

# *Life Cycle Inventories and Assessments for ICTs*

Martin Eugster  
Empa, Switzerland

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1-3 September  
2008





# Agenda

- Conceptual Framework
- Greenhouse Gases and ICTs
- Conclusions

# Conceptual Framework

**Problem:**

**Society is overusing the services provided by Nature → What is the role of ICT?**

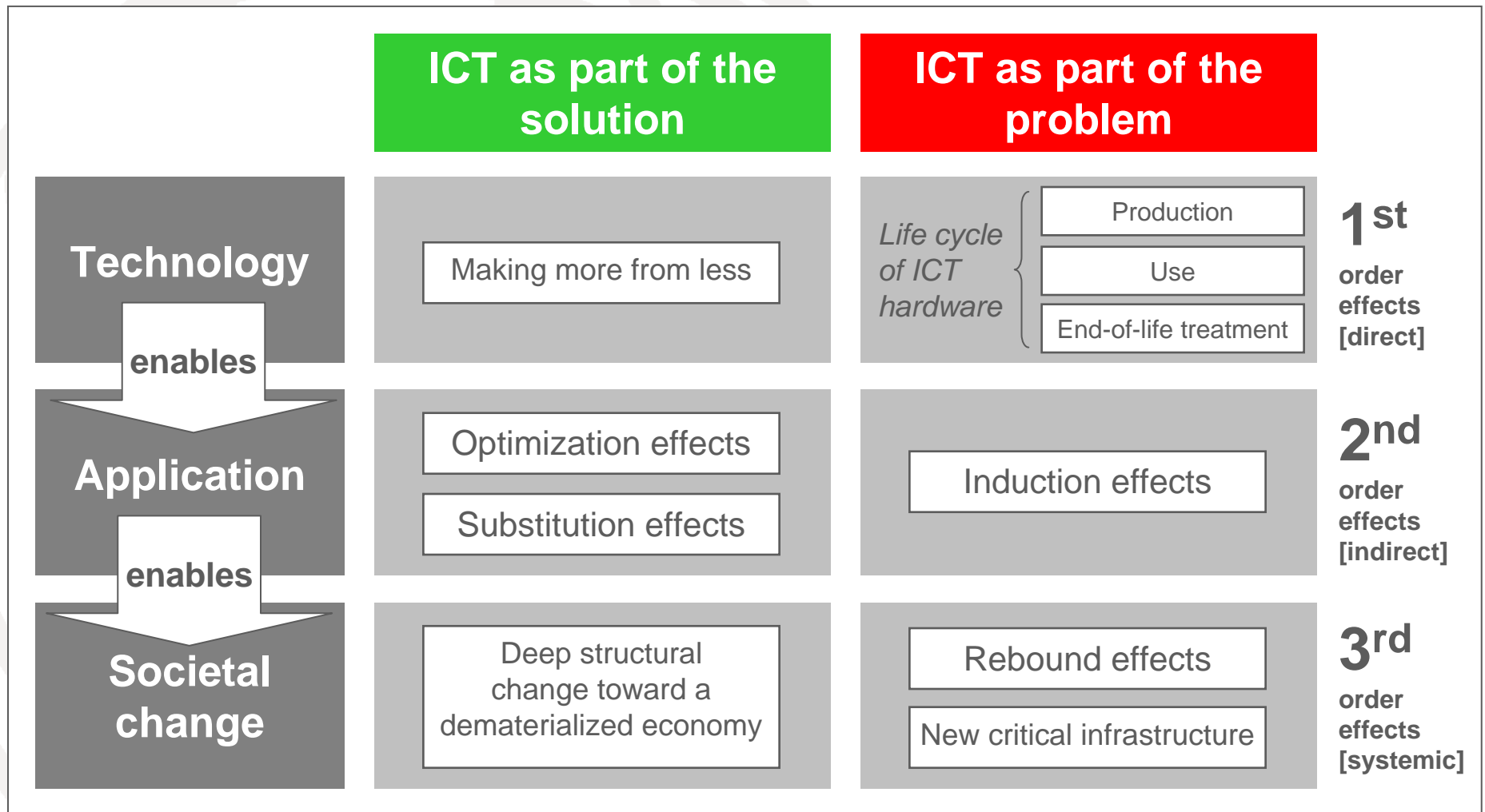
**ICT is a necessary part of the solution**



