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**DRAFT
PRESENTATION WITH EXTRA SLIDES**

ICT & sustainable development

the future trends and the role of ICT in EU-rope and the world

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Global Policy Advisor, WWF

2004 11 25, Budapest

1st European Conference on Telecommunications and Sustainability





- I. Why WWF regard ICT as essential**
- II. WWF and ICT**
- III. ICT and the future: 2015- 2040**
- IV. What has happened so far? (Sweden as an example)**
- V. Concrete next steps for politicians**
- VI. Concrete next steps for business**
- VII. One year from now...**



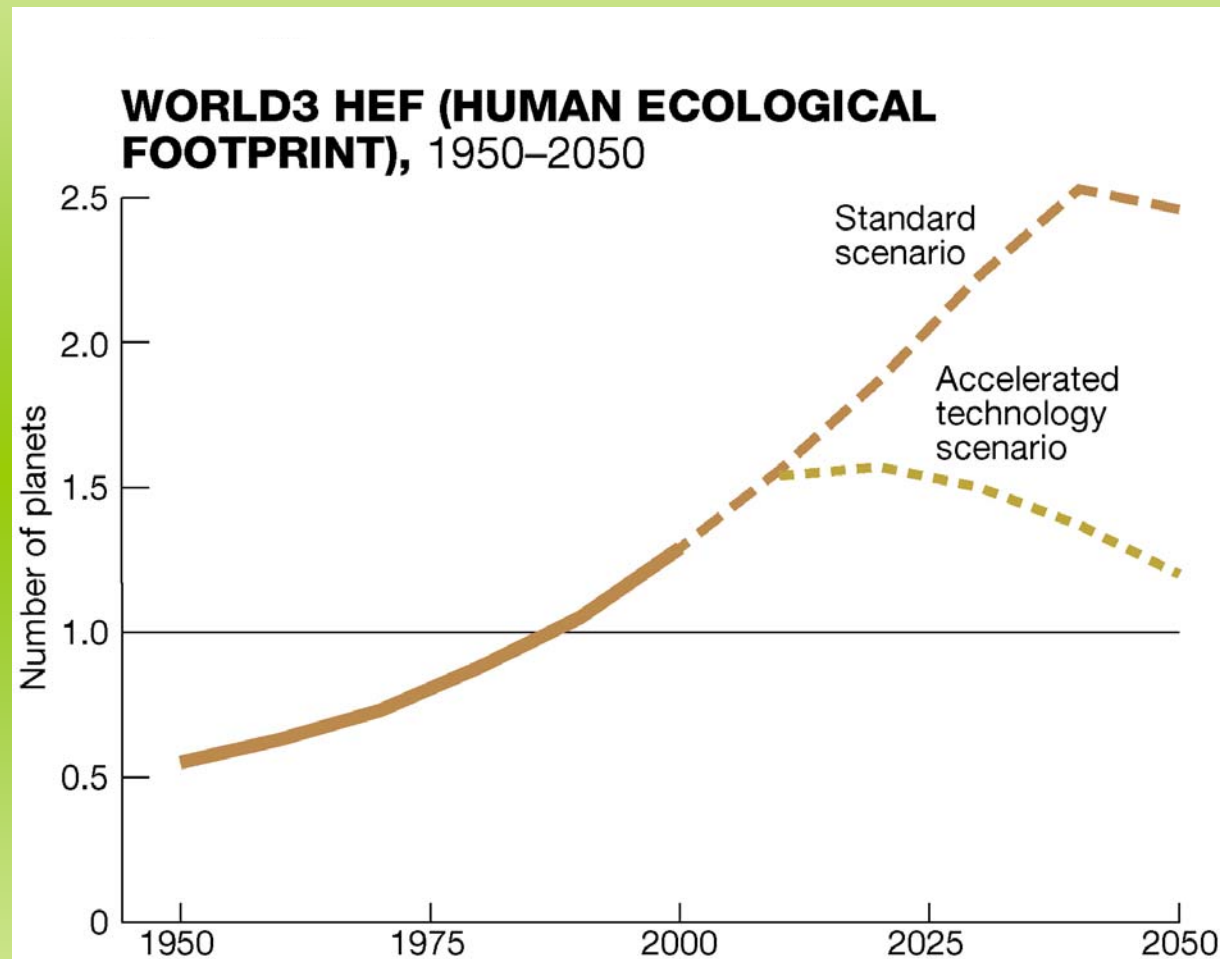


I. Why WWF regard ICT as essential

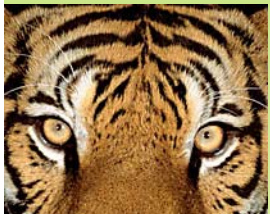




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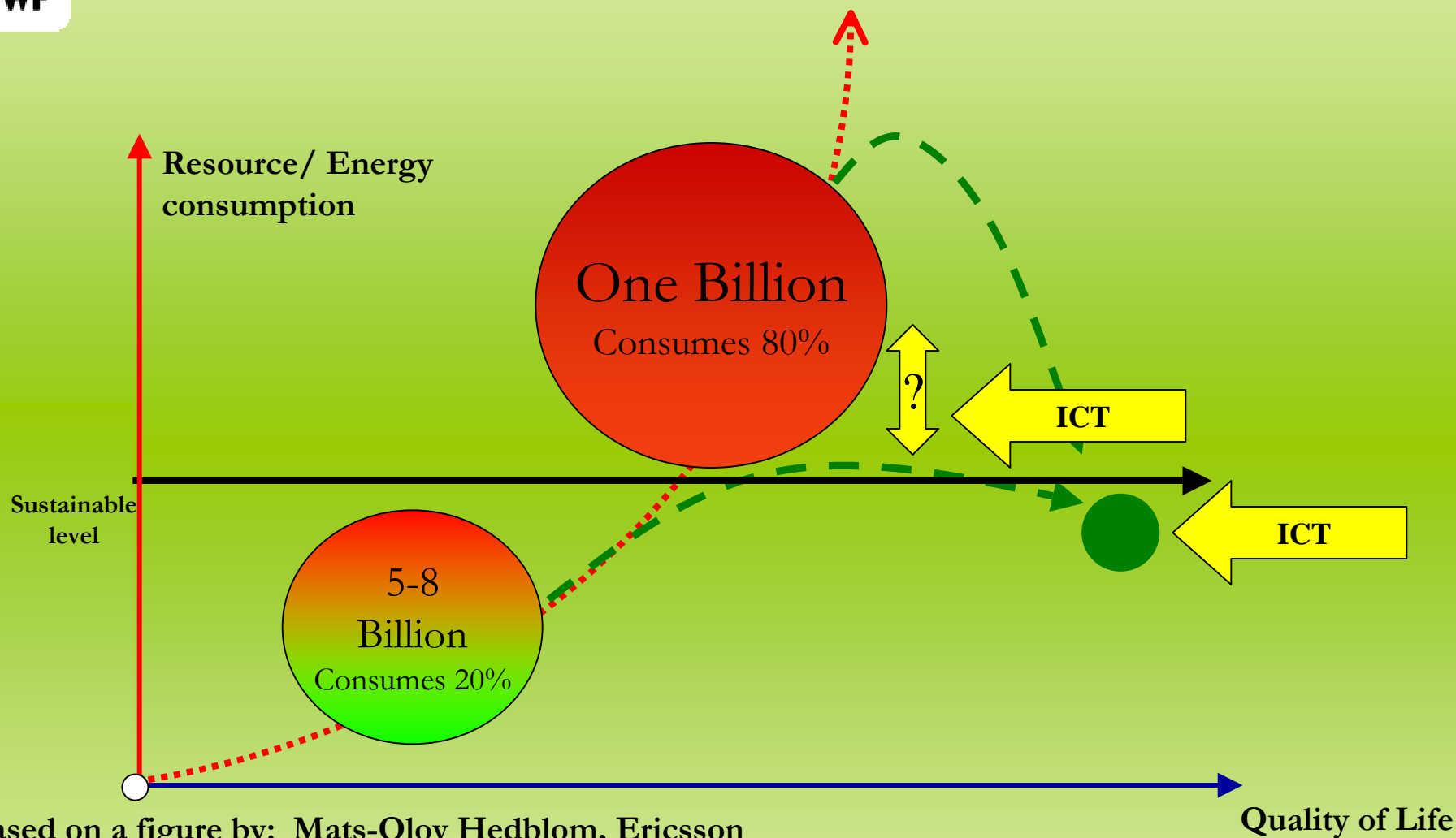


WWF Living Planet Report 2002





I. Why WWF regard ICT as essential



Based on a figure by: Mats-Olov Hedblom, Ericsson



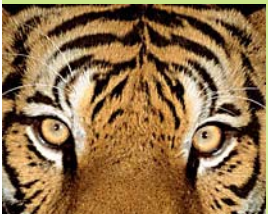


I. Why WWF regard ICT as essential

**ICT can deliver many positive things,
almost to many on to many levels...**

- De-materialisation
- "De-transportation"/ Substitution
- Increased efficiency in industry/buildings
- Increased transport efficiency
- Higher efficiency in production/planning
- Better information
- New urban solutions

=> Sustainable consumption and production patterns





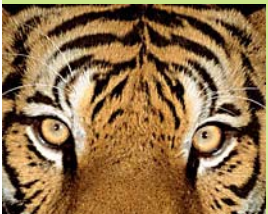
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II. WWF and ICT

