



Water Factory

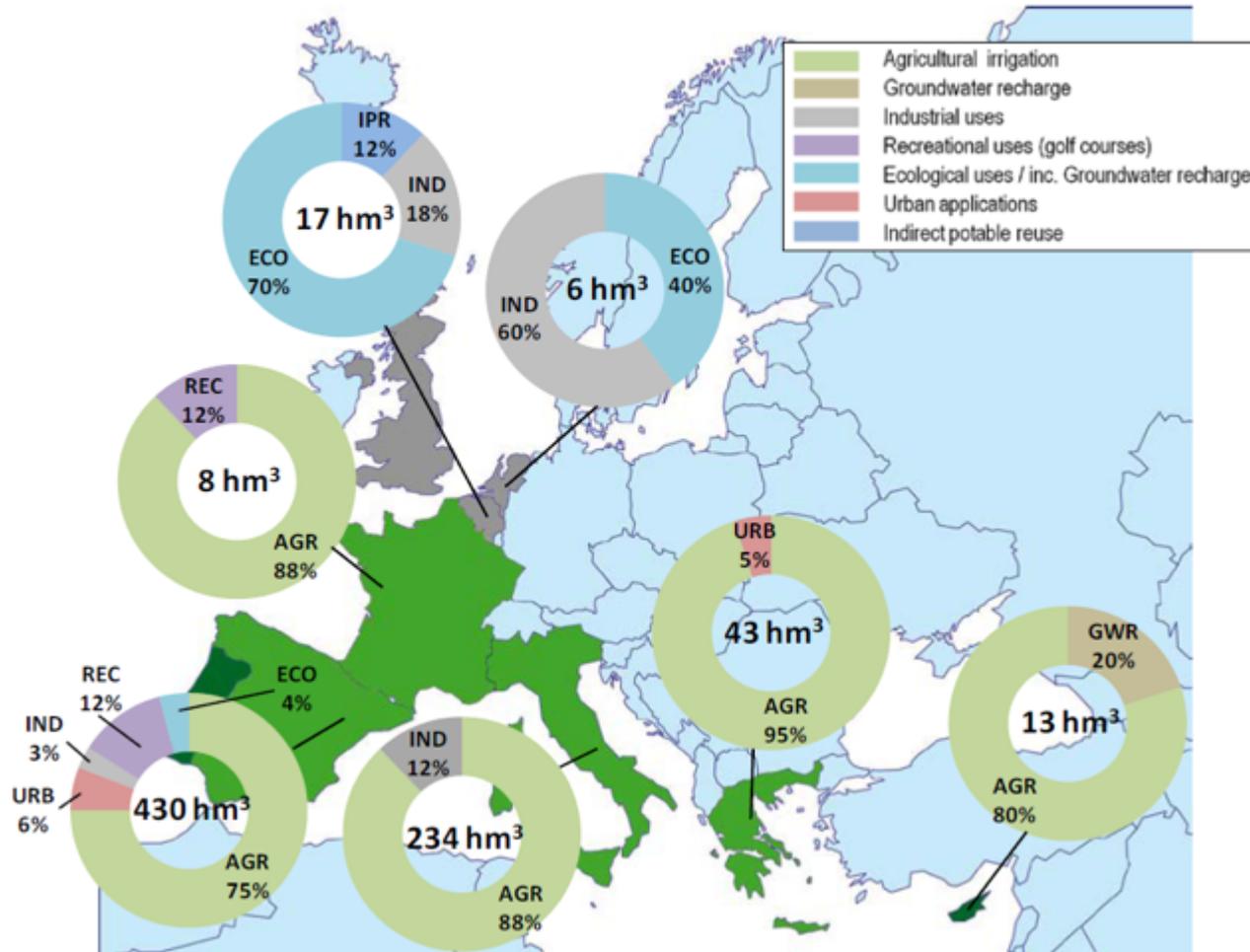
The New Source

Ferdinand Kiestra
Energy- and Resource Factory

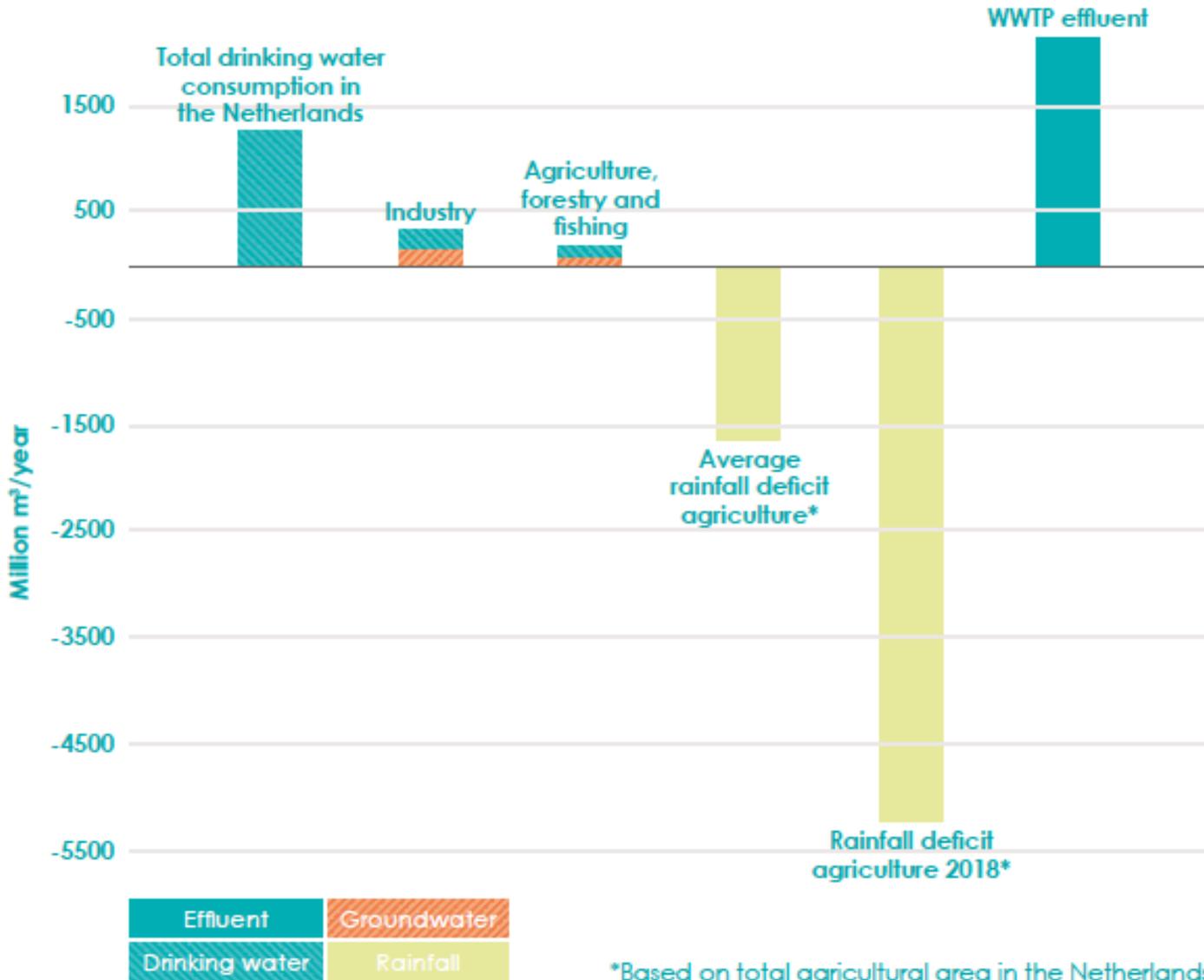


