

# Planetary Boundaries & Swiss footprints

Absolute global environmental limits ?  
Fair share/right to use per country ?  
Current country performances based on footprints ?

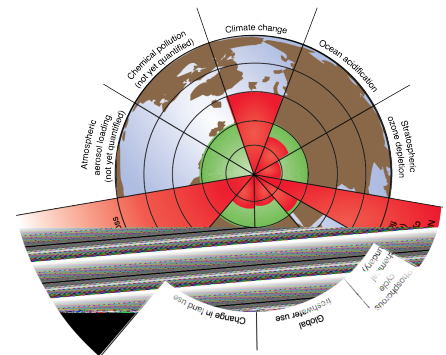
## What

A set of nine physical and biological limits of the global Earth system to be respected in order not to leave a "Safe Operating Space", i.e. not to put the planet's human-friendly living conditions into peril.

Dao et al. (2015)

1. Climate Change
2. Nitrogen and Phosphorus Inputs
3. Biodiversity
4. Ocean acidification
5. Stratospheric Ozone Depletion
6. Land Cover Anthropisation

7. Freshwater Use
8. Atmospheric Aerosol Loading
9. Chemical Pollution



Rockström et al. (2009)

Legend: *Limits already crossed at global level are in red.*  
*Limits for which information is lacking for the assessment are in grey*  
*Limits not considered as truly global limits in the Swiss Study are in purple*



## An allocation to countries

- Based on the ratio of country and global population
- Aiming at respecting the SD principles.
- Yearly budgets or budgets over time to consider the past and future when:
  - relevant, e.g. for carbon
  - knowledge/rights exist in the past

Scores for Climate Change (CO2 emissions)

## A comparison with footprints

- A life cycle (or consumption) perspective: an aggregation of environmental impacts and/or resource uses along global production-consumption chains.
- A complement to exiting territorial indicators:

		Consumption of goods and services		Territorial perspective
		Switzerland	Rest of the World	
Production of goods and services	Switzerland	Impacts* generated in Switzerland for Swiss consumers	Impacts* generated in Switzerland for foreign consumers (exports)	Footprint perspective
	Rest of the World	Impacts* generated abroad for Swiss consumers (imports)	Impacts* generated abroad for foreign consumers	

\* environmental impacts from production, use and disposal

## Ongoing issues

### 1. Limits for Atmospheric Aerosol Loading & Chemical Pollution ?

- Is there a global limit or only regional limits ?
- What is the best indicator ?

### 2. Improvement of the allocation

- To countries: to consider development status and capabilities ?
- To companies and products: to enable absolute vs relative objectives ?