- 2000 Started specific work with ICT
- 2002 Published "Sustainability and the Speed of Light"
- 2003 GRI guidelines for the telecom sector
- 2003 Worked with GeSI and UNEP in the WSIS process:
 - **Focus on production and consumption patterns**
 - **Government strategies for sustainable ICT use**
 - **Financial sectors strategies for ICT**





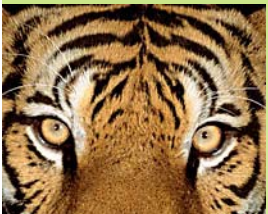
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"Governments have a leading role in developing and implementing comprehensive, forward looking and **sustainable national e-strategies**. The private sector and civil society, in dialogue with governments, have an important consultative role to play in devising national e-strategies.

20. E-environment

- a) Governments, in cooperation with other stakeholders are encouraged to use and promote ICTs as an instrument for environmental protection and the sustainable use of natural resources.
- b) Government, civil society and the private sector are encouraged to initiate actions and implement projects and programmes for **sustainable production and consumption...**





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 - **Focus on production and consumption patterns**
 - **Government strategies for sustainable ICT use**
 - **Financial sectors strategies for ICT**
- 2003 Developed a suggestion for an ICT strategy for the Swedish government
- 2004 Employed people in China, Brazil and South Africa
- 2005 ...





