



# ISO standard on Water footprint: Principles, Requirements and Guidance

## Foreseen plan

World Water Week 2009  
CEO Water Mandate  
Stockholm, Sweden, 16 August 2009

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# Objective

- **ISO standard on principles, requirements & guidelines for measurement and communication (TBD)** of the water footprint of products, processes and organizations
  - evaluation and characterization
  - reporting and communication (TBD)
- **Consistent with ISO 14000 series**
  - including environmental metrics such as Carbon footprint, Life cycle assessment (ISO14040), Greenhouse gases quantification and communication (ISO14064, 14067) and Environmental communication (ISO14020)
- **Consistent** with existing and ongoing work on **greenhouse gas emissions measurement and reporting**
  - same boundaries, scope, etc.
- **Within ISO**
  - internationally recognized standardization body
  - democratic process

# Current developments in water assessment

- **Increasing communication on water**
  - Publication of « water footprint » results of products in the news, etc.
- **Increasing demand for standards**
  - E.g., “The company said it was the world’s first food company to add an H2O label to product packaging and that it had developed its own calculation model because no internationally established formula and product label yet exists. [...] we need to ensure that there are consistent standards across the board,”  
*From Carbon Footprints to Water Footprints (The New York Times, April 17 2009)*
- **Multitude groups active in water**
  - World Business Council for Sustainable Development (WBCSD)
  - Water Footprint Network (WFN)
  - UNEP/SETAC Life Cycle Initiative
  - Alliance for Water Stewardship (AWS)
  - World Resource Institute (WRI)
  - Pacific Institute
  - Water Environment Federation (Water Quality)
  - Etc.

***Complex  
assessment !***

How much (m<sup>3</sup>) / What?

Inv

ounting



Midpoint (~ben

Loekstra

rischnecht (Ecopoints)

Indexes

scarcity indexes

Pakenmark

Ohlsson

Gleick

Water Use Per Resource

Seckler

Smakhtin

Alcamo

es Index

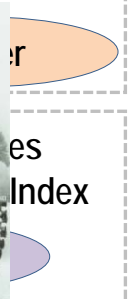
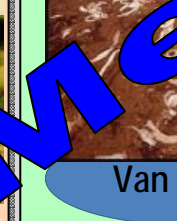
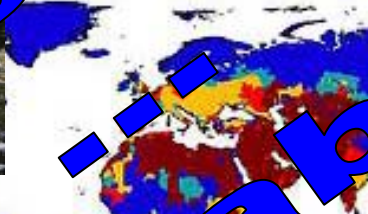
Water Poverty Index

Sullivan

Can it be / Potential problem?



Actual consequences?



Consistency? Applicability? Meaning?



# Propose a framework and principles to enable:

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- **Development of different methods** (e.g., water footprint network, UNEP-SETAC life cycle initiative, water tool from WBCSD, etc.)
  - **consistent among each other**
  - **consistent with other standards**
    - E.g., ISO 14040/14044; ISO 14064;
    - E.g., terminology, system boundary (direct water use, upstream (indirect) water use, downstream (indirect) water use), regionalization, communication, double counting (e.g., grey water vs aquatic ecotoxicity), etc.
  - **Products**
  - **Companies** (TBD)
  - **Entities** (countries, cities, etc.) (TBD)
- **Communication** that is **meaningful, consistent** with other impact assessment methods, etc. (TBD)
- One or several standard? (TBD)

# Scope

- **All type of water** will be considered, including rain water, water reuse, agriculture and water with hydro projects
- **Regionalization** (scarcity, development level, specific issues), **Consumptive vs non-consumptive use**, etc. will be considered
- **The goal is not to achieve a ready-to-use-method but a consensus on important elements that any ISO-compliant method needs to address**
  - It is not the aim to develop a (generic) impact assessment method, but guidelines for such methods and their reporting
- **Accounting vs footprinting**
  - “Inventory” versus “impact assessment”
    - Accounting is a first needed step for good footprinting and

# Plan foreseen

- **3 years plan**

- 09.03.2009: Circulated in ISO/TC 207/SC 5
- 09.06.2009: Submitted to vote
  - 26/32 acceptance
- 26.06.2009: Explanation and kick-off at Cairo
  - Accepted as a Preliminary Working Item (PWI)
- August (mid) 2009: Short information meetings at the World Water Week in Stockholm
- August (end) 2009: List of P and O participants (i.e., experts) to be made

