

Water footprint and regionalization: the case study of Walloon corn

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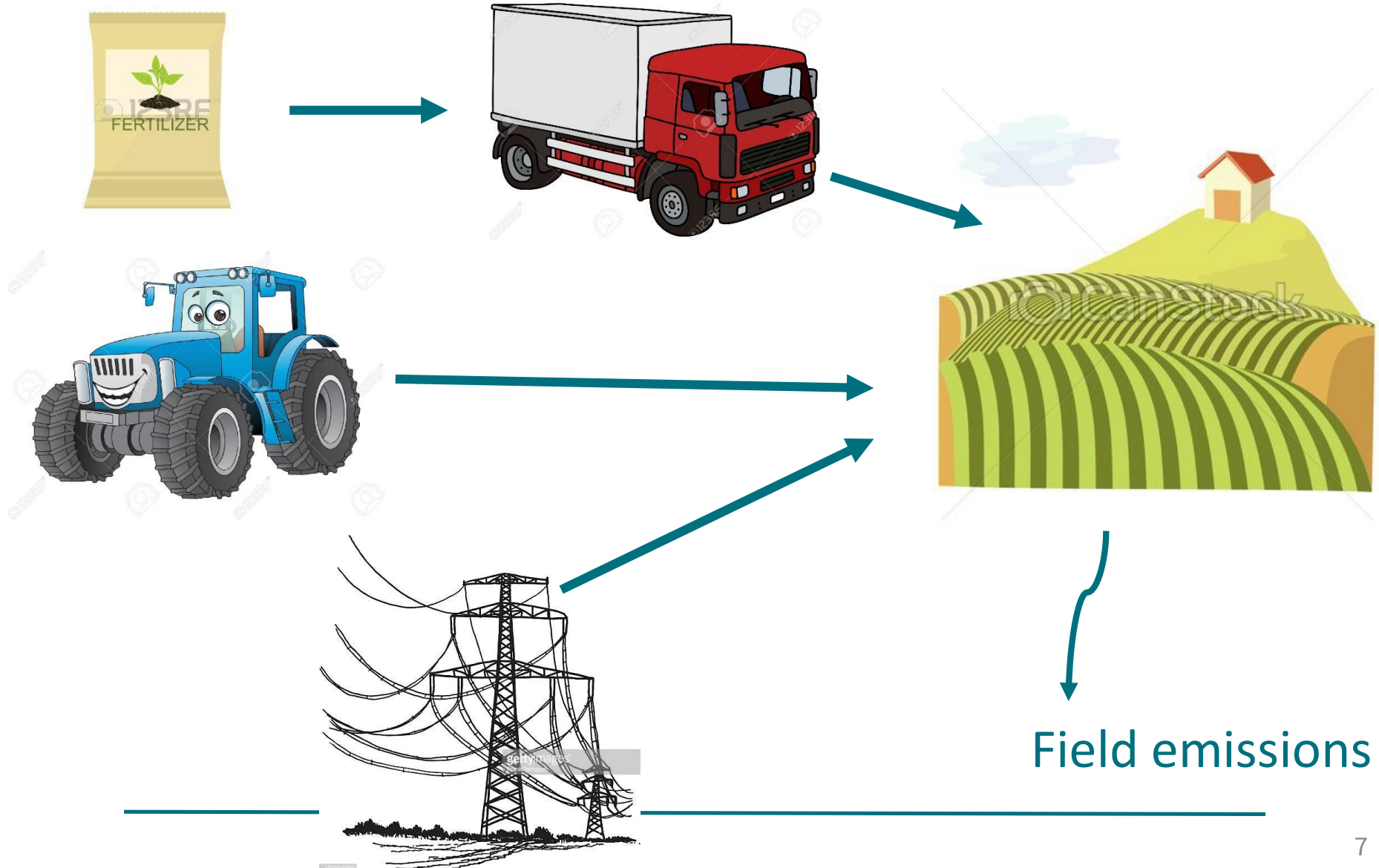
- ▶ Defined by ISO 14040 – 14044 standards