III. ICT and the future: 2015- 2040



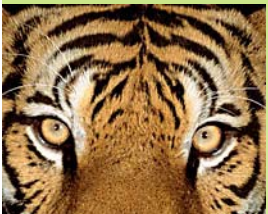


III. ICT and the future: 2015-2040

Focus on big trends, but don't forget the details

- ICT in a context

- Use of natural resources
- Unequal income distribution
- Population growth
- Demographic changes
- Urbanisation
- Geopolitical change
- Diverging trends



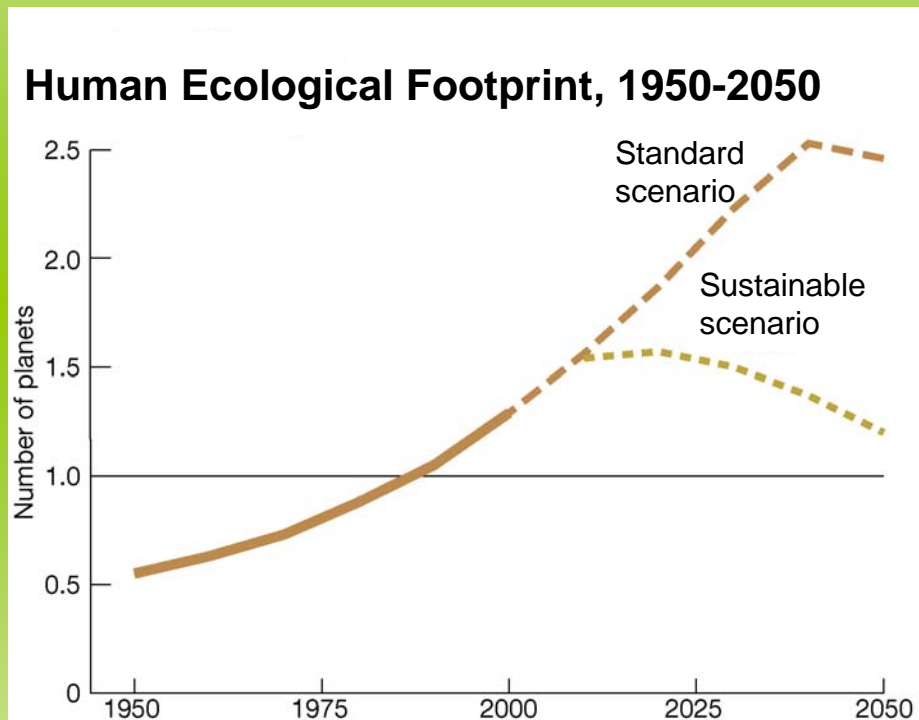


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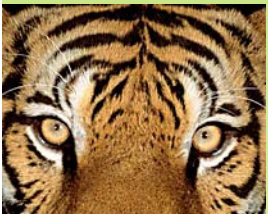
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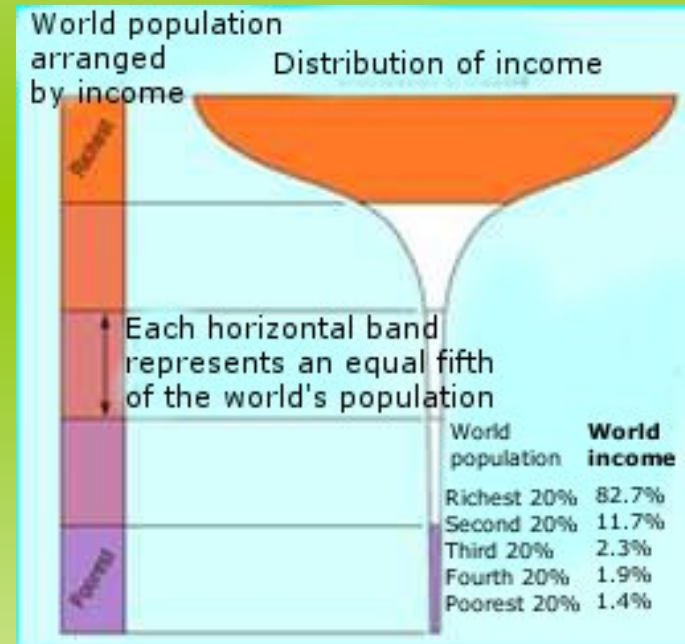
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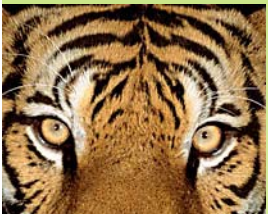
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From champagne to T or tea cup



