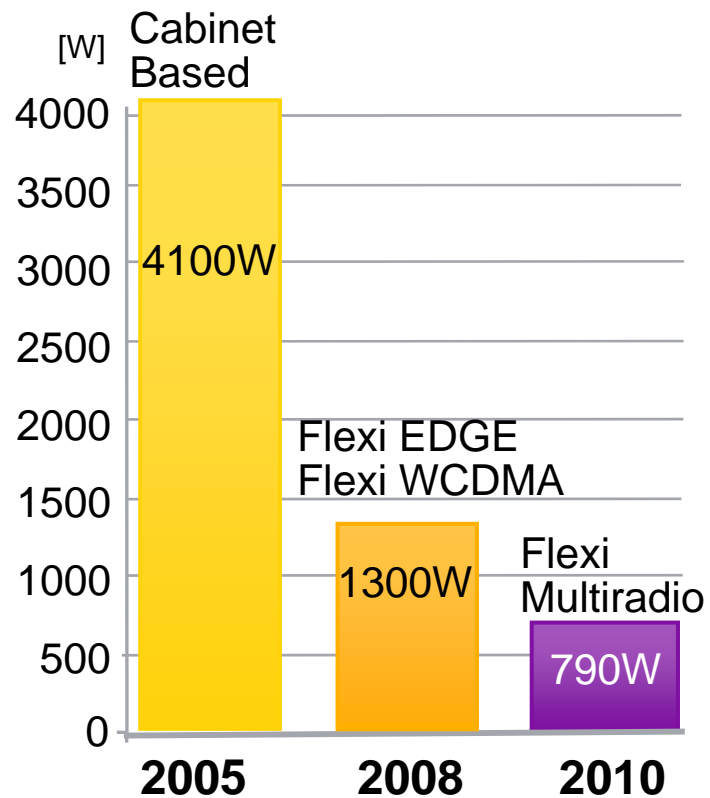
- Reduces or eliminates the need for generator (fuel consumption reduction from 6 to 10KLiters/year to zero)
- Dramatically reduces the power related network outages
- Improves power stability at site



Renewable energy sources and green energy control to manage the site

# Continuous improvement in radio energy efficiency

## GSM + WCDMA BTS site



## Energy efficiency standard

- ETSI technical specification of “Energy Efficiency of Wireless Access Network Equipment” (TS 102 706)
- Defines conditions for power consumption measurements
- BTS configuration and load levels for traffic
  - Temperature, pressure, input voltage etc.
- Easier to have apple-to-apple comparison

# Environmental efficiency and Flexi Multiradio base station

## 80% less raw material needed

- Less energy needed for production and transport
- Lower visual impact on the environment
- Operation: 70% less energy
- Extended life-time: remote software-upgrade
- End-of-life: over 90% recyclable