Goal and Scope definition

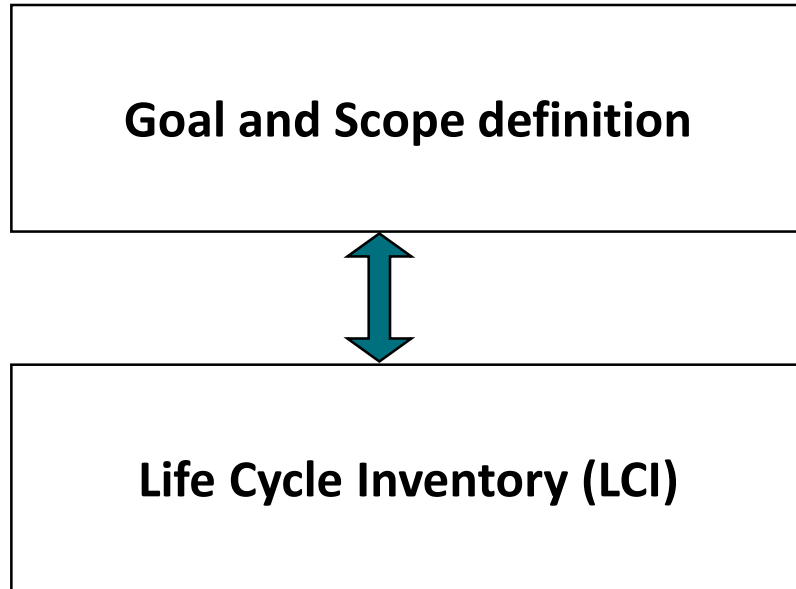
- ▶ What?
- ▶ How much? **1 hectare of corn crop**
- ▶ How long? **During 1 year**
- ▶ How? **Traditional agricultural practices**