UNDP: "Human Development Report 1992



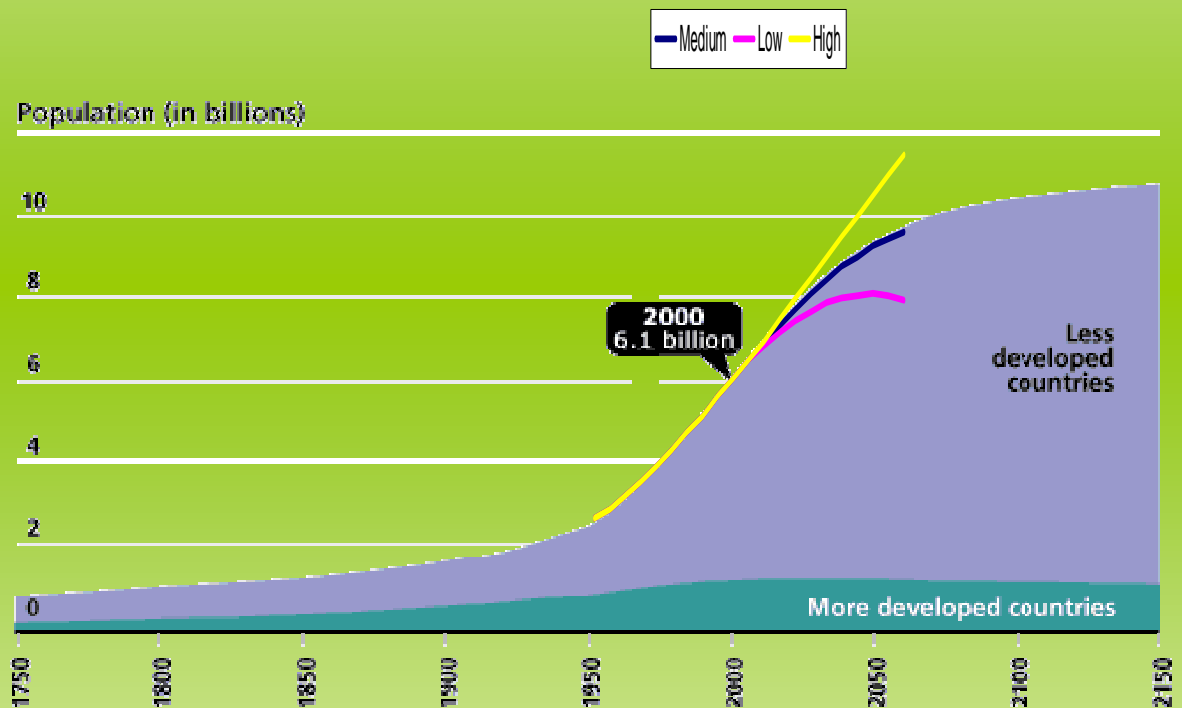


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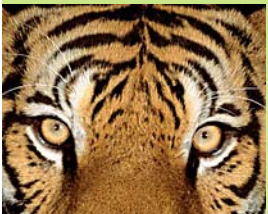
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“World Urbanization Prospects: The 2001 Revision”, www.unpopulation.org



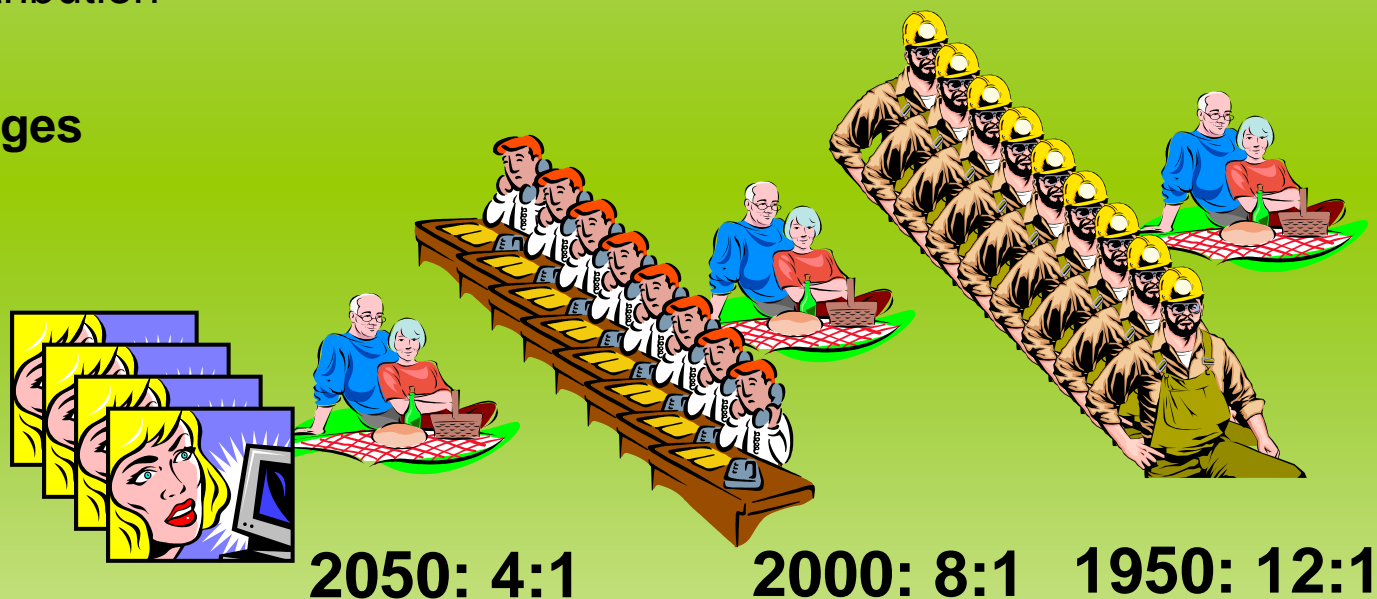


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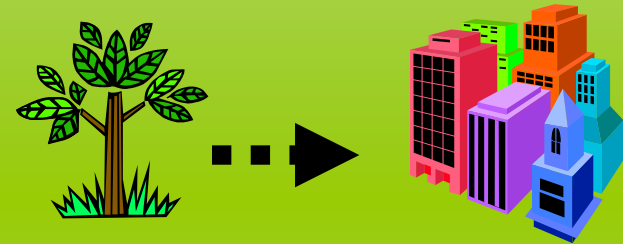


