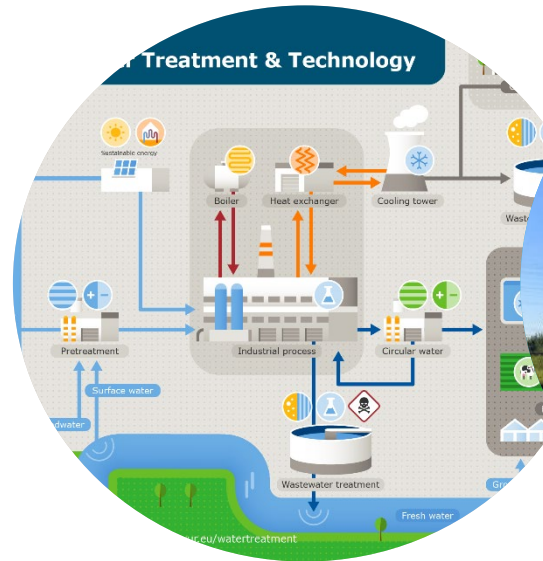


Circular Water Technologies



To increase the Potential of Water to improve the Quality of Life

Irma Steemers-Rijkse – Programme Manager



The importance of Water; Building a shared future

One World, One Water Cycle

Fresh water need for:

- Ecosystems and agriculture
