

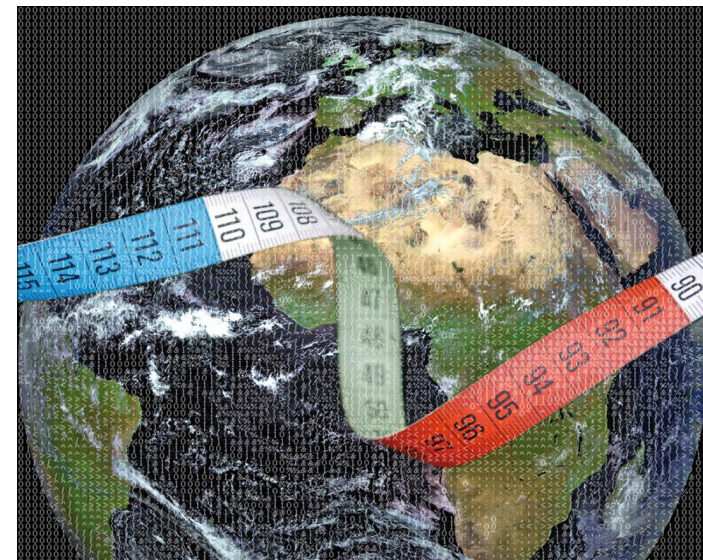


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Federal Department of the Environment, Transport,  
Energy and Communications DETEC  
**Federal Office for the Environment FOEN**  
Economics Section  
Sektion Ökonomie

# Measuring total environmental impacts of Swiss consumption: Needs and expectations from a policy perspective

LCA Discussion Forum  
Swiss FOEN, Loa Buchli, Andreas Hauser, Josef Kaenzig





# Which indicators do really provide guidance?

Multiple actors (Environmental agencies, statistical offices, NGOs, private companies) deliver various information in different forms:

- On direct emissions of particular substances
- On drivers, pressures, states, impacts and responses
- Information on local, national, global environmental quality...



- **Decision makers are confronted with information overflow**
- **Partial informations sometimes do not give an adequate „whole picture“**



# Example: Leaving nuclear power

Swiss government's decision to exit nuclear power will probably increase greenhouse gas (GHG) emissions.

Is the overall environmental impact of this decision therefore negative?

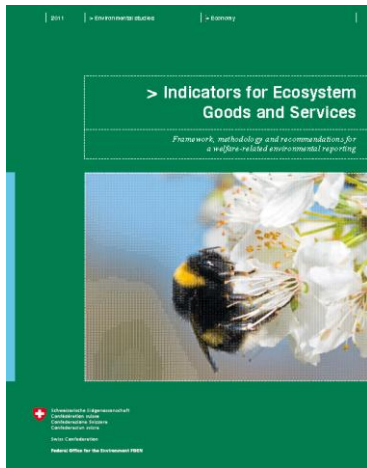
**Probably not!**



- Indicators must be comprehensive – GHG indicators are not sufficient.

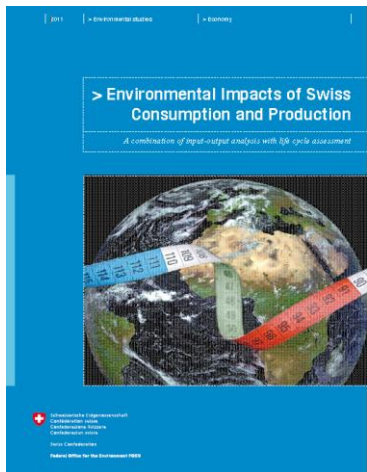


# Monitoring: A key requirement for a Green Economy



## Swiss Government decision of Oct. 13, 2010 for a Green Economy

- Amongst others: greening welfare measurement – complementing GDP by indicators for environmental, social and economical progress
- Research by FOEN provides a basis for:
  - Indicators for **Ecosystem Services**
  - Indicator for **Total Environmental Impact**

