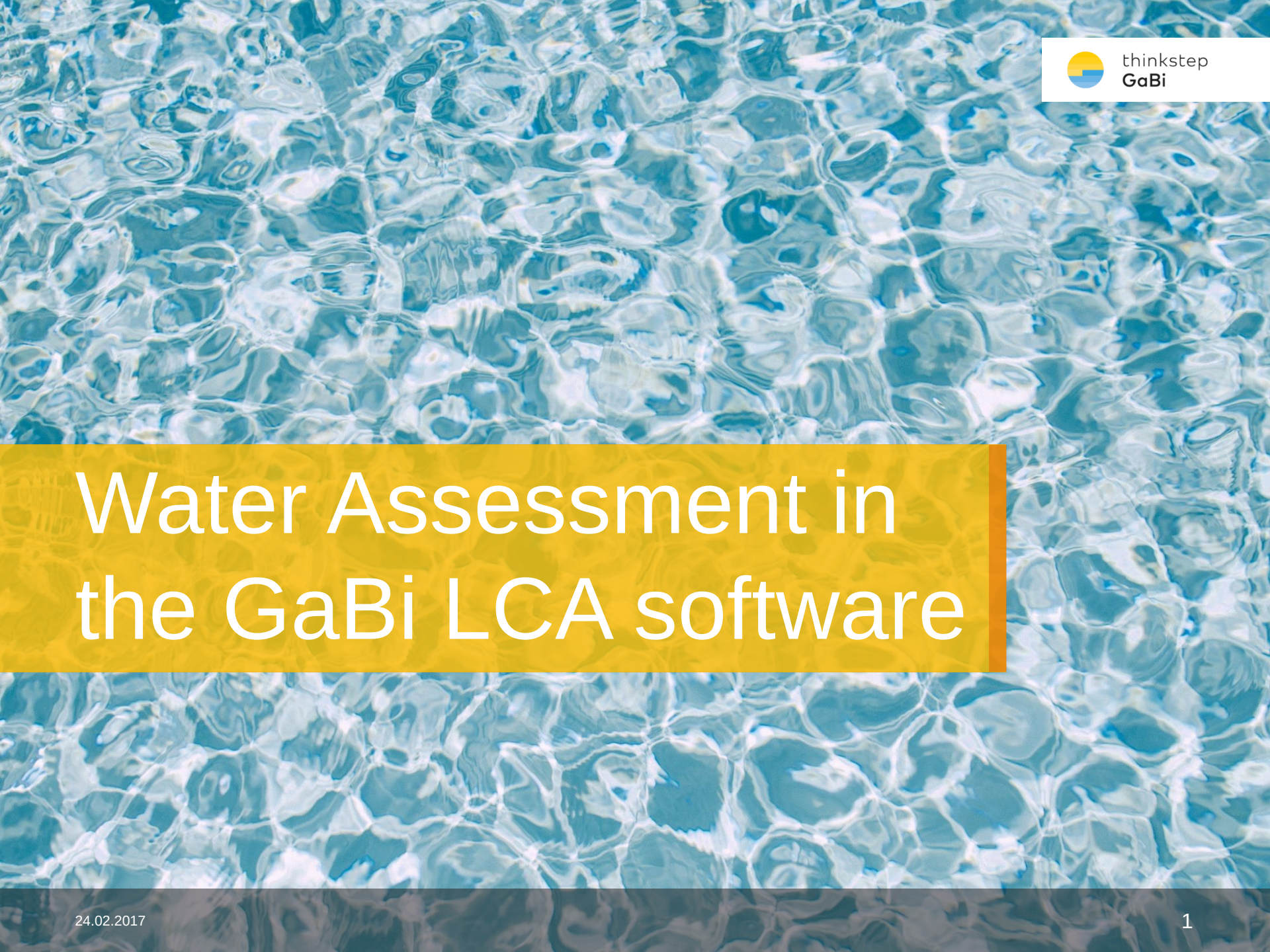

Water Assessment in the GaBi LCA software

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Agenda

Webinar 1 – methodology overview (last Tuesday)