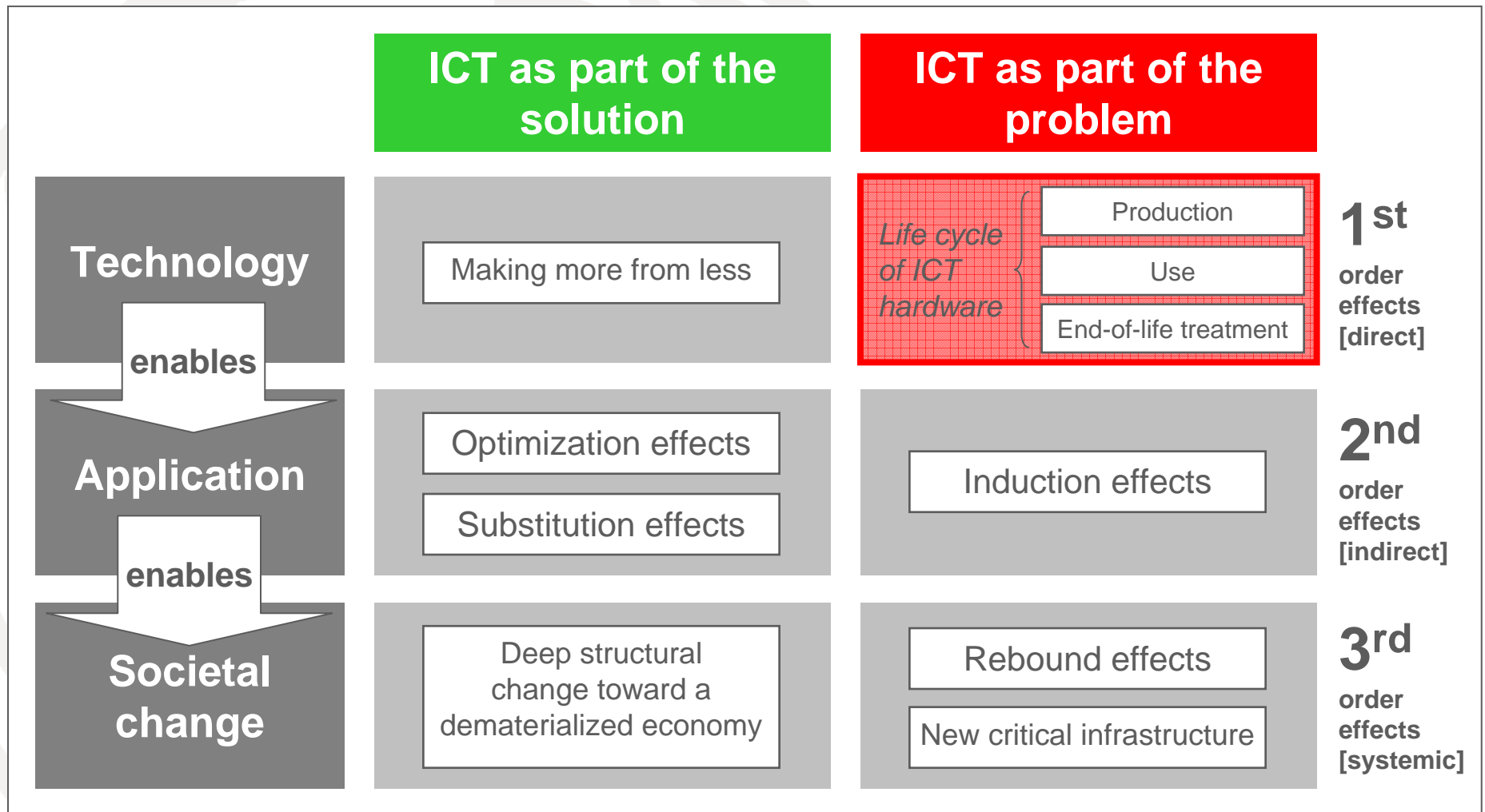
**ICT is part of the problem**



# Conceptual Framework



# Conceptual Framework





# Conceptual Framework

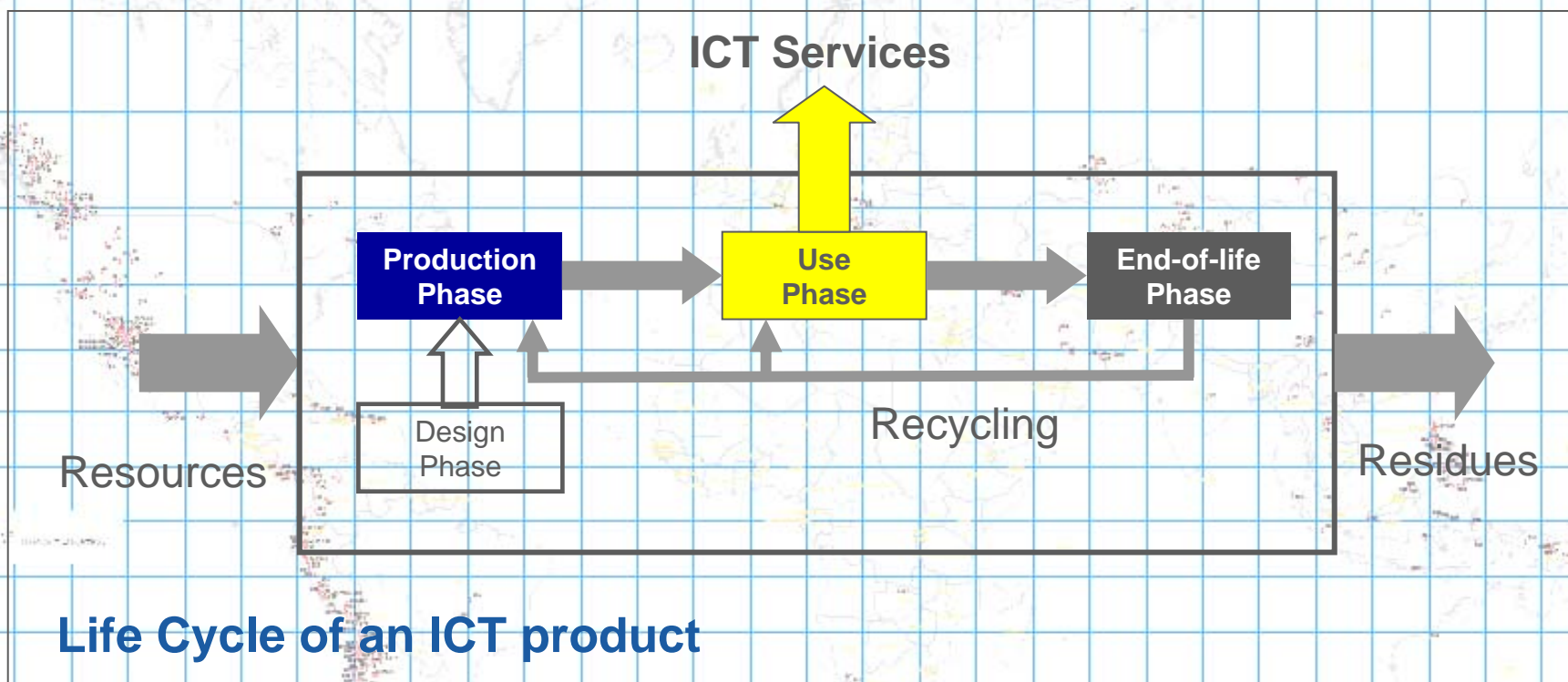
Lorenz M. Hilty