- **2 meetings per year**

- September: First draft structure sent to experts
- November (end) 2009: First **working meeting**
  - (TBD, in Stockholm, Sweden, in marge of the ecoefficiency group SC5\_WG7 meeting, 20-24 November 2009)
  - Draft structure discussed
- July (3<sup>rd</sup> wk) 2010: Second **working meeting**:
  - (Mexico, TBD)

- **2010: Vote on the PWI draft to advance it to Advance WI**



# Organization

- **WG 8, part of TC 207 / SC 5**
- **Contact:**
  - Proposer & Secretariat:
    - SNV, Swiss Association for Standardization
  - Convener:
    - Sebastien Humbert, Eointesys - life cycle systems, Lausanne, Switzerland. [Sebastien.Humbert@eointesys.ch](mailto:Sebastien.Humbert@eointesys.ch), +41-79-754-7566
  - Co-convener:
    - Nydia Suppen Reynaga, Centro de analisis de cyclo de vida y diseno sustentable, Mexico, [nsuppen@centroacv.com.mx](mailto:nsuppen@centroacv.com.mx) (TBC by national committee)
- **List P and O members**
  - TBF by end August 2009



# Supporting info

# Inventory: information needed?



**Amount**

**Of what?**

**Issues?  
Risk?**

fraction evaporated,  
polluted, etc.

•Origin of water  
(g., groundwater, etc.)

•Type of use  
(e.g., cooling, cleaning,  
etc.)

XXX m<sup>3</sup>

+

•Location  
(e.g., Tucson AZ)

or

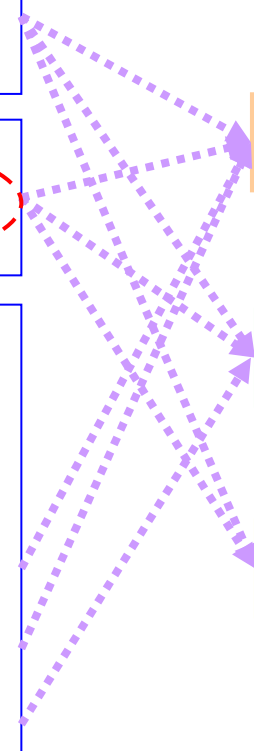
•Water scarcity  
•Development level  
•Net precipitation