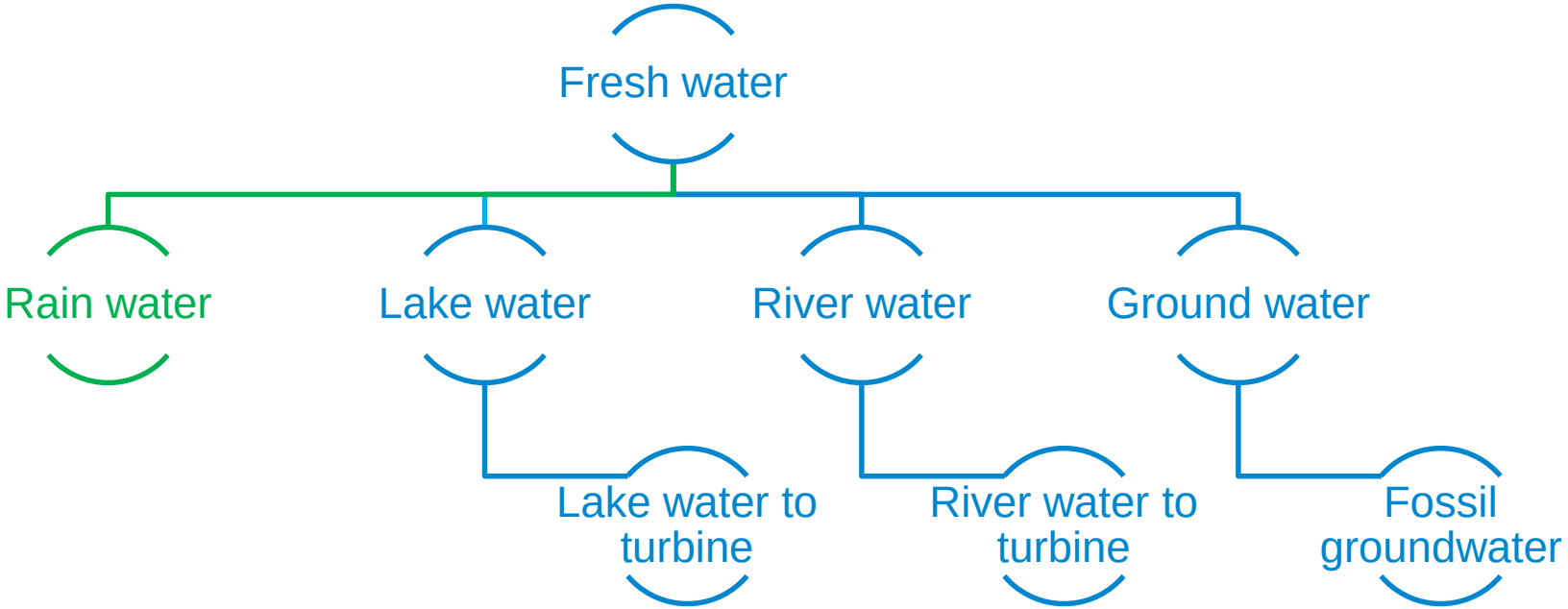
- Initiatives and standards
- ISO 14046, WULCA, WFN
- Terminology
- Water Scarcity Footprint

Webinar 2 - Water Assessment in the GaBi LCA software (today)