- Human and animal living
- Industry *including food production*
 - Processing
 - Washing/Cleaning
 - Transport
 - Solvent
 - Energy
 - Heating/Cooling

SDGs strongly related to water

The Geography of Future Water Challenges



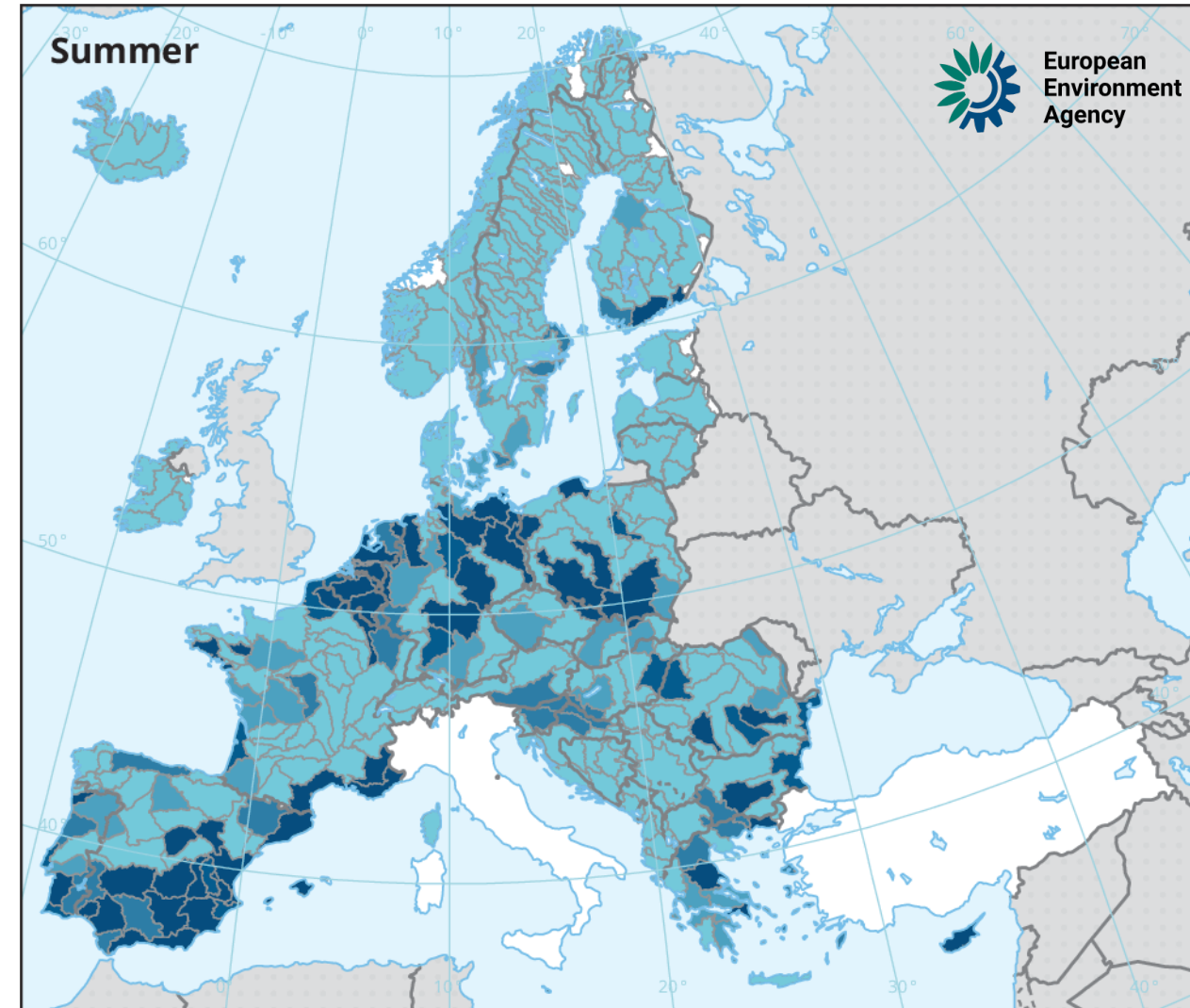
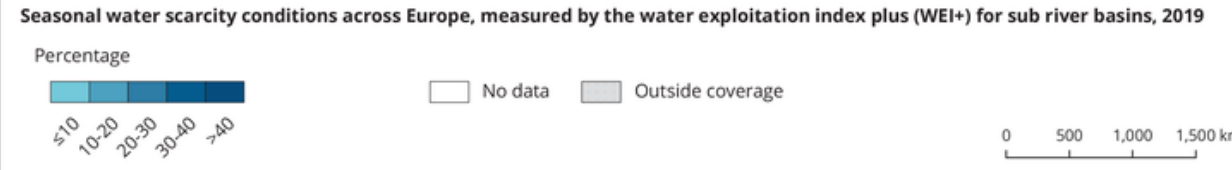
Water Quality