potential impacts

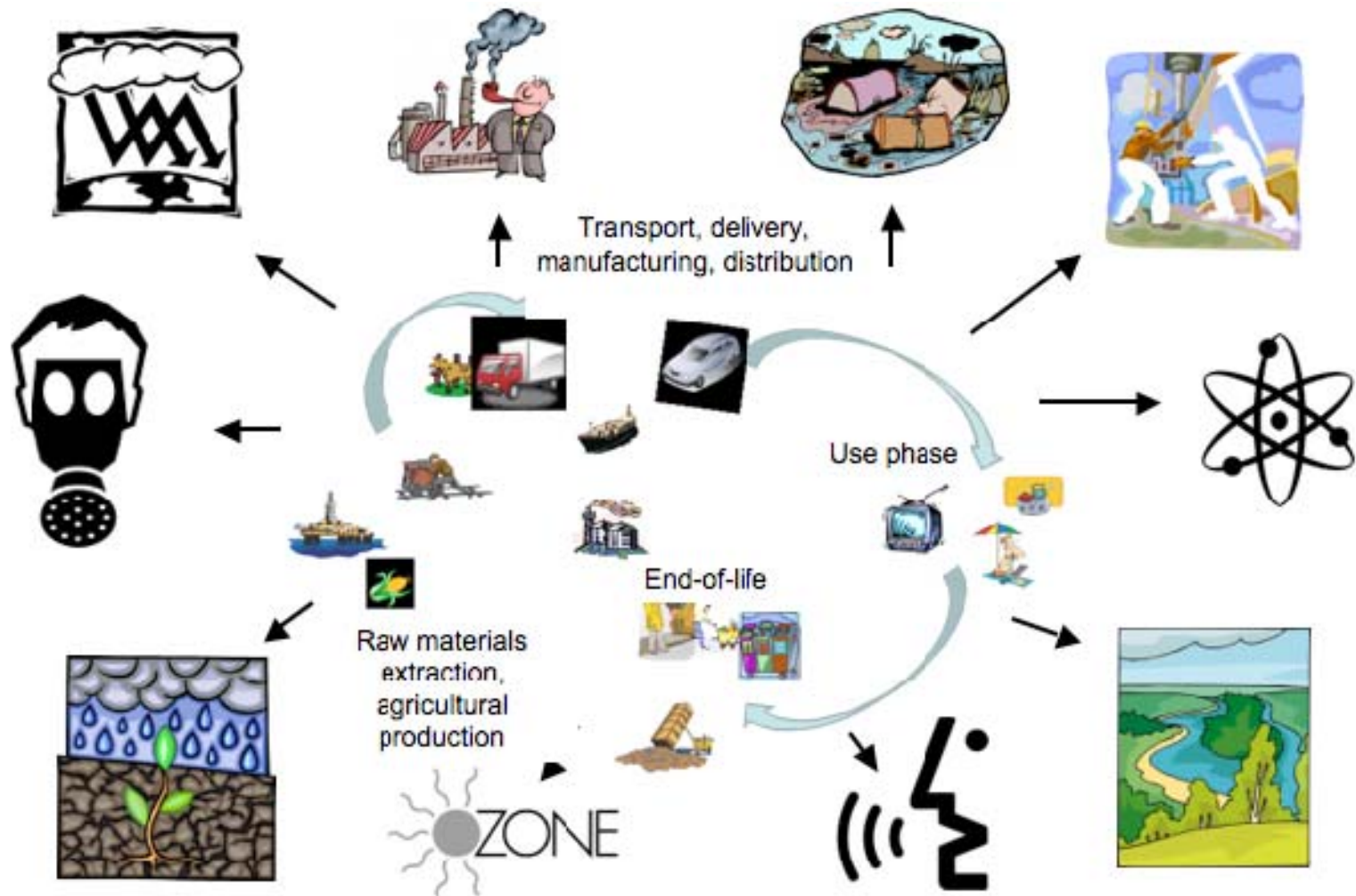
**Humans**

**Ecosystems**

**Resources**

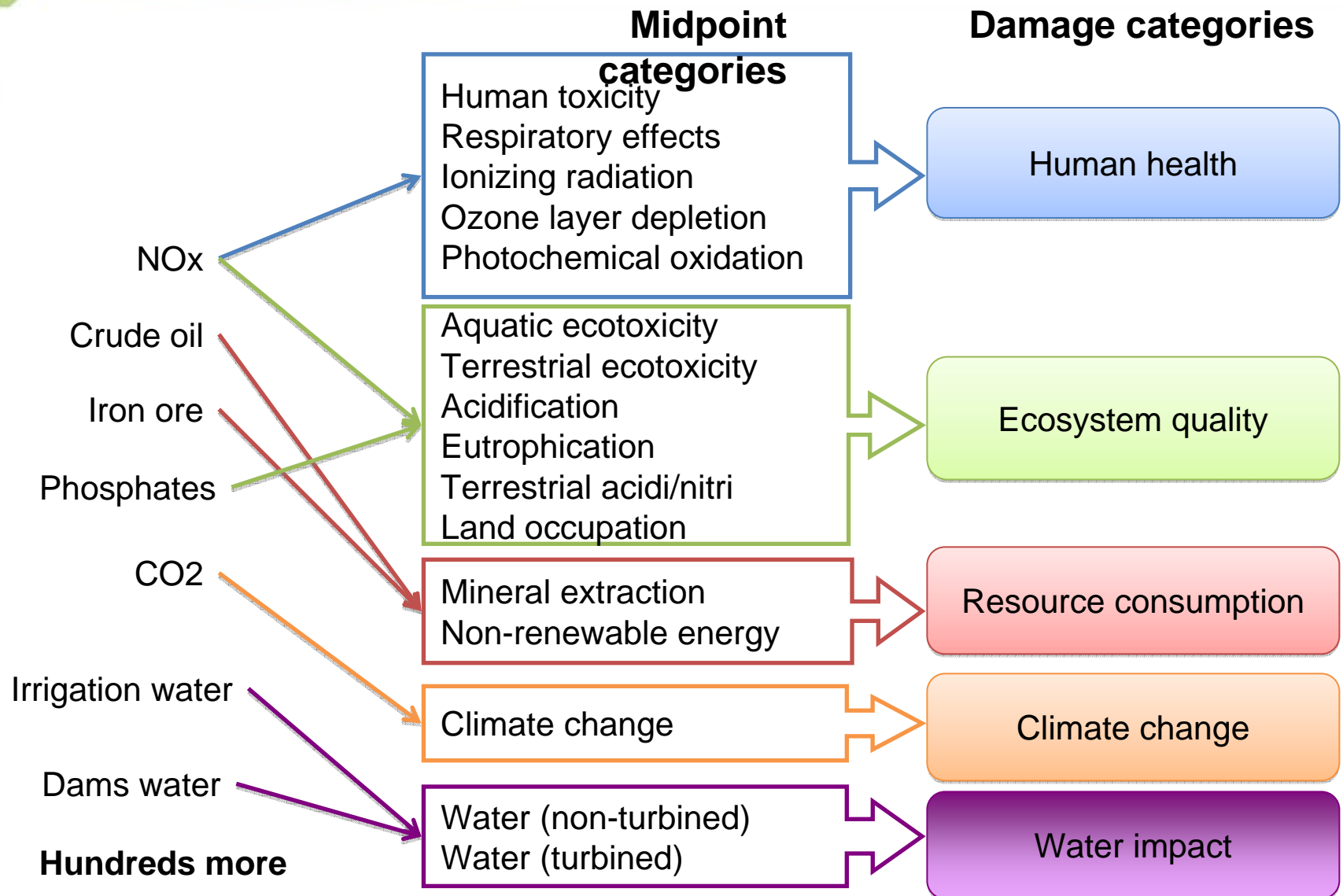