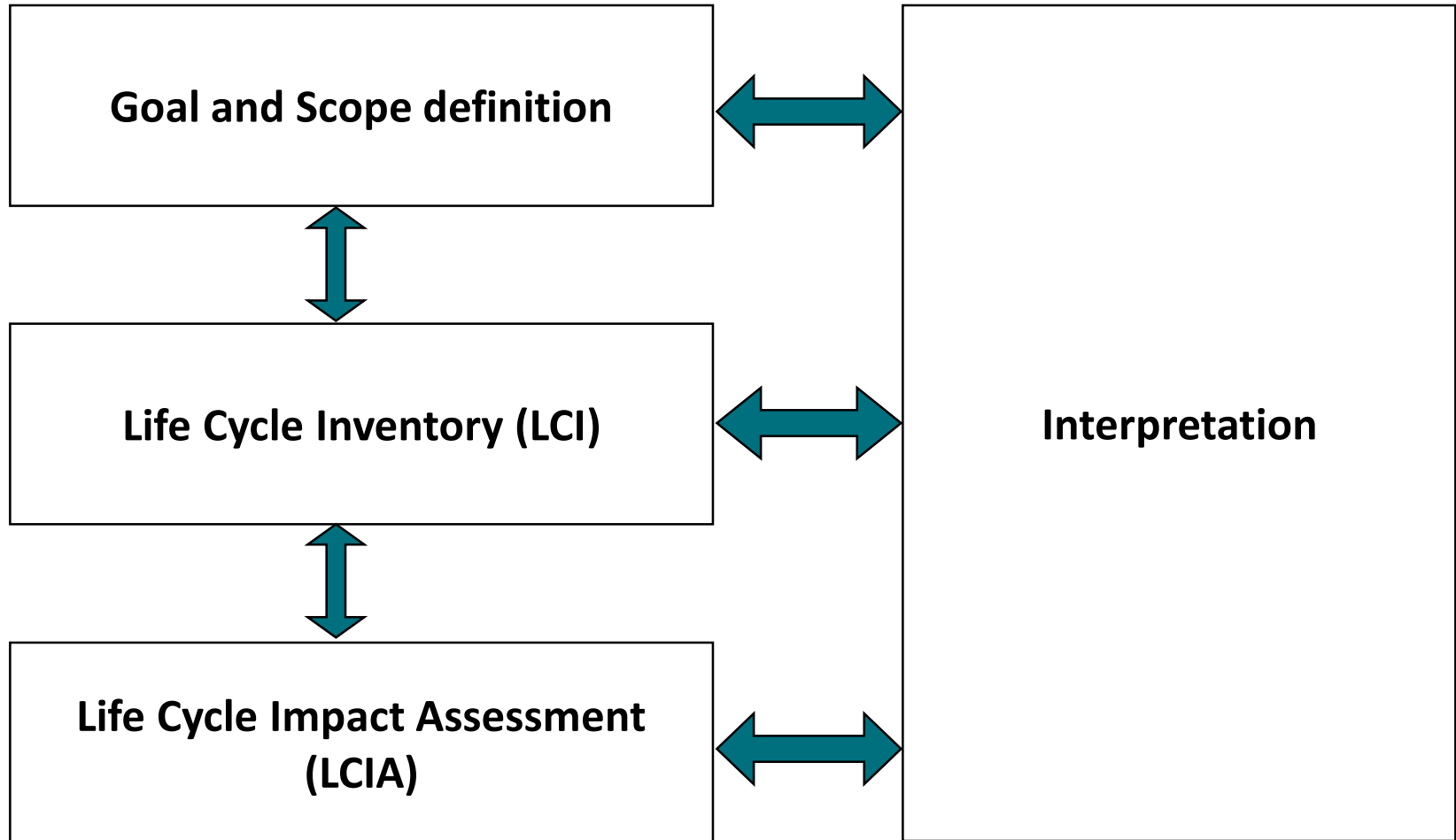
System boundaries



- ▶ Defined by ISO 14040 – 14044 standards



- ▶ Defined by ISO 14040 – 14044 standards



Impact evaluation





thinkstep
GaBi

Sima**Pro**



Specific data



▶ 3 methods:

▶ AWARE

▶ ILCD recommended

▶ ReCiPe 2012



Characterization factor (CF) - AWARE

River water (Belgium)



River water (Italy)



River water (Chile)



Lake water (Belgium)