- Water treatment chemicals (intentionally added)
- Micropollutants (e.g. pfas, pharmaceuticals, microplastics)
- Inorganic (nutrients, salts)

Water Scarcity

- Water scarcity at 29% of the EU territory.
- Despite water abstraction decline (15%) no overall reduction in the area's affected by water scarcity.
- Since 2010 worsening. Additional effort needed to ensure sustainable water use by 2030.

Reference data: ©ESRI



Fresh Water issues; *Too little, Too much, Inadequate quality?*



Time (Quantity)

- Aquifers for water storage
- Circular use
- Cascading (internal/external)

Quality

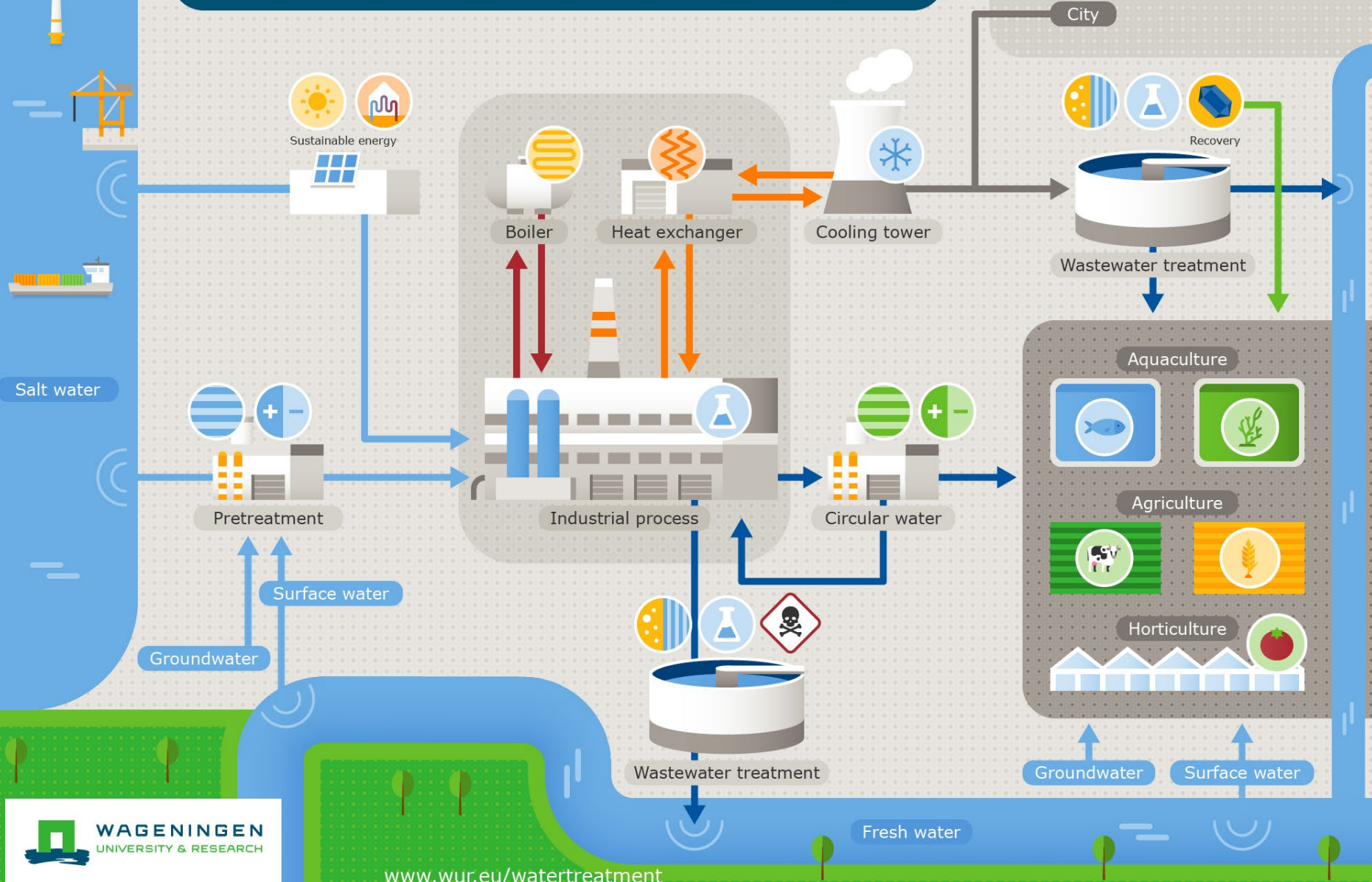
- Technology (grey)
- Nature-Based Water Treatment (green)
- Green chemicals



Place

- Alternative sources
 - Rain water
 - Waste water
 - Effluent water
 - Brackish water
 - Sea water

Circular Water Technologies



One World
One Society
One Water Cycle

Goals *of the* Circular Water Technologies Programme

Accelerate the transition to a circular and biobased economy by *closing the water & nutrients loop, preventing aquatic pollution and introducing biobased & energy efficient technologies*

- Water of fitting quality
- Sufficient availability of (fresh) water
- Prevent water pollution and recover valuable compounds
- Decrease the carbon footprint of water use

Propositions WFBR-CWT:

- I. Water Treatment for Circularity
- II. Water Technology for Energy Production
- III. **Biobased Products for Water Treatment**



III. Biobased Products for Water Treatment



- Safe
- Non ecotoxic
- Biodegradable
- Renewable sources
- Waste- or side streams
- *Technological solutions*



- Corrosion-inhibitors
- Antiscalants
- Dispersing agents
- Cleaning agents
- Biocides
- Flocculants
- Etc.