# The life cycle perspective (life cycle stages and impacts)

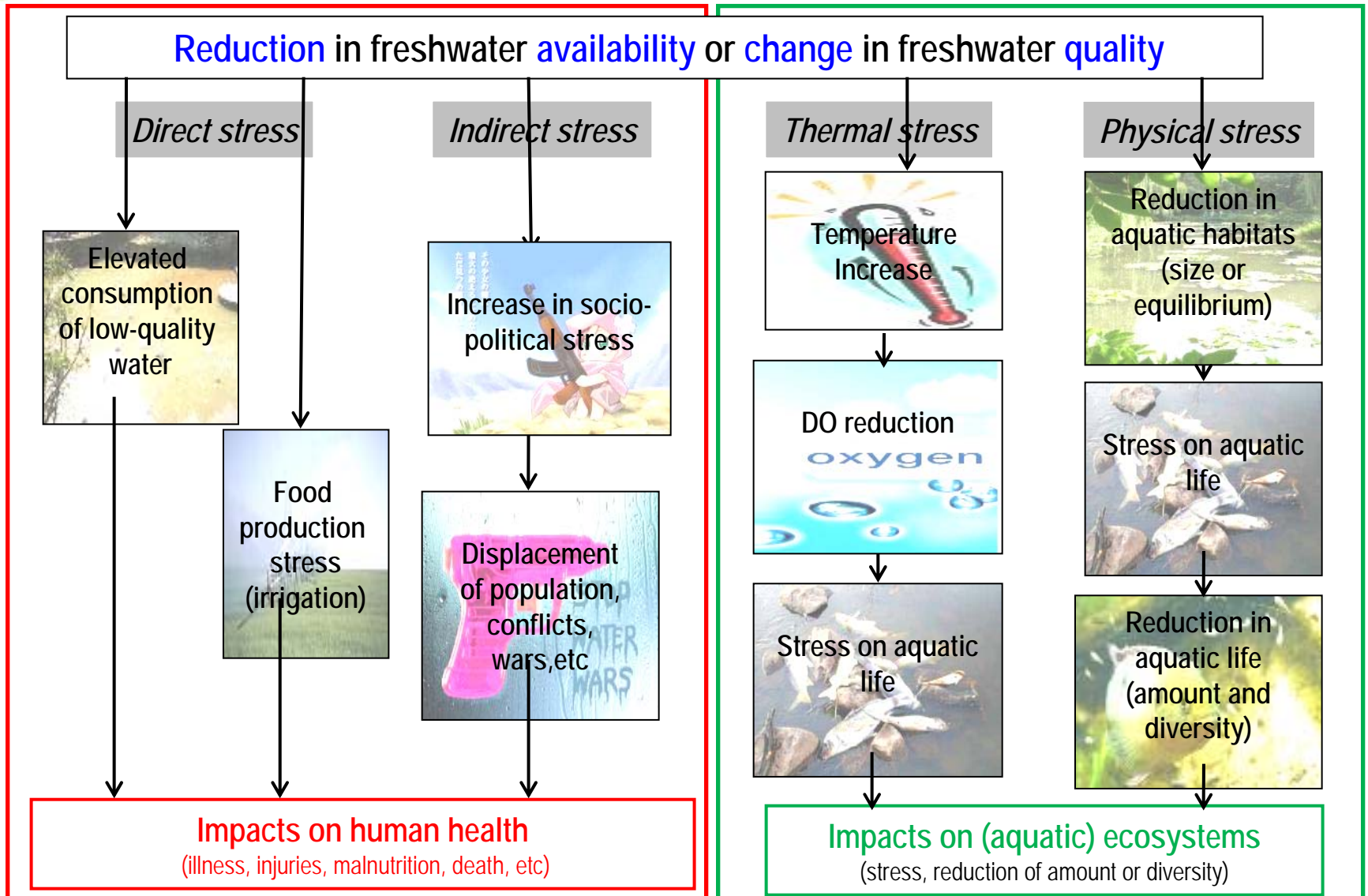


# Typical impact assessment method

*(IMPACT 2002+ - Jolliet et al. 2003/Humbert et al. 2009)*