## Information Technology and Sustainability

Essays on the Relationship  
between ICT and Sustainable  
Development

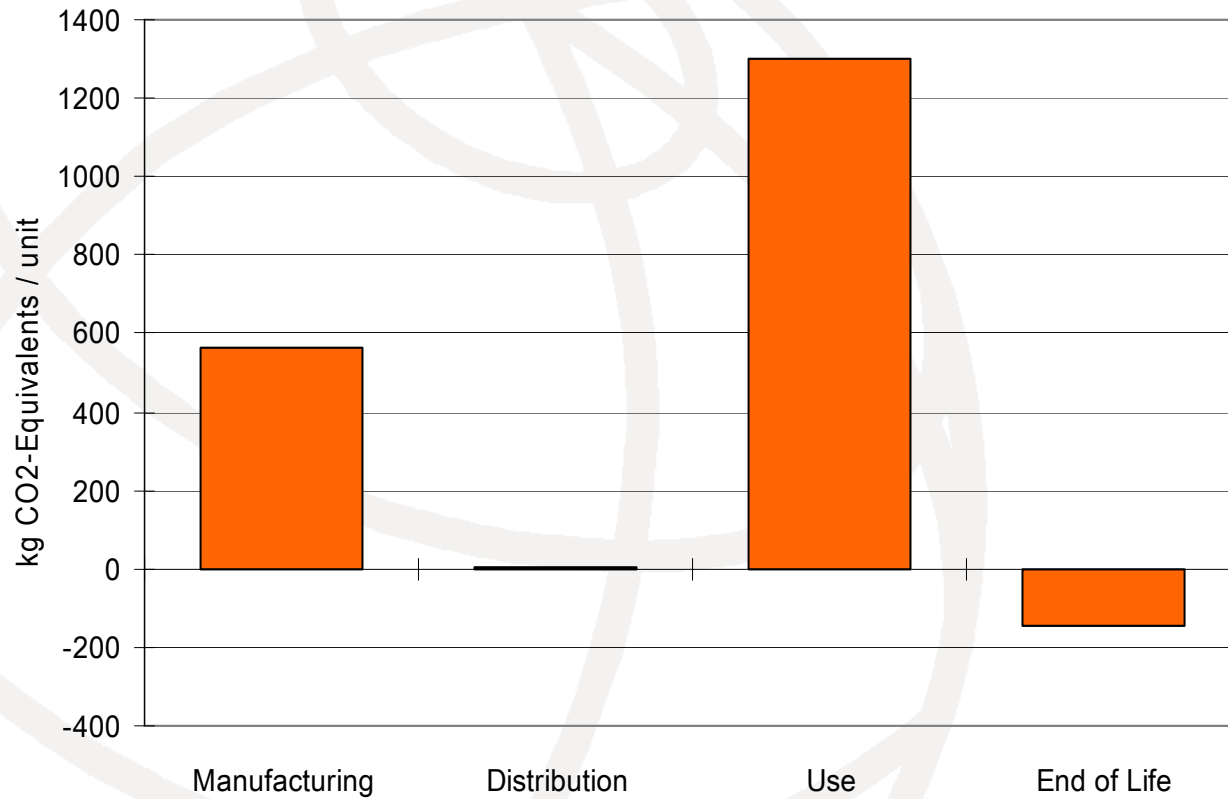
New book:  
**Information Technology and  
Sustainability** by Prof. L. M. Hilty  
ISBN: 9783837019704

# Greenhouse Gases and ICTs



Life Cycle Assessment (LCA) studies calculate the relevant environmental impacts of the life cycle per functional unit.