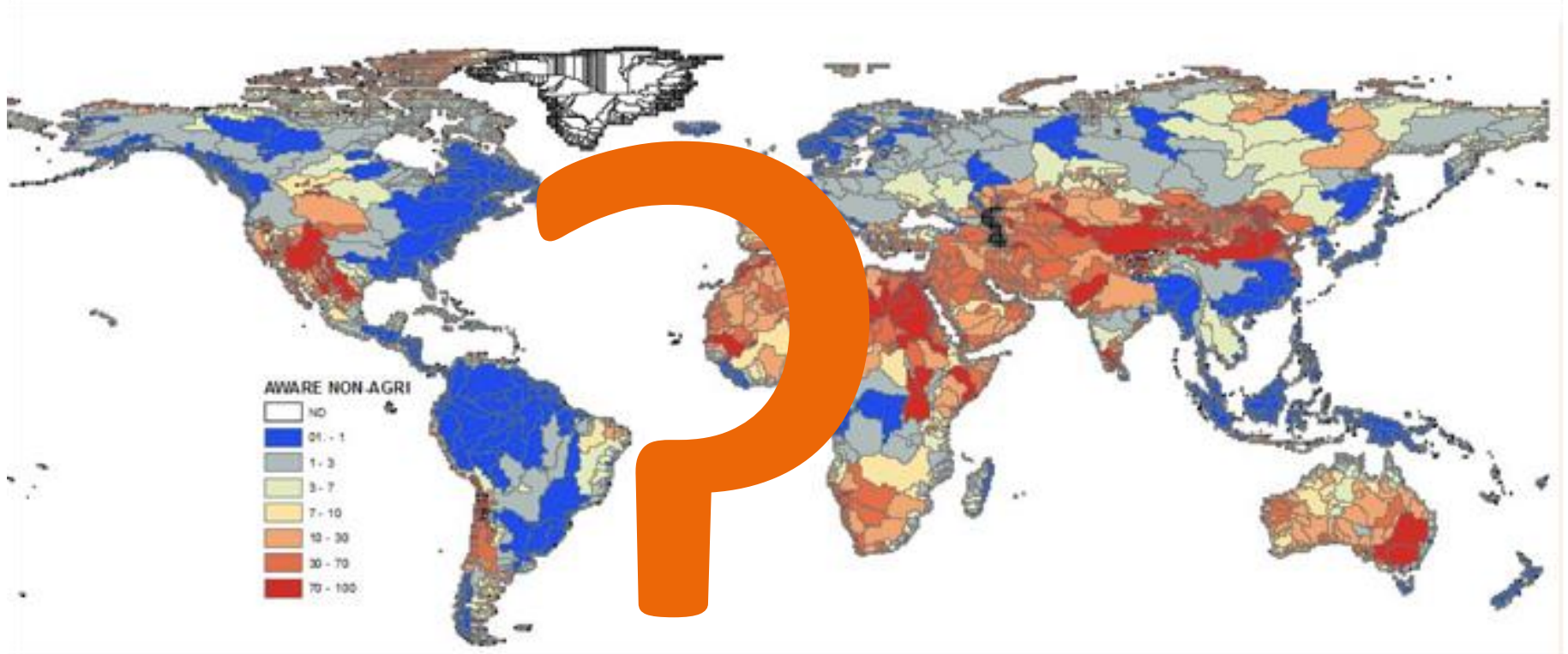


Ground water (Belgium)



Water depletion (m³ equiv.)

Available WATER REMaining



Characterization factor (CF) - ILCD

River water (Belgium)



River water (Italy)



River water (Chile)



Lake water (Belgium)



Ground water (Belgium)