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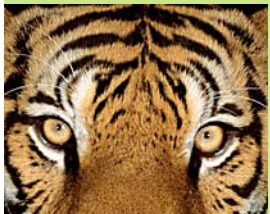
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During 2000-2030 the urban population of the less developed regions is expected to increase by 2.0 billion persons, nearly as much as will be added to the world population, 2.2 billion.

“World Urbanization Prospects: The 2001 Revision”, www.unpopulation.org



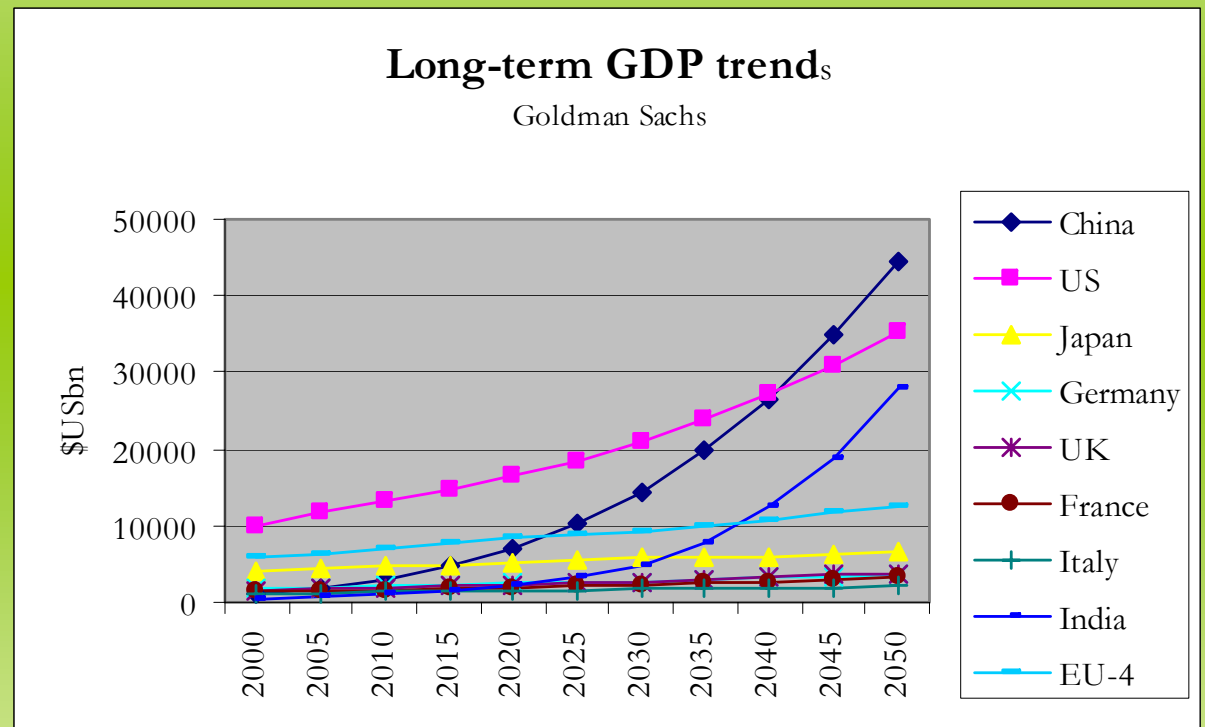


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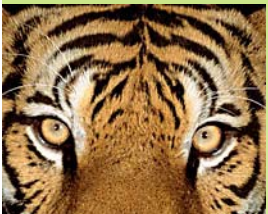
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Dreaming With BRICs: The Path to 2050 (Goldman Sachs) <http://www.gs.com/insight/research/reports/report6.html>





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- Geopolitical change
- **Diverging trends**

Diverging trends

e.g. WHO top 10 health risks

Under consumption

1. being underweight,
 2. unsafe water,
 3. iron deficiency,
- etc

> More than 1.2 billion people – one in every five on Earth – are trying to survive on less than \$1 dollar a day.

> More than 10 million children die of preventable illnesses – that is 30'000 a day.

> More than 1 billion people in developing countries lack access to safe water, etc, etc.

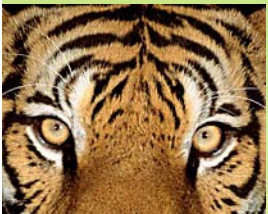
Over consumption

1. obesity,
 2. high blood pressure,
 3. high cholesterol,
- etc.

> The over-consumption of food is rapidly increasing.

> Already today more than 300 million adults are clinically obese, a clinical word for being so fat that it creates physical problems.