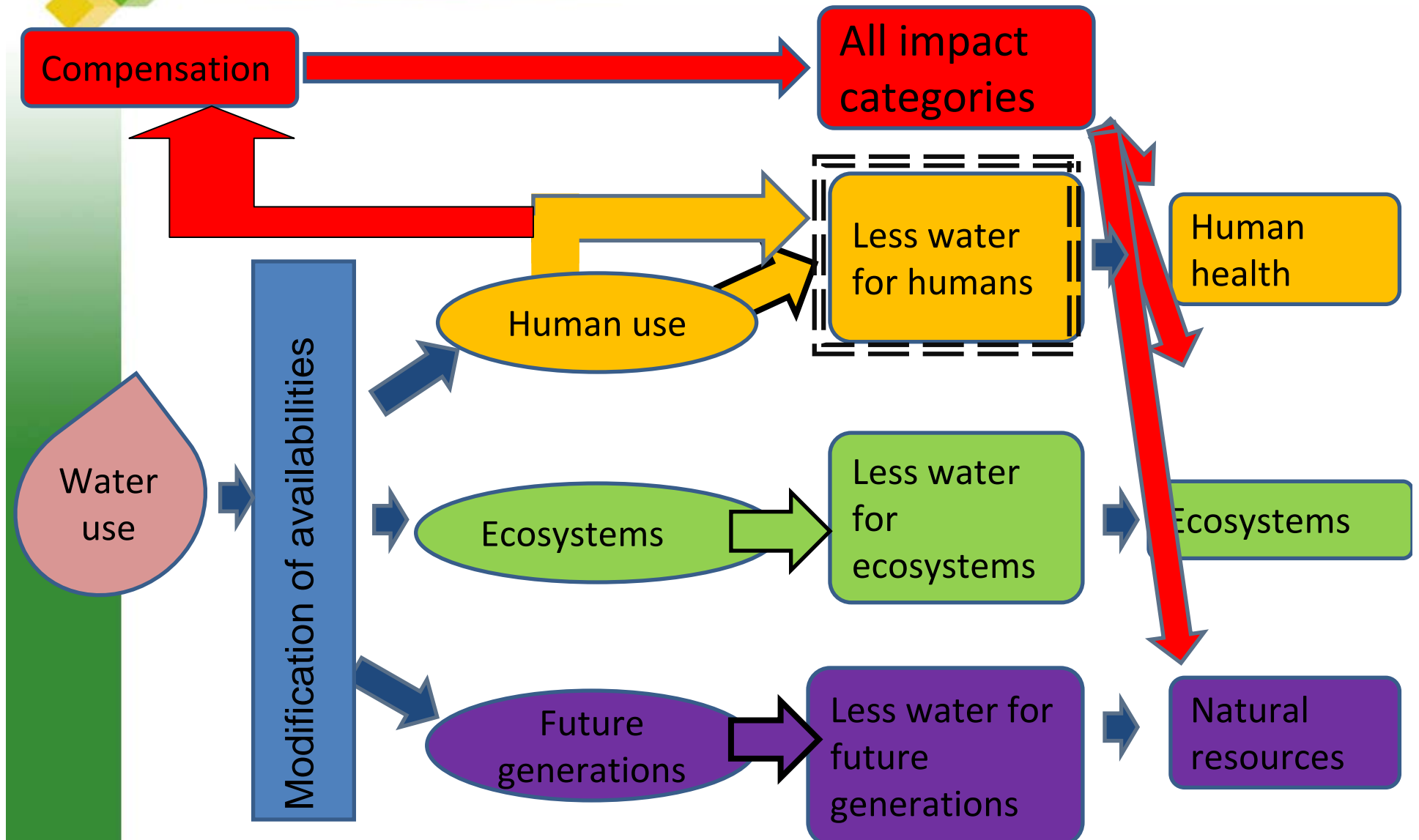


# From use to impacts



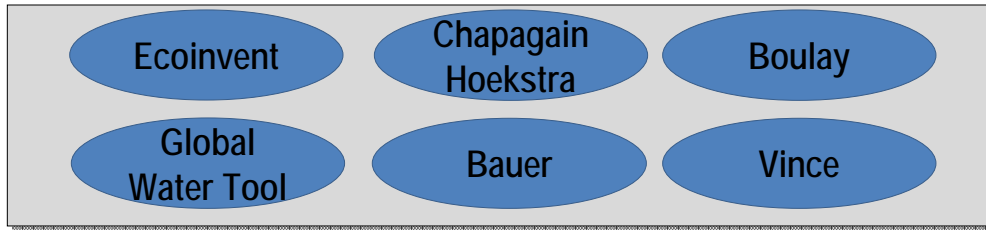
# UNEP-SETAC Framework

(Bayart et al. 2009)