CTIA  
The Wireless Association®



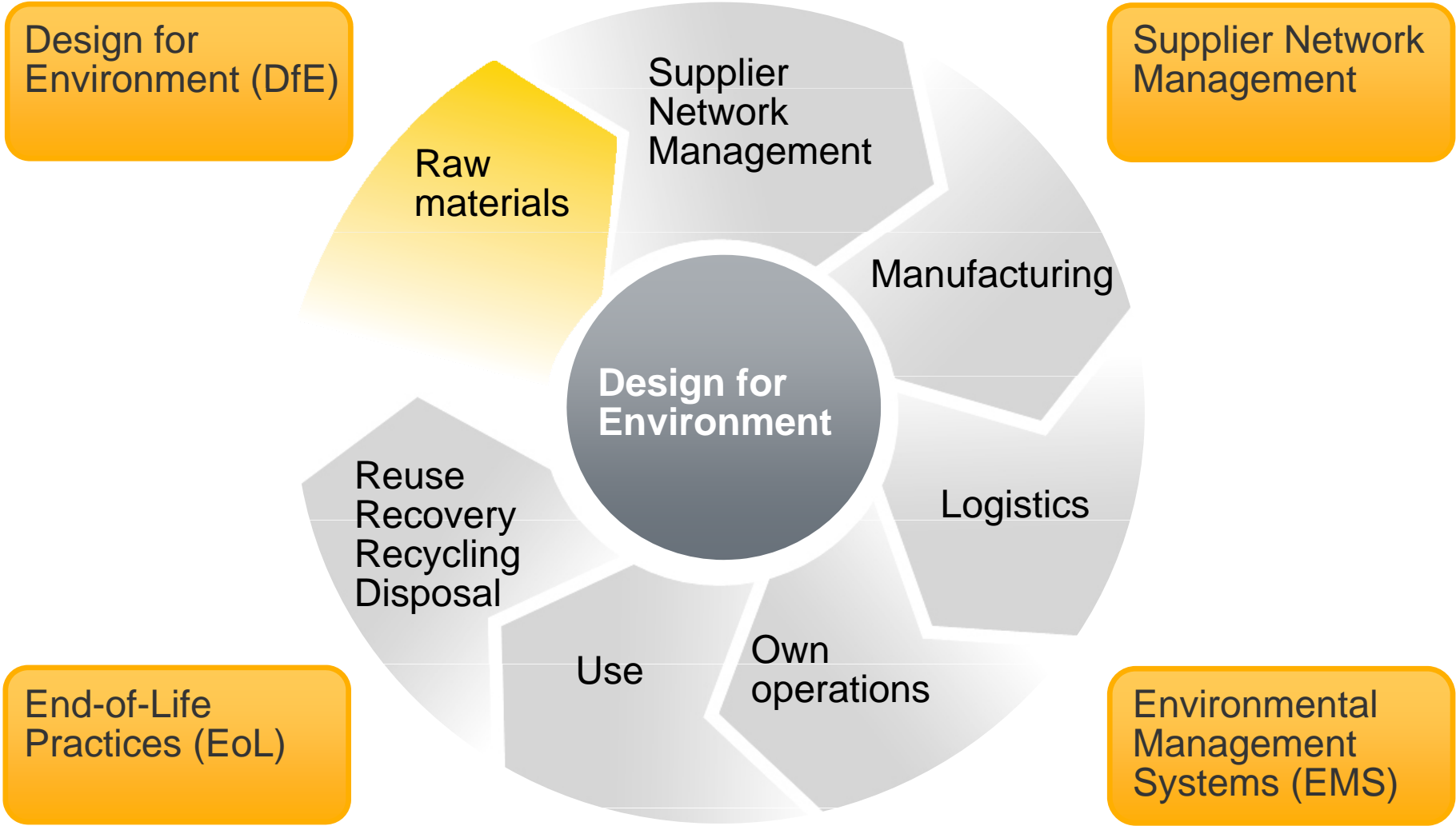
GLOBAL MOBILE  
AWARDS 2009  
WINNER



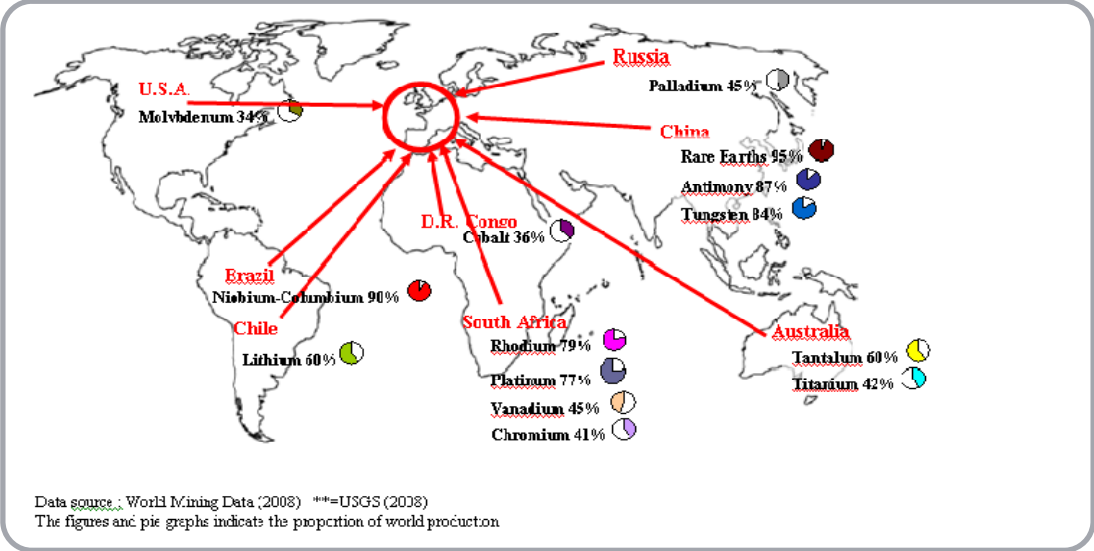


# Basis for our environmental work

– life-cycle thinking (highlight raw materials here instead of use)



# Strategic issues



EU reports that out of the 41 minerals in regular use by the electronics industry 14 are in short supply

The cost of metals rise.

Minerals from ever more remote sources need to be exploited

Innovative technology minimizes the need for some minerals

Recent years >>>

Future years >>>



Early warnings have not resulted in policy to prevent the mineral shortage problems we now face

“It would be difficult to exaggerate the importance of this subject. Contemporary civilization beyond all preceding experience, depends for its continuance on the minerals which permit and sustain its existence”.

*(Dr. H. L. Keenleyside, the Leader of the Canadian Delegation to the United Nations scientific conference on the conservation and utilisation of resources, 1947)*