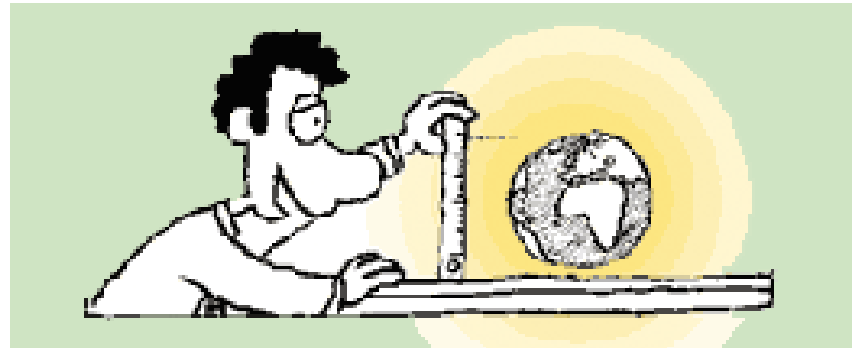


Similar initiatives by EU, OECD, UN, World Bank.  
See e.g. [www.beyond-gdp.eu](http://www.beyond-gdp.eu)



# Environmental information must be ...

1. relevant for political and economical decisions
2. comprehensive
3. understandable

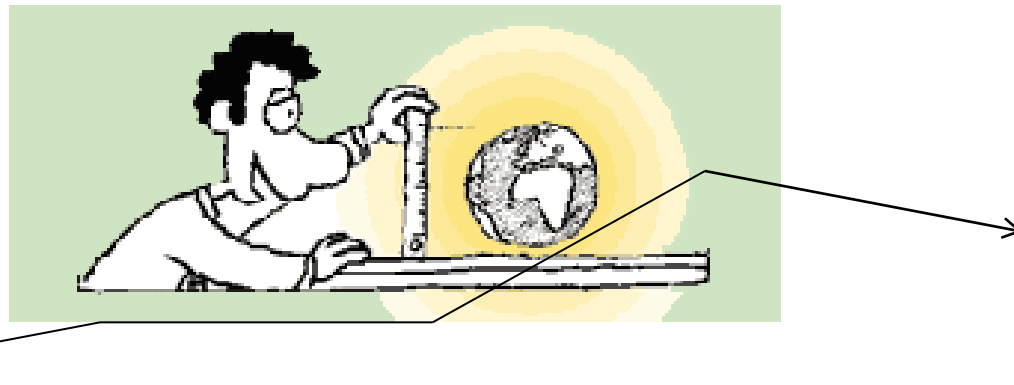


- Ad 1) Identify main **drivers** (e.g. consumption areas)
- Ad 2) Consider **all relevant impacts** (not only CO<sub>2</sub>) and the **whole life cycle** of products including env. impacts abroad due to **imported products**
- Ad 3) Deliver a **clear overall message** (the smaller the number...)



# A comprehensive indicator to...

- counterbalance GDP  
(Quality of life is more than economic growth)
- show if total environmental impacts increase or decrease over time (decoupling from economic growth).





# Ecological Footprint – our Indicator on Green Economy?

The Ecologic Footprint is available for

- many countries
- in time series.

It is life-cycle-oriented.

It is well-known and recognized by media and politicians.

➤ **Is this the environmental information we need?**

Maybe. But

- It accounts for only some environmental issues.
- It does not account for nuclear power and human health impacts (e.g. due to fine particulate matters, dioxins, VOC, NO<sub>x</sub> etc.)
- More than 50 % of the EF are due to CO<sub>2</sub> emissions.