**Dutch Innovation on Micropollutants
Removal from Municipal Wastewater
November 7th 2019 Aquatech Amsterdam**

Water reuse in Europe

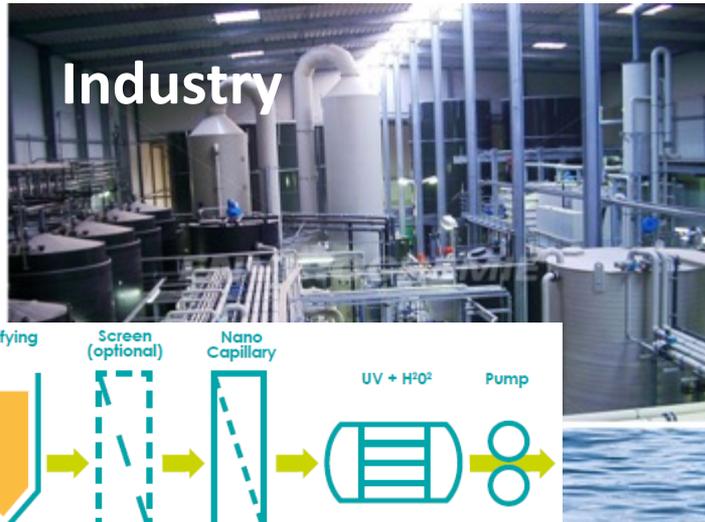
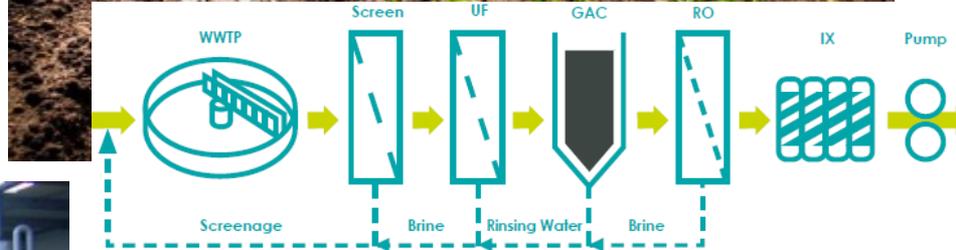