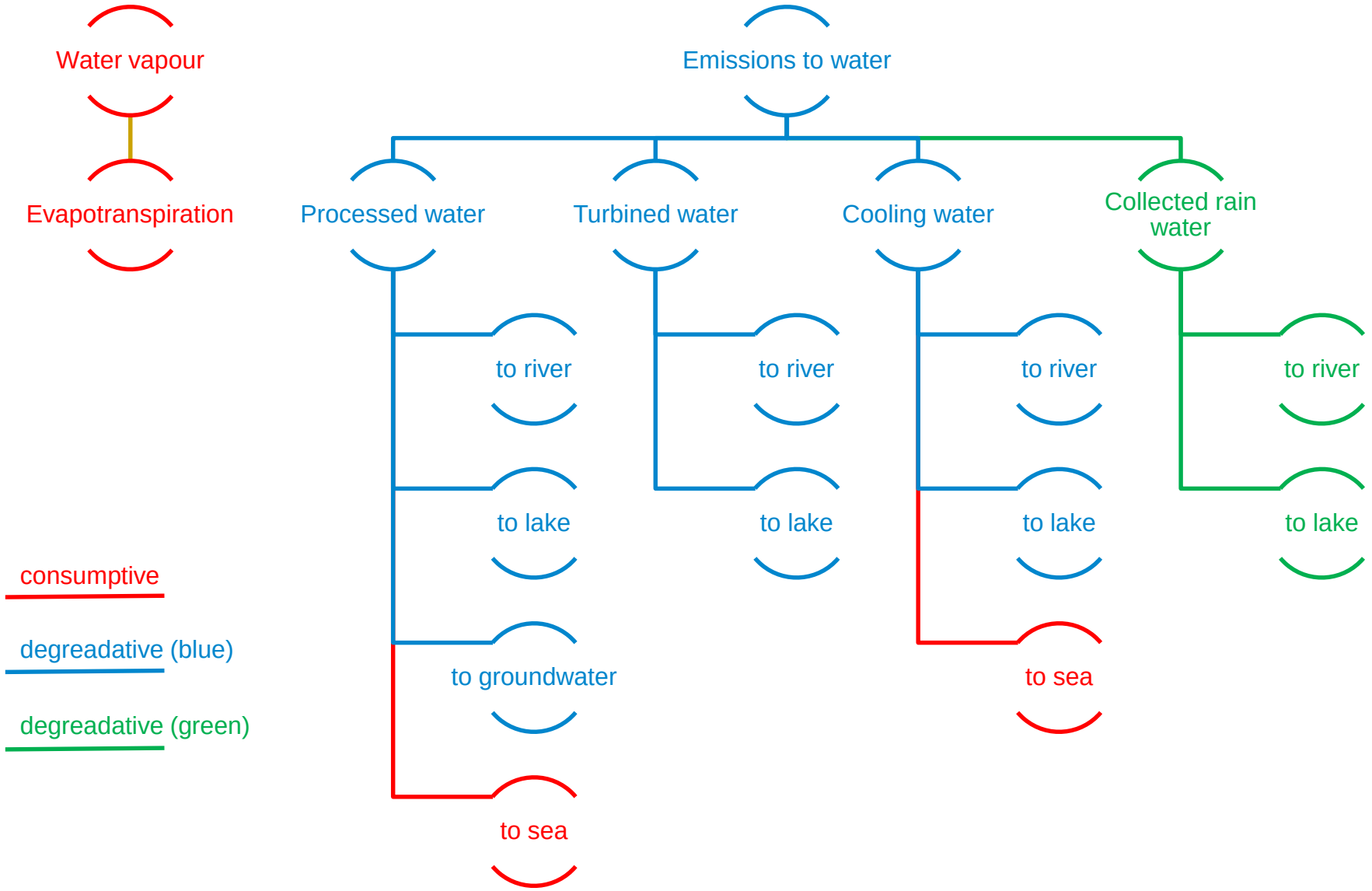
- Inventory – Regionalized Flows
- Impact Assessment
- Example
- Limitations

