



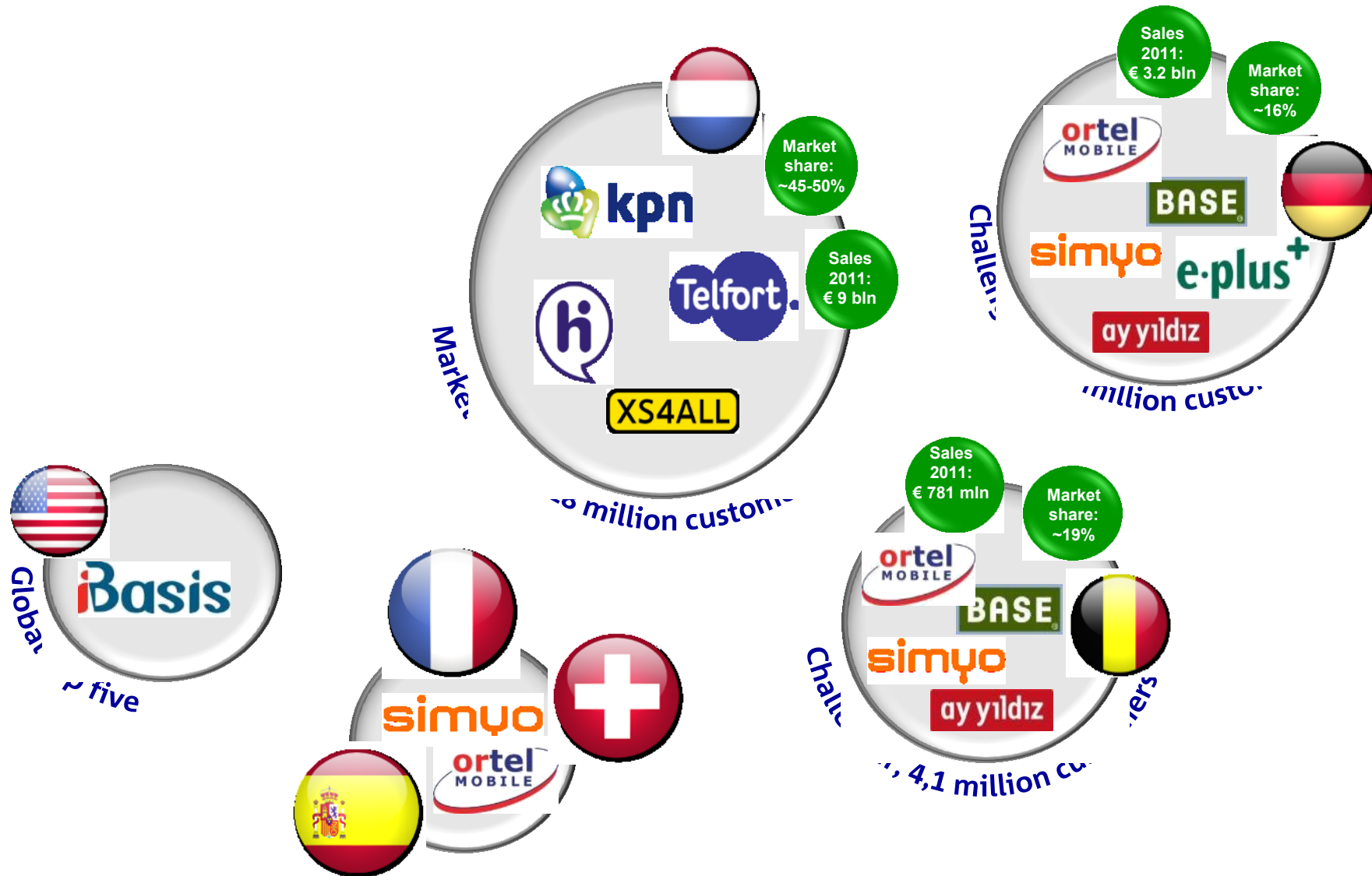
Energy Efficiency, Clean Power and Smart Grids

perspective by KPN

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KPN is an international company, with its heart in the Netherlands



CSR-strategy KPN: Transparent, reliable service provider



1

Care of the future



2

The New way of Living and Working

3

Best ICT-infrastructure



4

Energy efficient



5

Security and Privacy

WWF: Saving the planet @ the speed of light

*IT accounts for 2%
What about the other 98%...?*



Source: Gartner, Green IT, october 12, 2007

The bad news

IT is responsible for
2% of CO₂ emissions
(= aviation)
KPN is using 0,8% electricity in NL

The good news:

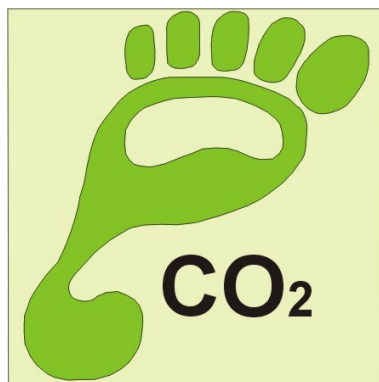
IT services can reduce the other
98% CO₂

Gartner: ICT can reduce 5x
own footprint in other sectors

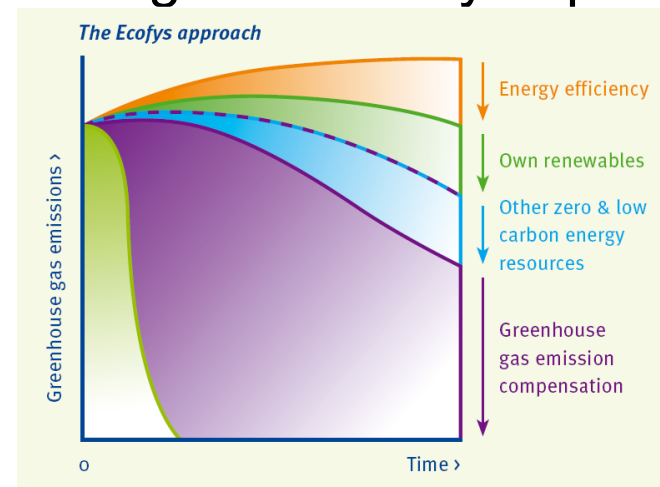
**But: only credible if ICT is
frontrunner in own reduction**

KPN approach and goals energy management

1. Calculate “carbon footprint”



2. Energie efficiency in proces



3. Energy efficiency in the chain

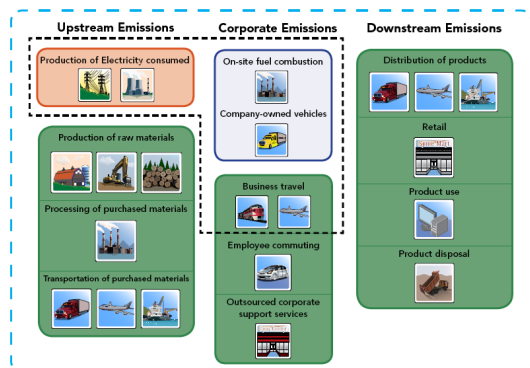


Figure 2. Setting the Boundary for Neutrality

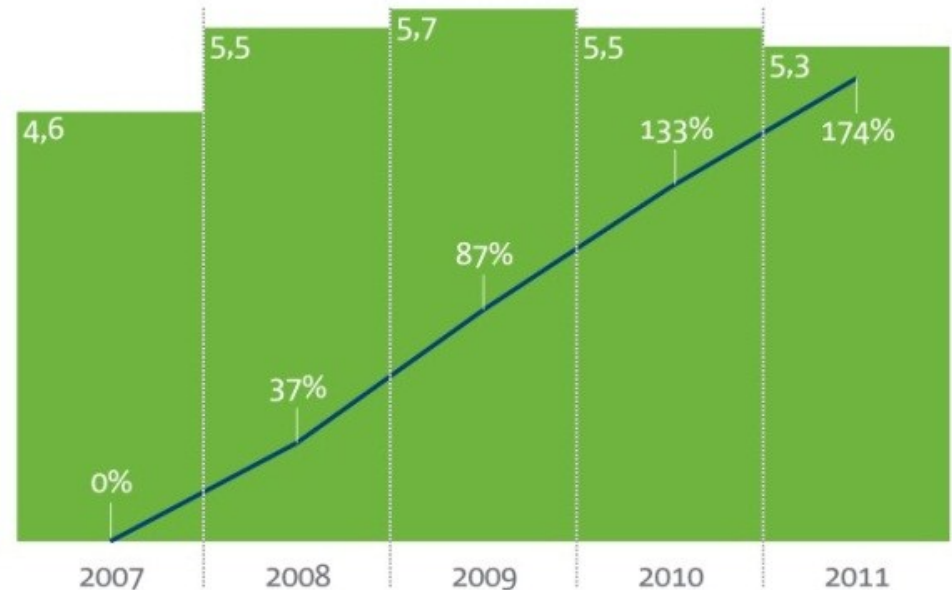
Goals:

Climate Neutral in 2020
by reducing energy of and by ICT
100% green energy

Results internal energy



Energieverbruik KPN Groep en groei dataverkeer



■ Energieverbruik (petajoule) ■ Groei dataverkeer t.o.v. 2007

CO₂-uitstoot Nederlandse Bedrijven

Bedrijf	Uitstoot in ton, 2010	Verandering tov 2009
ArcelorMittal	199.000.000	21,3
Shell	75.000.000	8,7
Tata Steel	44.000.000	0,7
Nuon	8.199.000	-10,9
DSM	5.200.000	-22,4
AkzoNobel	5.200.000	10,6
Unilever	3.537.936	-6,7
Ahold	2.690.000	-2,7
SBM Offshore	2.139.000	13,7
Philips	1.808.000	-6,7
TNT Post	1.020.000	29,4
Heineken	1.201.000	41,6
NS	575.000	-2,5
KPN	273.000	-36,8
CSM	307.000	20,4
ING	208.300	1,3
Reed Elsevier	195.936	13,0
Rabobank	171.000	-5,0
Aegon	99.865	-0,6
ASML	85.400	3,5
Wolters Kluwer	91.956	6,4
Heijmans	75.500	-9,0

KPN highest CO₂ reduction

100% Green power since 2011

100.000 m² reduction offices

Sun-power employees

Cars: ABC label

100% Green power in Benelux (75% in Germany)

100% Green power generated in own country

Stimulate sustainable generation

23% Princes Amalia-park, rest wind and BIO Mass

Risk: Not enough green power (NIMBY)

For employees:

Green power & solar panels



Energy efficiency in the chain

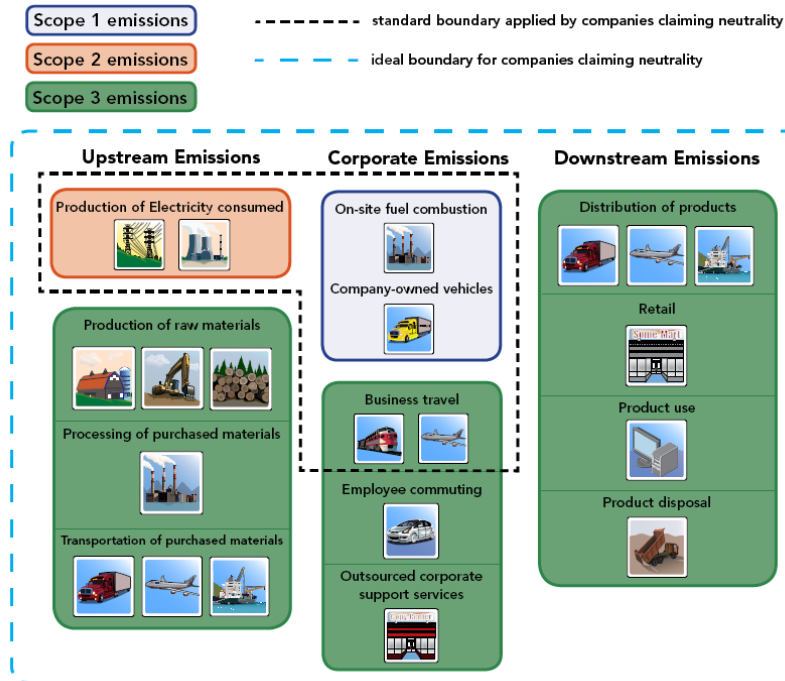


Figure 2. Setting the Boundary for Neutrality

Upstream: Sustainable Sourcing

- ◆ Sustainable suppliers
- ◆ Sustainable specs
- ◆ ISO 14001

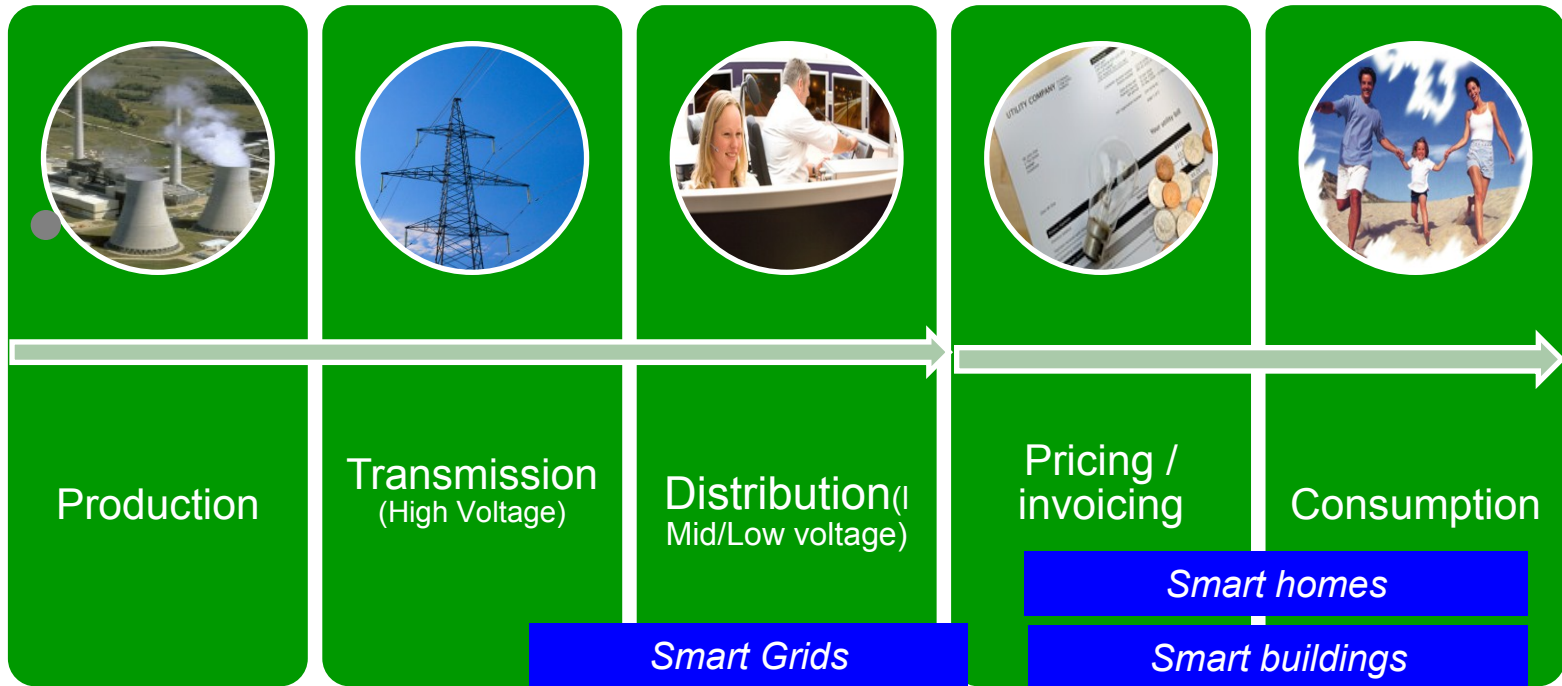
We won't solve our problems with the same kind of thinking that we used when we created them!

Albert Einstein

Downstream: effect customers

- ◆ Energy efficient equipment
 - ◆ 2011 saving: 25 GWh = 7500 households new modem
- ◆ Services facilitate CO₂ reduction
 - ◆ New way of working / Teleconference
 - ◆ E-mail / e-commerce
 - ◆ Software as a service, backup online
 - ◆ Housing and hosting
 - ◆ Virtualisation, Cloud
 - ◆ Energy-scans
- ◆ Investigation with other sectors
 - ◆ Building
 - ◆ Energy
 - ◆ Health
 - ◆ Transport

Smart Grids: definition



Smart networks:	Physical networks (E, G, W) measured, monitor to prepare for decentral energy production and storage (CARS)
Smart Home:	ICT related solutions in houses reducing energy consumption and/or improve way of living and comfort
Smart Building:	ICT related solutions in offices / business-buildings, reducing energy consumption and improve working climate.

Examples smart homes / smart cities



Smart measuring

Smart street lights

Combine with domotica
security – e-health



Alarms



Fire detection



Wander detection



Access Control



With
third
parties



Measuring saving in the chain: KPN bespaarmeter

kpn Bespaarmeter | Flexibel werken

Uw besparing Berekening

Op basis van uw gegevens zou u jaarlijks het volgende kunnen besparen:

Geld (per jaar)

877.330 euro

Tijd (per jaar)

67.500 uren

CO₂ (per jaar)

620 ton

Huidige situatie 1.966 ton CO₂

Nieuwe situatie 1.346 ton CO₂

Dit staat gelijk aan 3.649.294 km rijden.



Uw gegevens

Hoeveel medewerkers kunt u de mogelijkheid geven om thuis te werken?

500

Hoeveel dagen per week kunnen ze dan thuis werken?

3

Wat is de gemiddelde reisafstand naar kantoor?

30

Hoe komen uw medewerkers naar kantoor?

Auto 78 %

Openbaar vervoer 12 %

Fiets / Lopend 10 %

Wat voor apparatuur gebruiken uw medewerkers in kantoor?

bedrijven. ICT kan bijdragen aan de
is wat u kunt besparen.

en Werken

medewerkers onafhankelijk van tijd
tijd, kosten en CO₂-uitstoot.

Flexibel Werken

Housing

Hosting



Appreciation by third parties

Increase in all our rankings



Bloomberg green power **ranking**

Dow Jones Sustainability Index

Newsweek **ranking**



Transparency benchmark

Carbon Disclosure project

CARBON
DISCLOSURE
PROJECT

***Improve** employee satisfaction*



First Telco worldwide WWF Climate Saver

Thank you for your attention

Questions?