Water depletion (m³ equiv.)

Based on the ration between water consumption and water availability

Characterization factor (CF) - ReCiPe

River water (Belgium)



River water (Italy)



River water (Chile)



Lake water (Belgium)



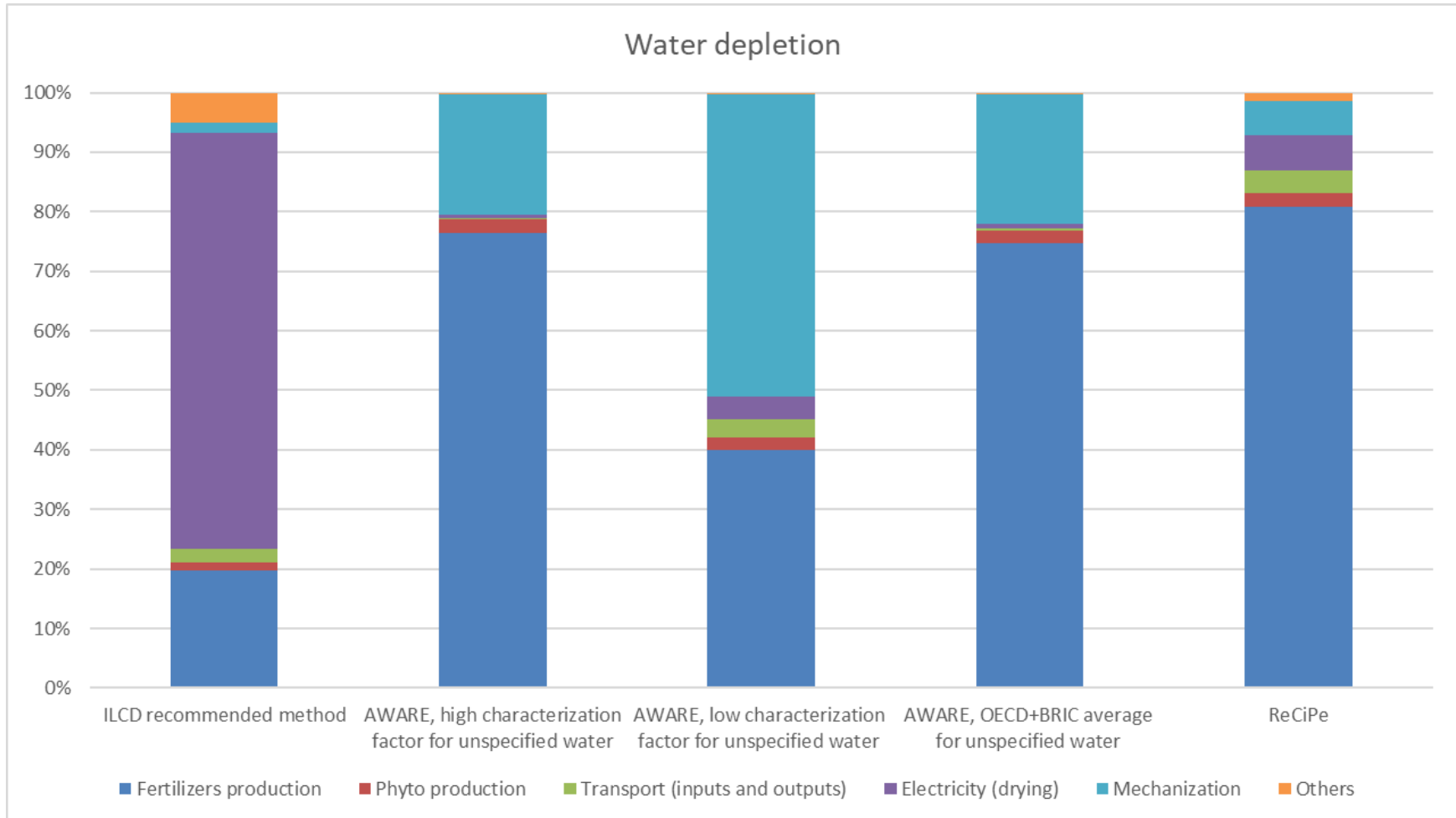
Ground water (Belgium)