Inventory

Input flows – water use

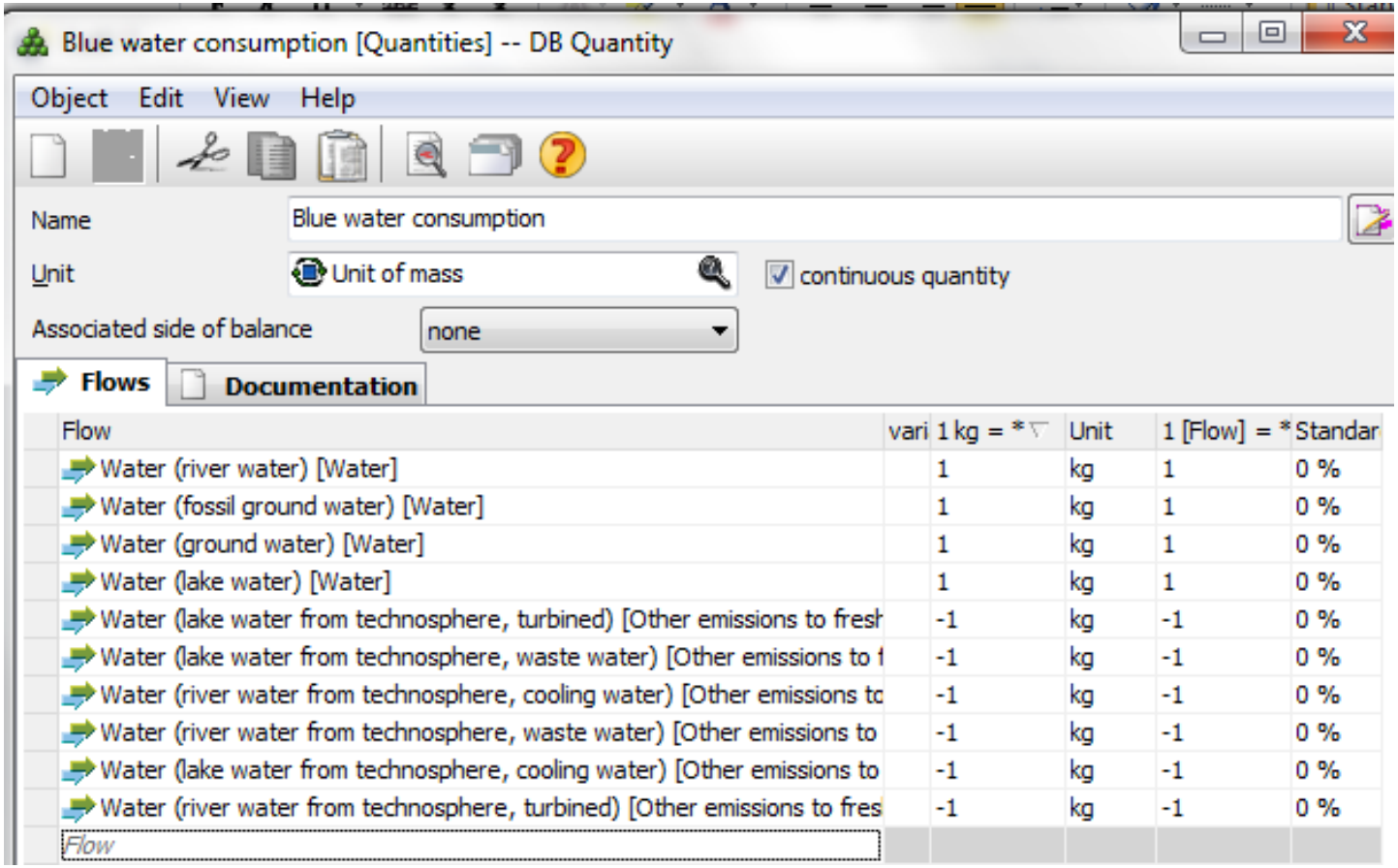


Output flows – consumptive and Processed



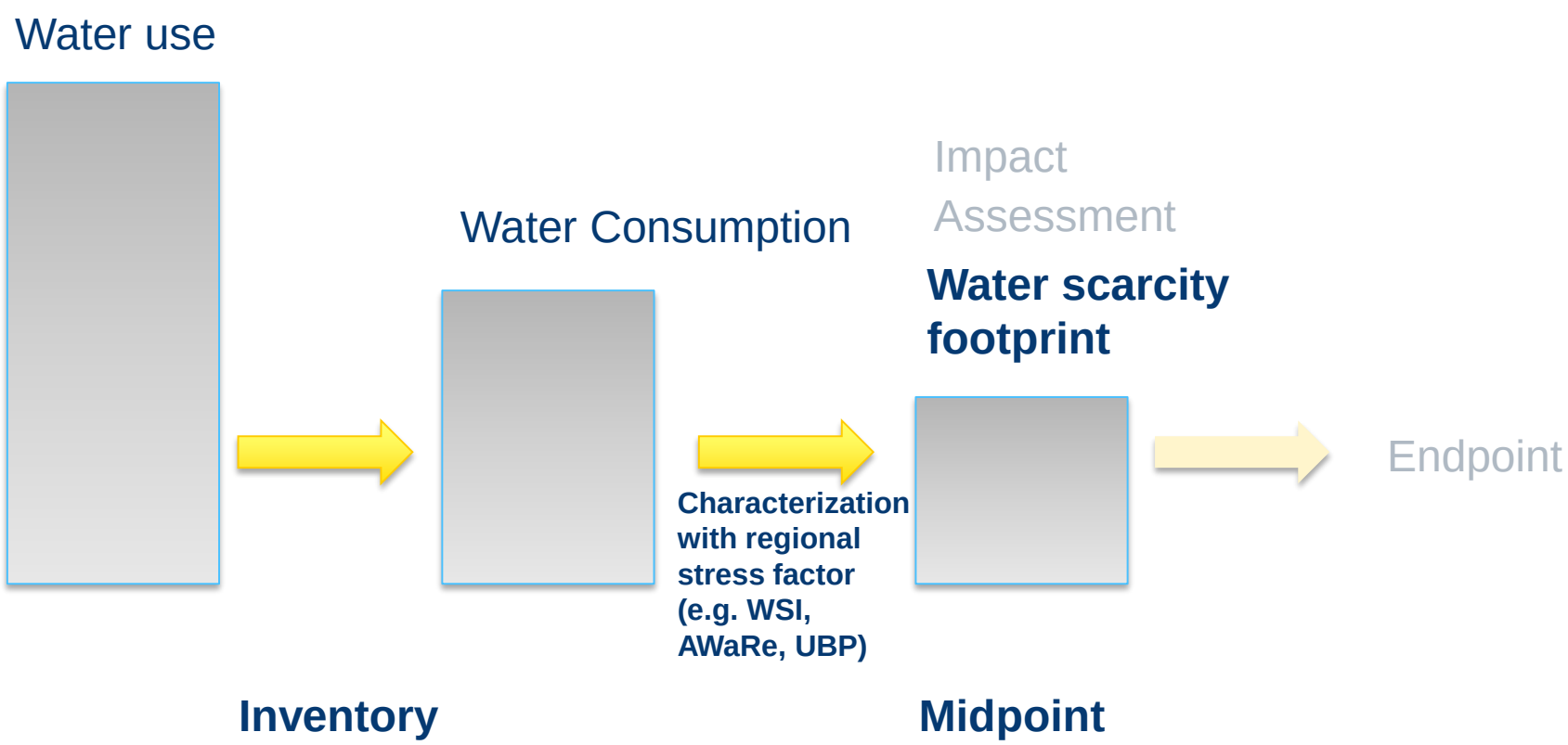
Water consumption

Total freshwater consumption **=**
total freshwater use (water input) **–**
total freshwater release from technosphere (water outputs)



Flow	vari	1 kg = *	Unit	1 [Flow] = *	Standar
Water (river water) [Water]		1	kg	1	0 %
Water (fossil ground water) [Water]		1	kg	1	0 %
Water (ground water) [Water]		1	kg	1	0 %
Water (lake water) [Water]		1	kg	1	0 %
Water (lake water from technosphere, turbined) [Other emissions to fresh		-1	kg	-1	0 %
Water (lake water from technosphere, waste water) [Other emissions to f		-1	kg	-1	0 %
Water (river water from technosphere, cooling water) [Other emissions to		-1	kg	-1	0 %
Water (river water from technosphere, waste water) [Other emissions to		-1	kg	-1	0 %
Water (lake water from technosphere, cooling water) [Other emissions to		-1	kg	-1	0 %
Water (river water from technosphere, turbined) [Other emissions to fres		-1	kg	-1	0 %
Flow					

Water Scarcity Footprint - Overview



For an assessment of water scarcity, it is important to know WHERE water consumption takes place:

→ **Regional water flows (country level) now availible in GaBi**

Regionalization – flows

On country level:

63 countries
    according to GDP and datasets in GaBi

6 scarcity classes (acc. to PEF)
    extreme, high, moderate, medium, low, very low

→69 copies of each flow

The GaBi DB contains more than 10000 datasets – First step: implementation for agricultural materials and energy

Regionalization of your foreground system

Extra water modelling gbx will be released (free download from homepage)