WHO, World Health Report 2002, <http://www.who.int/whr/2002/en/>





IV. What has happened so far?

(Sweden as an example)



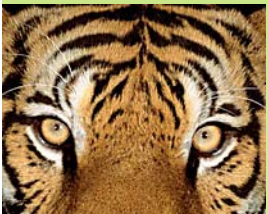


IV. What has happened so far?

A couple of interesting examples (focus on Sweden)

- De-materialisation
- "De-transportation"/ Substitution
- Increased efficiency in industry and buildings
- Increased transport efficiency
- Higher efficiency in production/planning
- Better information

To the over all "result" =>





IV. What has happened so far?

A couple of interesting examples: Telia/Eniro:

- De-materialisation
- "De-transportation"/ Substitution
- Increased efficiency in industry/buildings
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- Higher efficiency in production/planning
- Better information

Introducing virtual phone books and answering machines.

Library:

Electronic books

	<i>Answering Machine</i>	<i>Net Service</i>	<i>Factor</i>
Weight, kg	1,2	0,06	20
Power Consumption kWh	1 308	5,7	230
Greenhouse effect CO ₂ equivalents	140 000	590	240



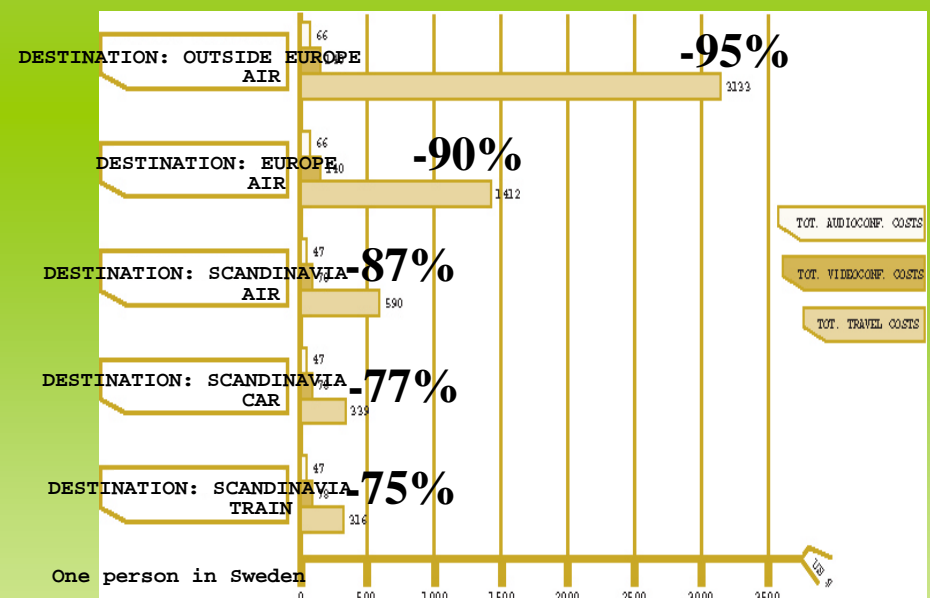


IV. What has happened so far?

A couple of interesting examples: Skanska:

- De-materialisation
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Meeting policy instead of travel policy





IV. What has happened so far?

A couple of interesting examples: Bokus (amazon.com):

- De-materialisation Books, CDs and DVDs over the net
- "De-transportation"/ Substitution
- **Increased efficiency in industry/buildings**
- Increased transport efficiency
- Higher efficiency in production/planning

Table 1. Comparison of Operating Models of Land-based Versus Online Bookstore²

	Traditional Superstore	Online Bookstore (Amazon.com)	
Titles per Store	175,000	2,500,000	
Revenue per Operating Employee	\$100,000	\$300,000	
Annual Inventory Turnover	2-3 times	40-60 times	
Sales per square foot	\$250	\$2,000	
Rent per sq. ft.	\$20	\$8	
Energy cost per sq. Ft.	\$1.10	\$0.56	-50%
Energy cost per \$100 of sales	\$0.44	\$0.03	-93%





IV. What has happened so far?

A couple of interesting examples: **Posten** (Swedish postal service):

- De-materialisation
- "De-transportation"/ Substitution
- Increased efficiency in industry/buildings
- **Increased transport efficiency**
- Higher efficiency in production/planning
- Better information

Cars use GPS, bicycles when possible.
Also gives customers the possibility to calculate the environmental impact of different kind of delivery





IV. What has happened so far?

A couple of interesting examples: SMHI (Wether forecast) :

- De-materialisation
- "De-transportation"/ Substitution
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- **Higher efficiency in production and planning**
- Better information

Deliver an intelligent heating system for houses (both building and maintenance)
30-50% energy reduction.