Water depletion (m³)

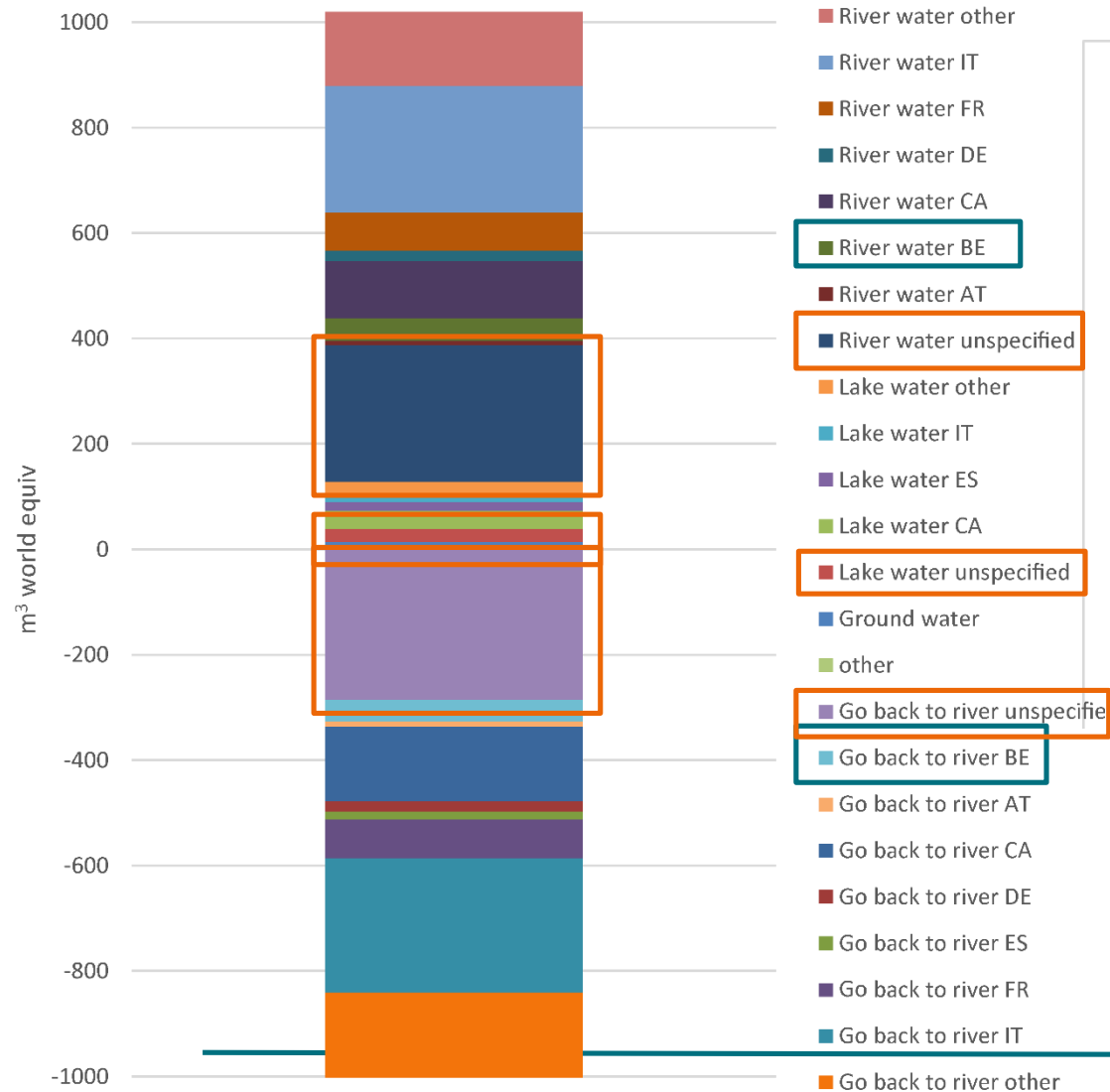


Water depletion

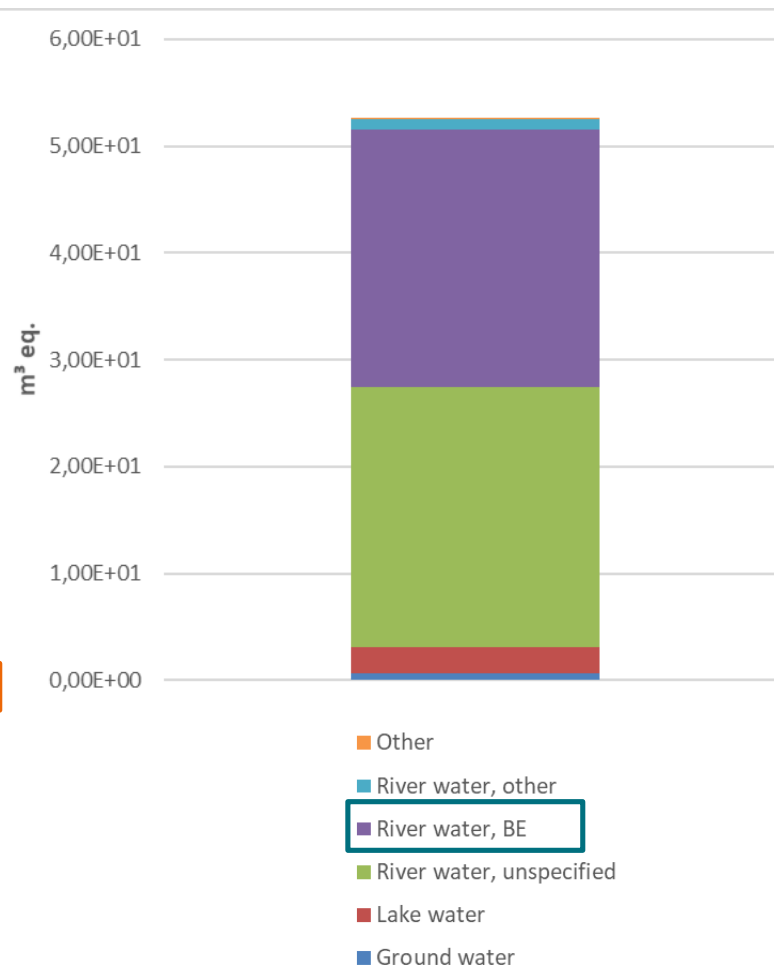


Water origin?