Contains p-agg processes:

- Tab water, process water, deionised water, waste water treatment
- Energy input and water are open (tracked) flows
- Dummy process to select country provided (to connect to open water flow)

Impact Assessment

Water scarcity characterization factors In GaBi

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Water Scarcity Index (Pfister et al. 2009)

One of the first indices available to characterize water stress with global coverage, documented, public available, used in many water footprint studies so far

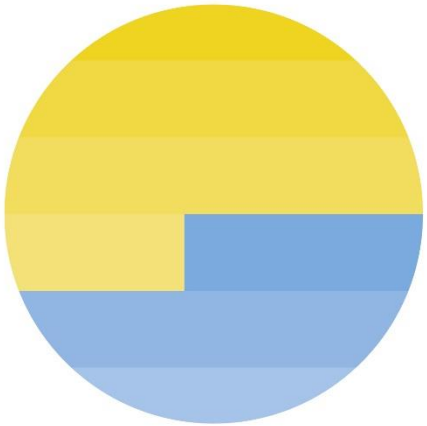
AWaRe (WULCA)

New consensus method of UNEP/SETAC working group on water use in LCA (WULCA); released 2015, beta status, suggested by JRC as new standard impact assessment method for water use in PEF

UBP (Frischknecht et al. 2013)

Eco-factors, expressed as eco-points per unit of pollutant emission or resource extraction (reference region Switzerland)

How all this looks like in GaBi



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Limitations

Limitations

- Country level
- Temporal resolution
- Not all datasets are fully regionalized
- Hydropower

→ Absolute numbers should be interpreted with care

→ screening assessments and hot-spot analysis

→ **Starting point not terminal stop!**

Further Information

Water Assessment Guidelines – GaBi homepage:

http://www.gabi-software.com/fileadmin/GaBi_Databases/Introduction_to_Water_Assessment_in_GaBi_2017.pdf

Personalized Trainings:

Deep dive into methods, issues relevant to your production system, advanced evaluation of results, WFP beyond GaBi defaults, quality assurance and much more…

Get in touch!

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