# Greenhouse Gases and ICTs

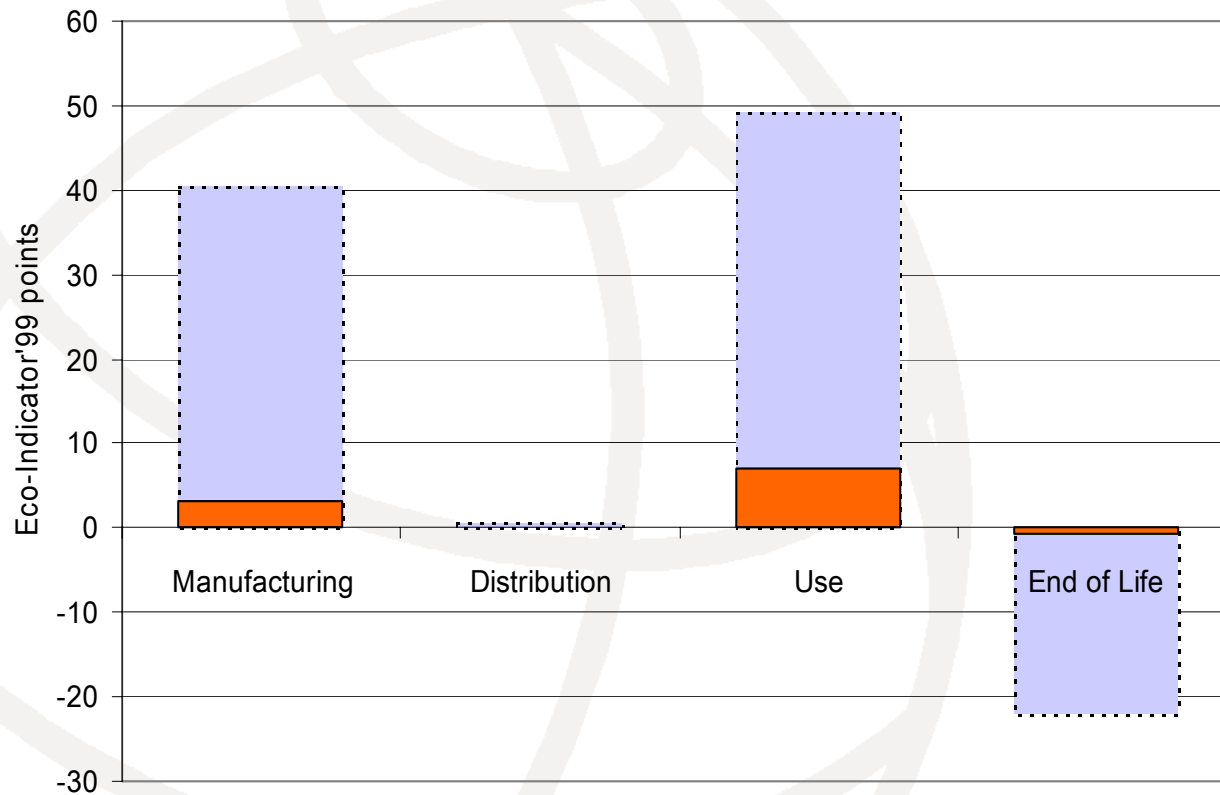




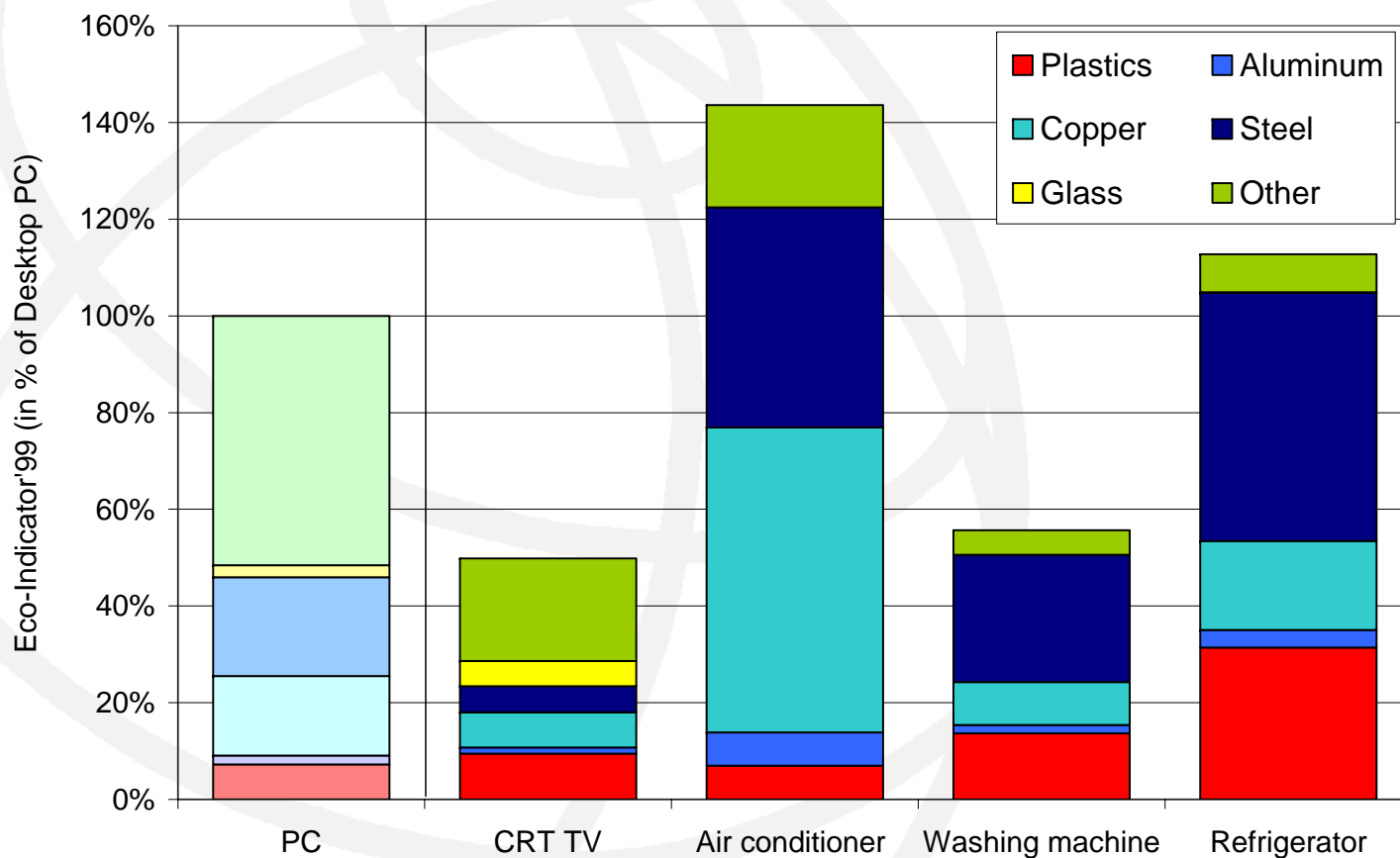


ITU and  
Climate  
Change

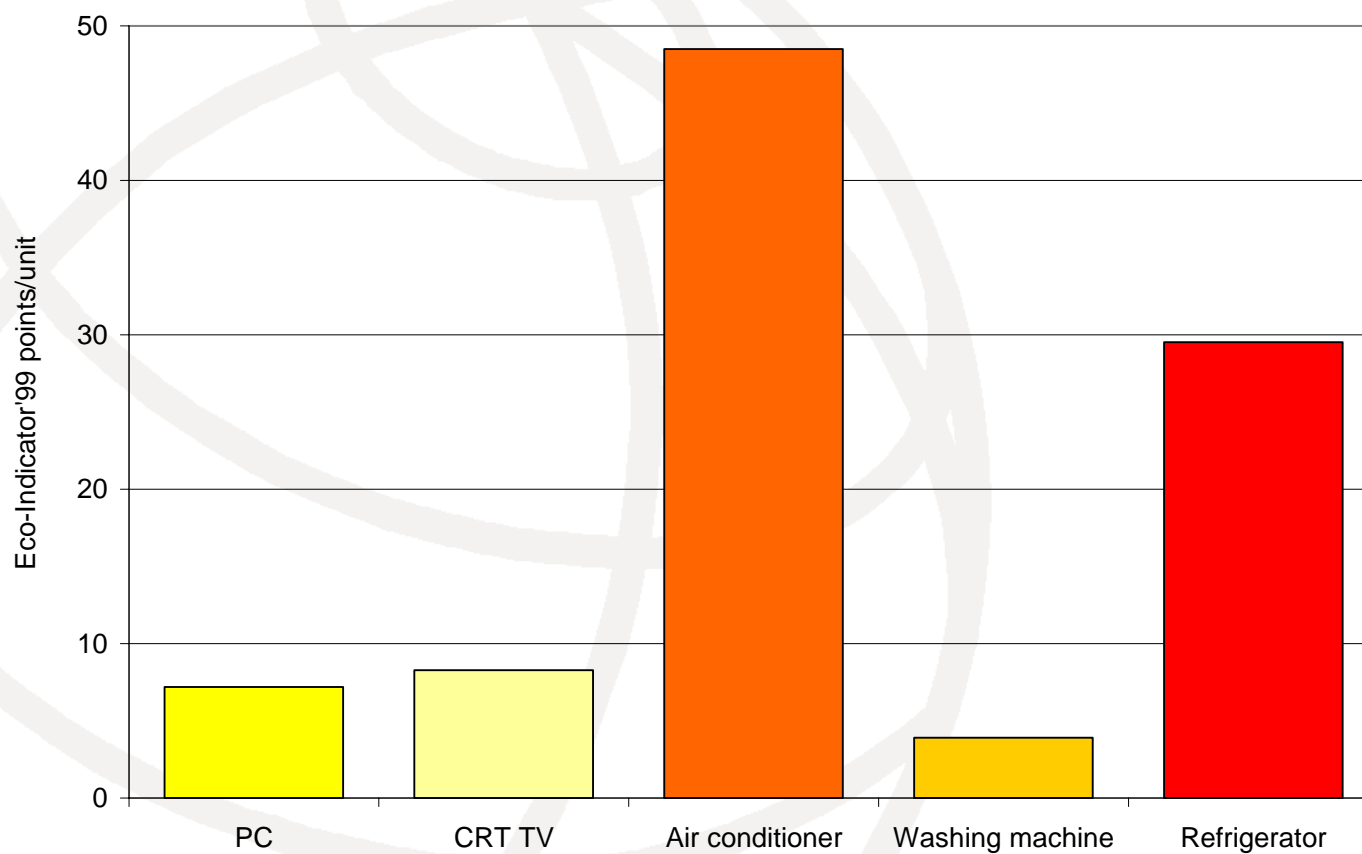
# Environmental impacts and ICTs



# Environmental impacts and EEE - production



# Environmental impacts and EEE - use





# Environmental impacts



A joint initiative of the  
ETH domain and Swiss  
Federal Offices

**ETH**

**EPR**

**PSI**

**EMPA**

**ART**

## Conclusions

- Environmental impacts / CO<sub>2,eq</sub>-emissions have to be considered along the entire life cycle → but, to whom allocate the impacts? (electricity mix given by different regions)
- Life cycle inventories (LCI) could provide a scientifically reviewed and transparent basis for the assessment of the carbon footprint of the ICT sector (not company specific)
- Specific public LCI data exist for electronic components



# Thank you!

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