IV. What has happened so far?

A couple of interesting examples: **Konsum** (Grocery chain):

- De-materialisation
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- **Better information**

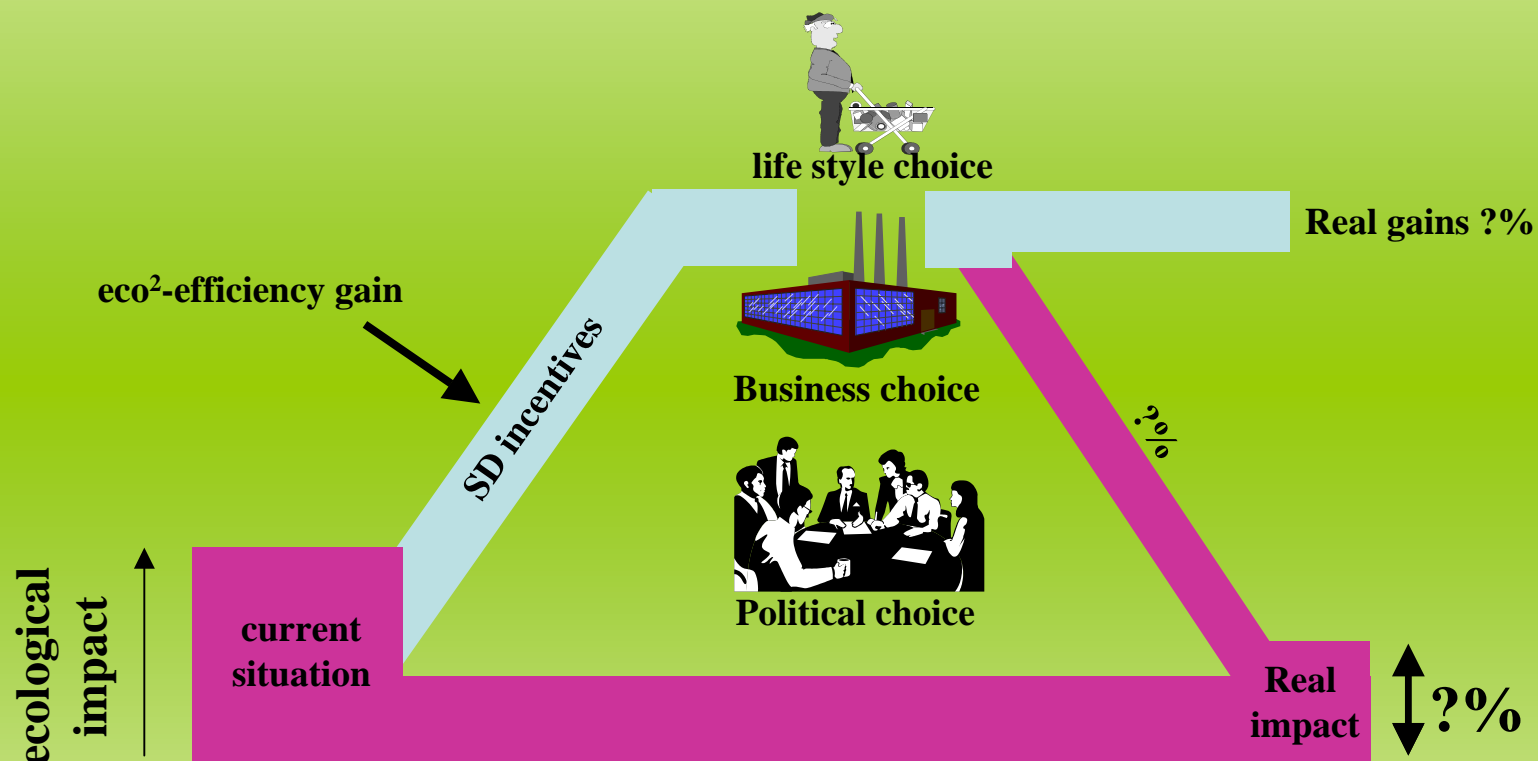
Allow all customers to see how much environmental friendly/ecological products they buy.





IV. What has happened so far?

REBOUND EFFECTS!!!



Inspired by a figure from Chris Tuppen, BT



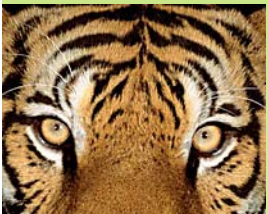


IV. What has happened so far?

Over all:

- No coherent approach
- Nothing much interesting have been communicated (No good material)
- No actor who is willing to take the lead
- Most ICT actors are stuck in products (energy use/toxic/recycling/etc)
- Almost no support from the government
- + A few visionary individuals
- + Some encouraging examples