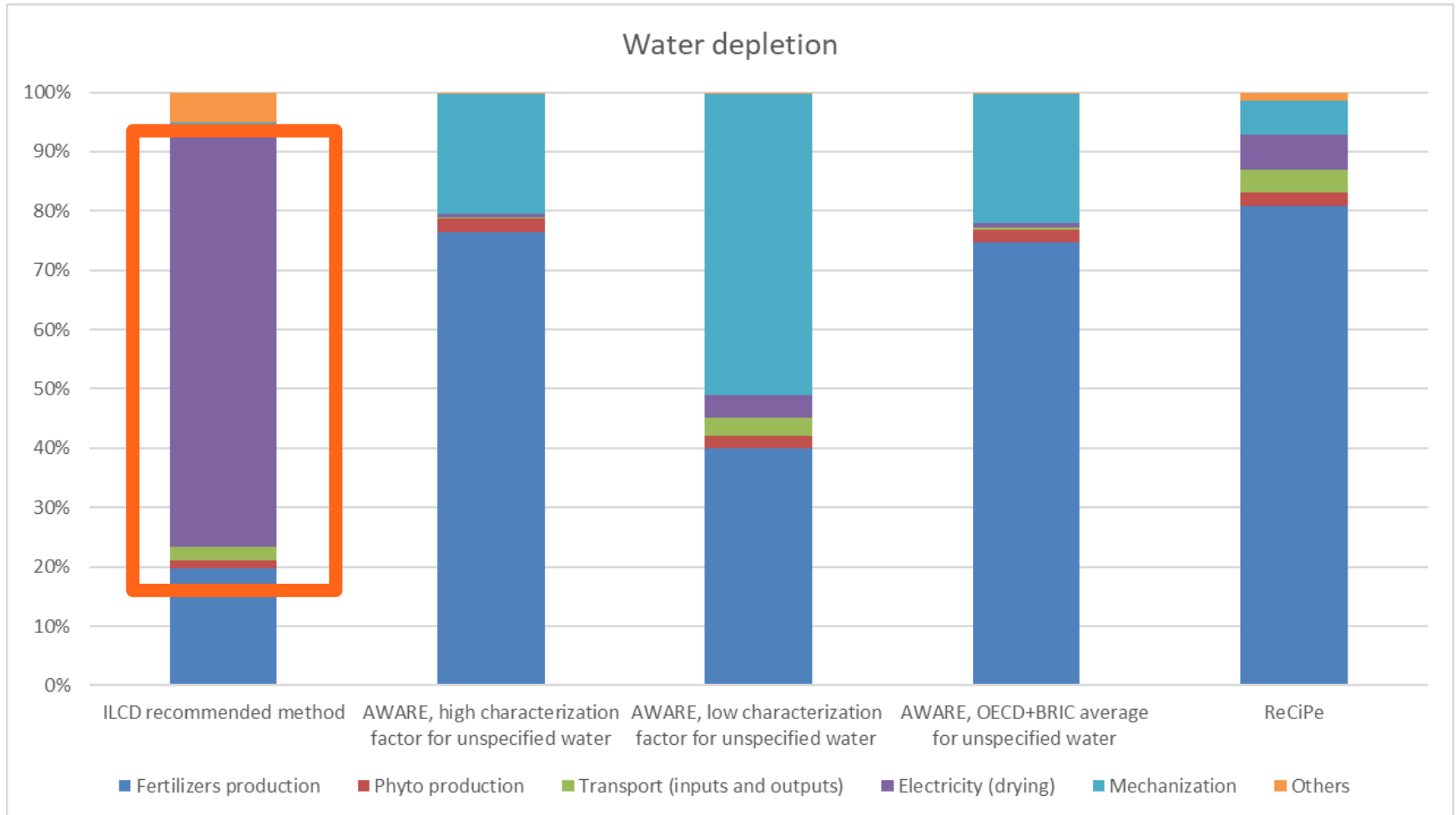
AWARE



ILCD



Water depletion



Nuclear electricity – 1 MJ

Inventory

	GaBi dataset in GaBi	Ecoinvent in GaBi	Ecoinvent in Simapro
Water input	0.0319	0.0486	0.0513
Water output	0.0314	0.0478	0.0504
	X CF for Belgium: 2.84	X CF for unspecified water: 0.162	X CF for Belgium for ½ of the water
	GaBi dataset in GaBi	Ecoinvent in GaBi	Ecoinvent in Simapro
Total	0.0886	0.00353	0.0002
Water input	0.0886	0.00353	0.0703
Water output	0	0	-0.0701

Same dataset in two different software: different results!



- ▶ Different method: different definition of water depletion
- Choice the good one!

- ▶ Importance of the regionalization

- ▶ Same dataset, with same method, in different software: different results!
- Method documentation should avoid confusion