Significant effluent Volume

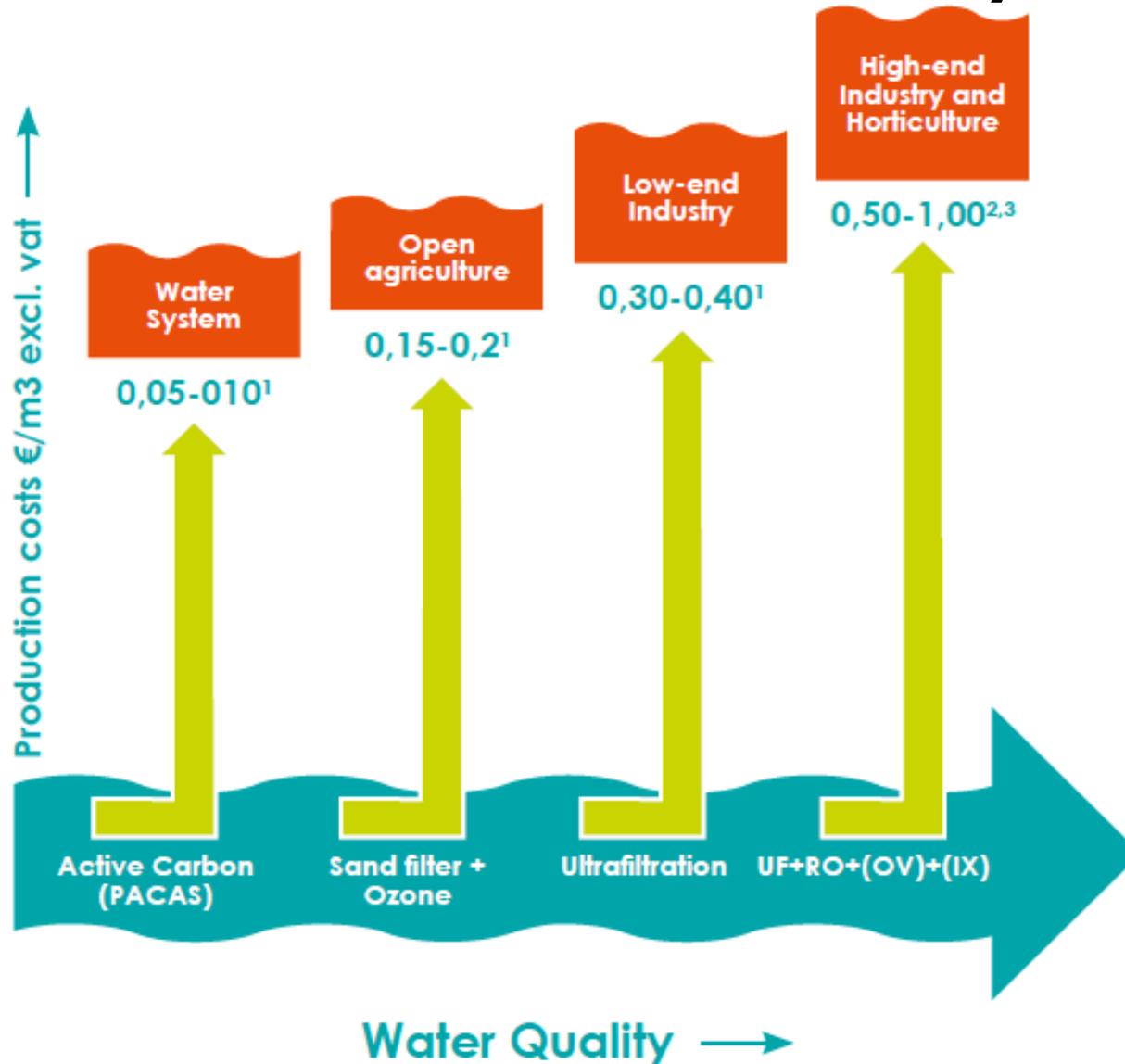


*Based on total agricultural area in the Netherlands

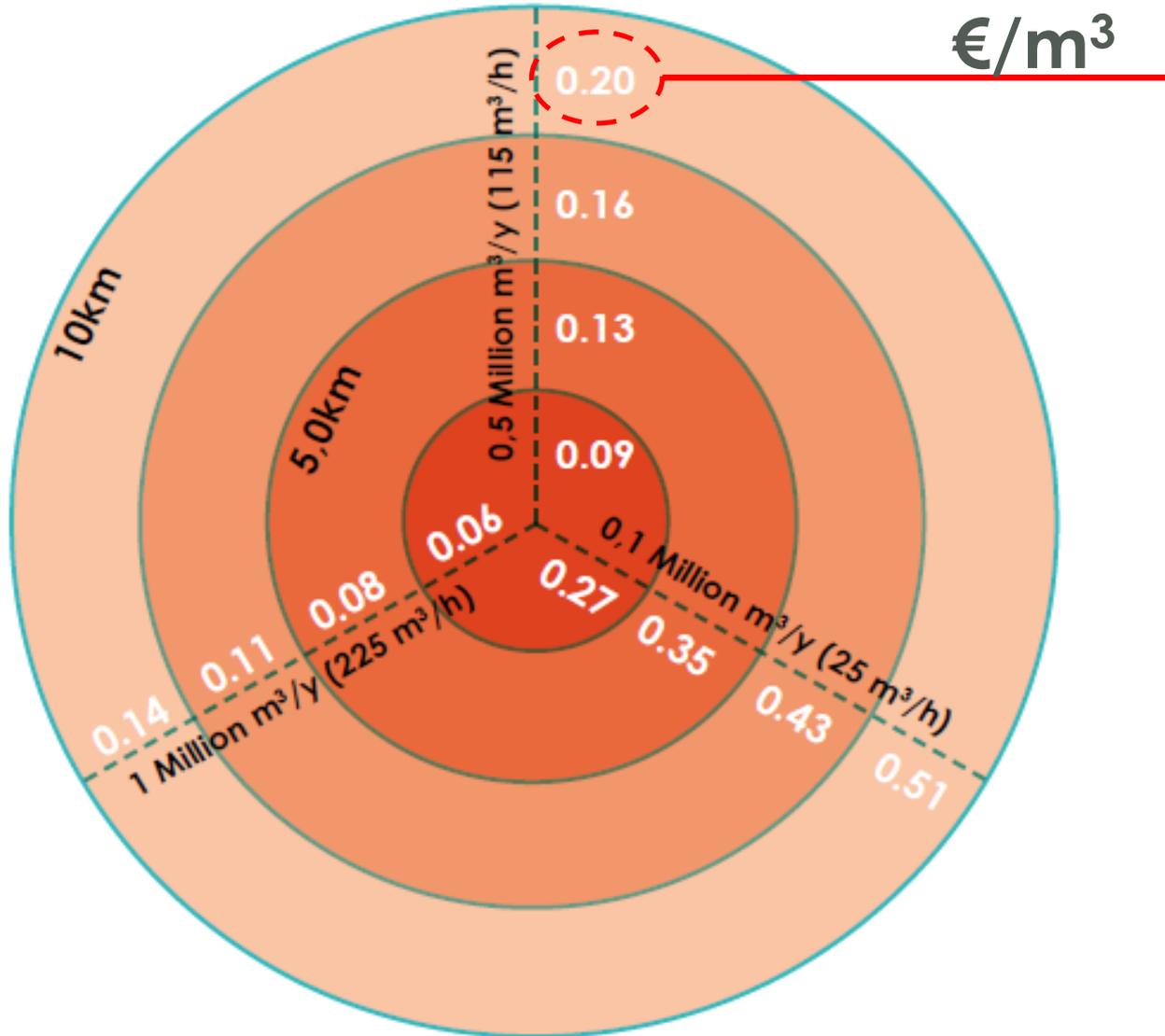
Feasible technically...



Feasible financially



Closer than you think



Several projects

Water Factory Wilp: complete physical/chemical wwtp



“Healthy Water”: upgrading effluent to industrial water with O₃

The Fresh Water Factory: organizing a regional fresh water supply

Further research

- 1 Smart combinations with removal of residual medicine
- 2 Legislation: End-of-Waste status for effluent?
- 3 The spread of effluent components when directly used for agricultural purposes (2019-2021)
 - Ruud Bartholomeus, KWR Institute (www.kwrwater.nl)
- 4 Pilots with upcoming technologies like:
 - capillary nanofiltration (NX Filtration, Waterboard Rijn&IJssel, Waterboard Aa en Maas & STOWA innovation program: Royal Haskoning DHV, NX Filtration)
 - **What's next?** Current problems with brine (membranes), bromate formation (Ozone) or high energy usage (UV/H₂O₂).....



Thank you for your attention!

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