=> Most likely that it is more negative than positive



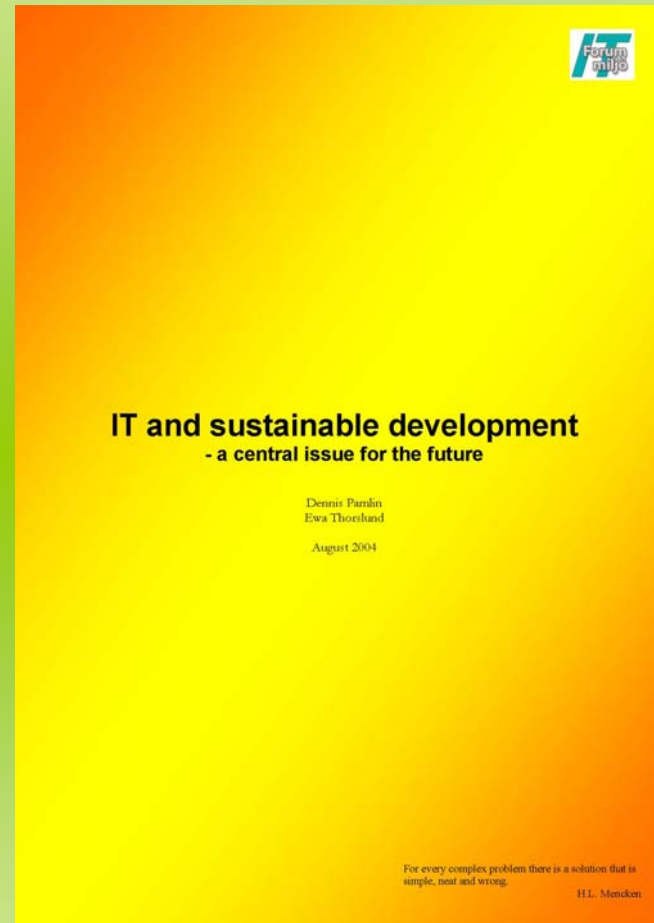


VI. Concrete next steps for politicians





VI. Concrete next steps for politicians





VI. Concrete next steps for politicians

An **efficient framework**

is an essential prerequisite for a co-ordinated initiative under which different actors can collaborate to promote sustainable development in a focused, structured manner.

1. The first prerequisite for creating this type of framework is a **vision**.
2. The second prerequisite is **resources**, both personal and monetary.
3. The third prerequisite is **clearly defined responsibility**.
Furthermore, the Government must be a **forerunner** of IT initiatives for sustainable development, particularly in the chosen priority areas.
4. The fourth and final prerequisite is **focus and structure**.



VI. Concrete next steps for politicians

Focus and structure

1. Energy and environmental impact of the IT products themselves (credability)
- 2. Transport and communication/Virtual mobility**
- 3. Community planning**
- 4. Production and consumption patterns**



VI. Concrete next steps for politicians

The chosen priority areas

should make up an integrated whole where both the individual elements and the overall work generate the following opportunities:

1. produce significant environmental benefits and positive (or neutral) social and economic effects
2. clear communication potential
3. possibilities to establishing concrete goals
4. significant business and export opportunities
5. possibility for further independent development
6. include the main areas concerned in the discussion on IT and sustainable development
7. consist of a large, strategically important part of the population that works with these issues, and offer opportunities for creating new networks



V. Concrete next steps for business





V. Concrete next steps for business

Effect	Caused by	Examples	Impacts
Direct effects			
Indirect effects			
Systemic effects			



V. Concrete next steps for business

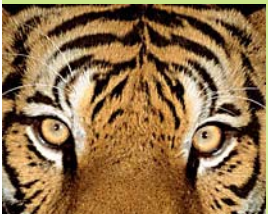
Effect	Caused by	Examples	Impacts
Direct effects	Tele-communication infrastructure and products	Equipment such as the PC, mobile phones	Environmental and social implications from production, installation, maintenance and end-of-life-management Job creation in the telecom sector
		Communication infrastructure	
		Servers, routers etc.	
Indirect effects	Application by user of telecommunication products and services	E-commerce (B2B, B2C, C2C)	Environmental and social implications by alteration of existing products and service systems Environmental and social effects of new product and services Access to information Access to products and services Communities online Changes in work situations
		Private telephony or email communication	
		Telework	
		E-government	
Systemic effects	A denser communication web, Changes in consumption pattern, new habits, synergy effects with other technologies	Change in consumption of goods and services	Changes in material flows Changes in energy consumption and green house gas emissions Land-use change Contribution to cultural homogeneity or cultural diversity Changes in civic culture Increased or decreased Digital Divide Changes in resource distribution
		Change in life style and work patterns	
		Increased information flows	
		Changes in existing economic and democratic systems	



V. Concrete next steps for business

9 suggestions for companies (with the support from the member countries and the commission):

1. Build on what you already have
2. Focus on service
3. DO NOT GET STUCK IN THE PRODUCT SWAMP
4. Agree on a vision (not too detailed + include politicians and NGOs in the process)
5. Get a system in place for calculating the environmental gains (LCA +)
6. Introduce a sustainable developers zone (for products & system solutions)
7. Collect good examples and put them together in a report
8. Engage in dialogue with other parts of business as well as politicians
9. Have fun!





VII. One year from now...

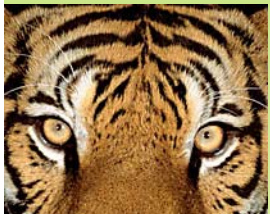




VII. One year from now...

WWF have worked with progressive actors in order to:

1. Develop a vision for ICT: 2040
2. Introduce sustainable developers zones
3. Collect good examples and communicate them
4. Engage in discussions with financial actors
5. Support strategic investments
6. Support the development and implementation of methods that give indications of the environmental gains

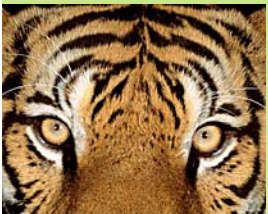




VII. One year from now...

Expect the following to exist in EU:

1. Minimum three companies have sustainable developers zones
2. A material exists that explains different positive elements of ICT and give concrete examples of already existing applications
3. A structure supported by the commission that structure the work in a way that encourage ICT companies to move away from a product focus to a service focus.
4. A report outlining the export potential. Including emerging markets such as China and India.





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*“Never doubt that a small group of thoughtful
committed citizens can change the world;
indeed it’s the only thing that ever has.”*

Margaret Mead 1901-1978





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panda
.org/ict**