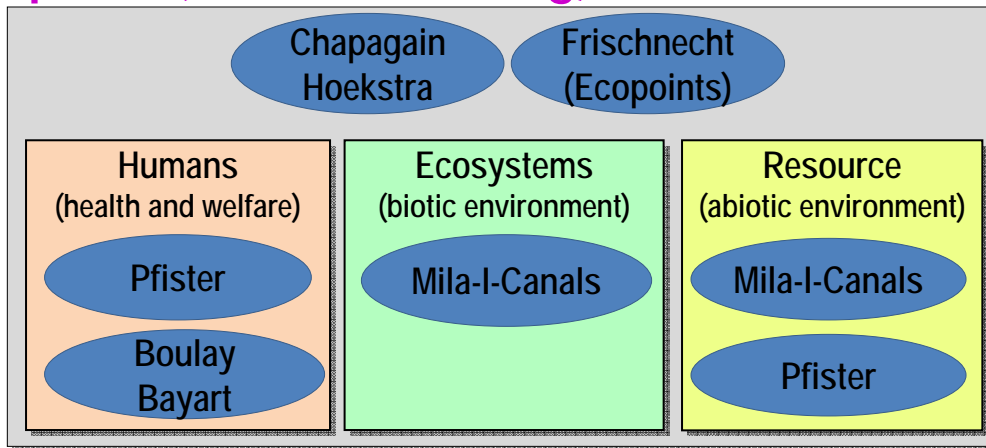
# Inventory (~accounting)

**What?**  
**(m<sup>3</sup>)**



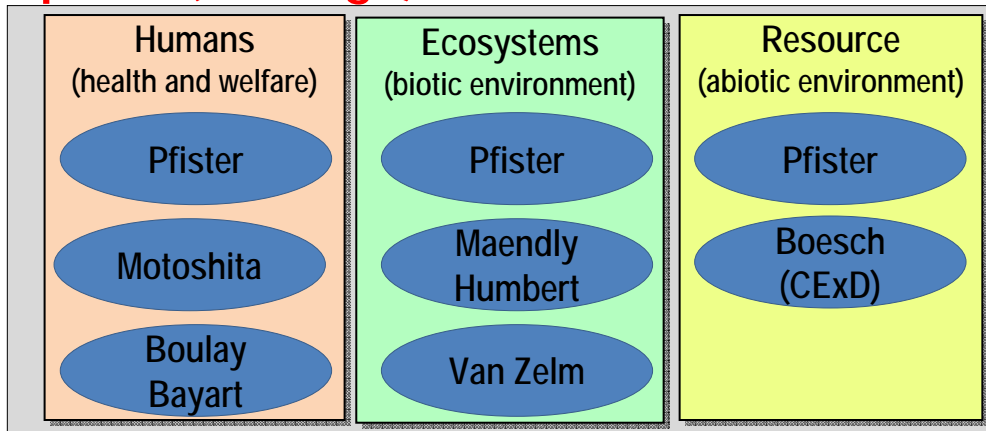
# Midpoint (~benchmarking)