➤ **The Ecological Footprint of Switzerland would increase due to nuclear exit.**





# Aggregation

- Aggregating and reducing complexity implies **weighting** different environmental issues (e.g. climate change, biodiversity loss, water use).
  - Judgement is necessary
  - Acceptance of the weights is crucial

## For this reason:

- **Weighting must be transparent and defensible**  
(e.g. not summing up just tonnes of materials or ignoring nuclear risks)
- **international dialogue is needed**





# Vision

- **We'll have a recognized, comprehensive environmental indicator**
- **Target values for the total environmental impact will be defined**
- **Politicians will have agreed on a time-table for reaching these target values**

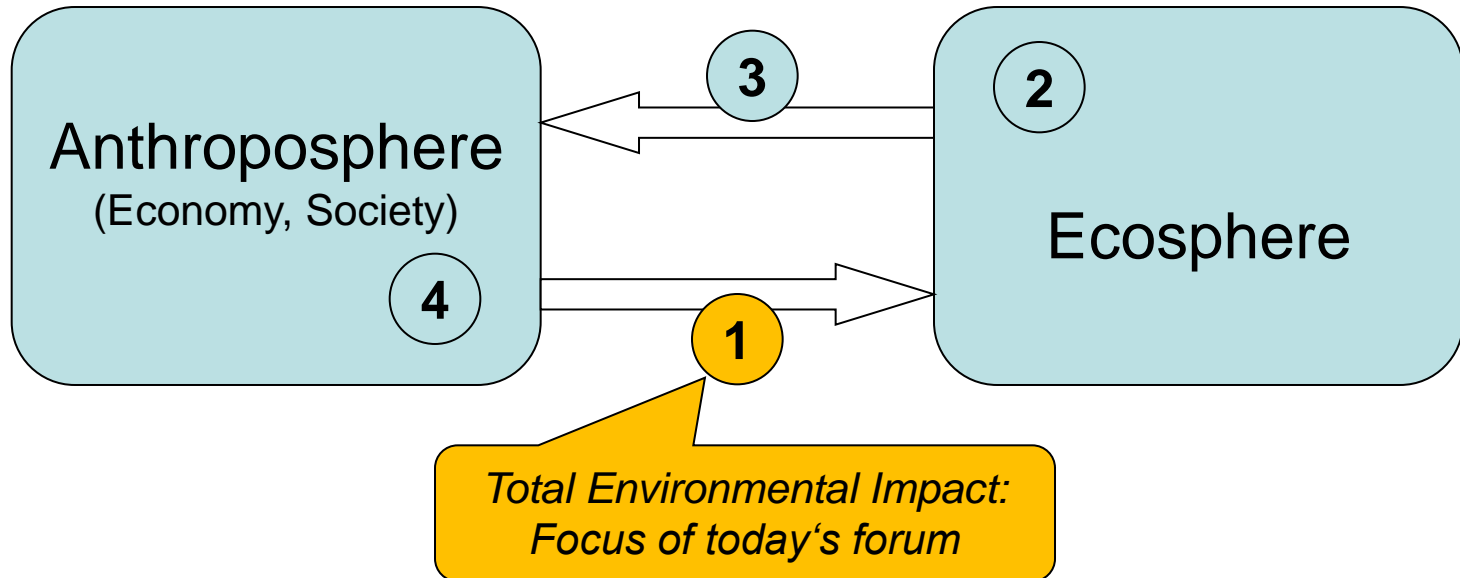
The study commissioned by FOEN on total 'Environmental Impacts of Swiss Consumption and Production' was a first step towards this vision.



# Appendix



# Indicators for measuring Green Economic Progress



## Indicators...

- 1) for Total Environmental Impact of Consumption (and Production)**
- 2) for Natural Capital**
- 3) for Ecosystem Services:** The Ecosphere's contributions to human well-being (or: the environmental dimension of quality of life)
- 4) for value-added and jobs in the „green parts“ of the economy**  
(more broadly: Economic opportunities and policy responses)



# Options for the next steps

- **Applying EE-IOA & LCA** for those years for which an IOT is available (2005, 2008 and maybe 2011)
  - Analysis of main drivers (consumption areas and industries)
- **Yearly time series based on LCA & trade statistics & national environmental statistics**
  - Politically important performance indicator