**Can it be / Potential problem?**



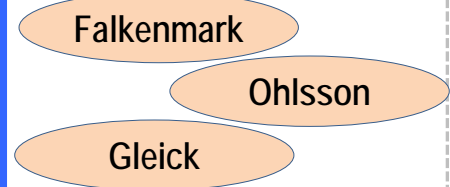
# Endpoint (Damage)

**Actual consequences?**

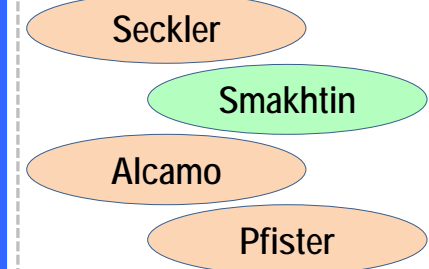


# Indexes

## Scarcity indexes



## Water Use Per Resource



## Water Resources Vulnerability Index

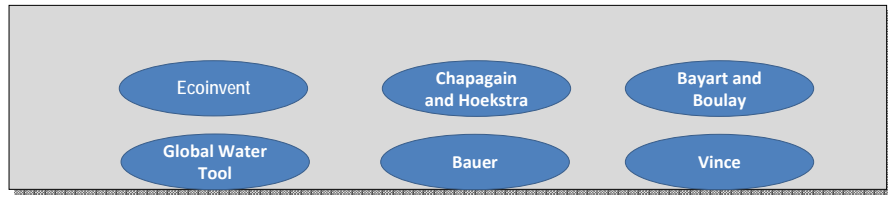


## Water Poverty Index

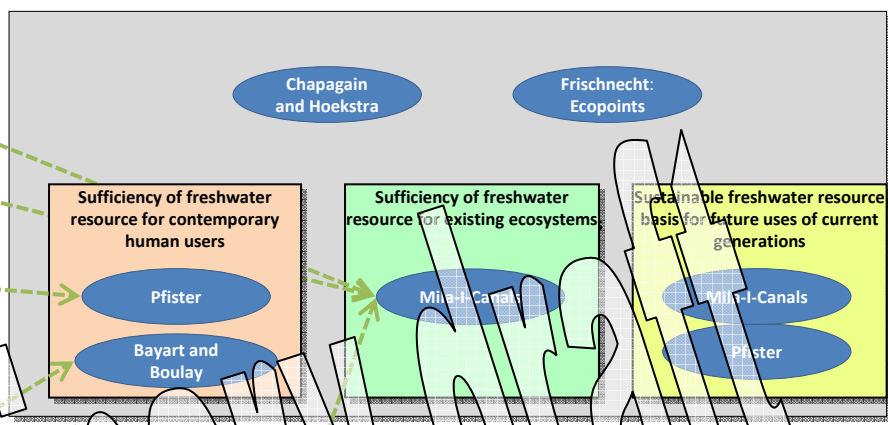




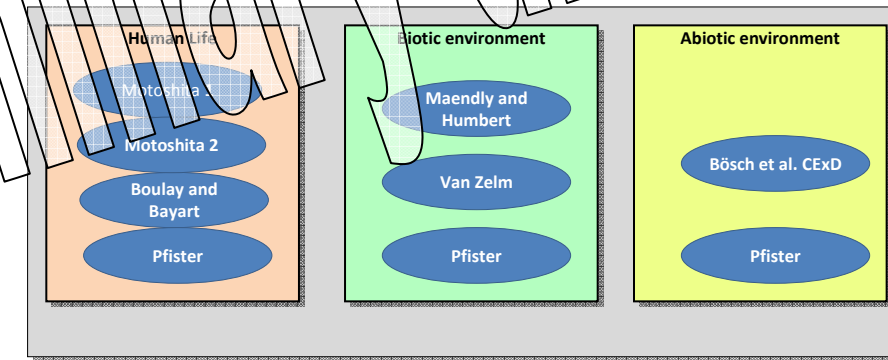
# Inventory



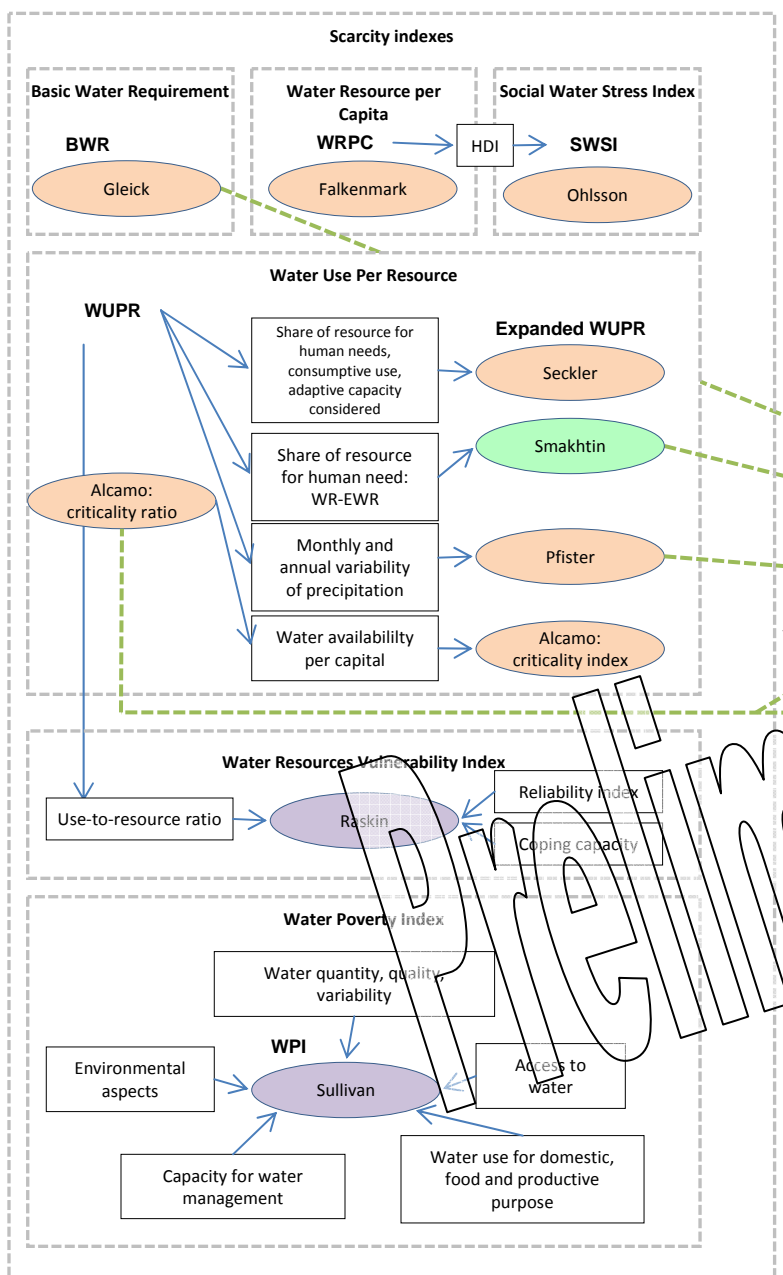
# Midpoint



# Endpoint



- WR: Water resource**
- EWR: Environmental Water Requirement**
- Indicator which describes critical threshold for human uses
- Indicator which describes critical thresholds to maintain ecosystems in fair conditions



Indicator which describes critical threshold for human uses and to maintain ecosystems in fair conditions



# Some concerns

- **Treated within ISO 14040?**

- Water, like carbon footprinting, is having an **extra focus** and relevance
- Treated consistently with ISO 14040, but:
  - ISO 14040 **too broad** and does not tackle enough several of the **specificities of water** footprinting
- A specific norm allows to better focus on specificities of water
  - E.g., **regionalization** poorly addressed in 14040

- **Scope**

- **All type of water** will be considered, including rain water, water reuse, agriculture and water with hydro projects
- Regionalization, Use vs Consumption, etc. will be considered
- Too broad?
  - Because the topic is new, it is proposed to draft the standard with the different stakeholders and not for the different stakeholders
  - The exact scope will partly be defined by the level of agreement among the members
- *The goal is not to achieve a ready-to-use-method but a consensus on important elements that any ISO-compliant method needs to address*
- It is not the aim to develop a (generic) impact assessment method, but guidelines for such methods and their reporting

- **Accounting vs footprinting**

- “Inventory versus impact assessment”
- Accounting is a first needed step for good footprinting and management