

1. WASTEWATER TREATMENT

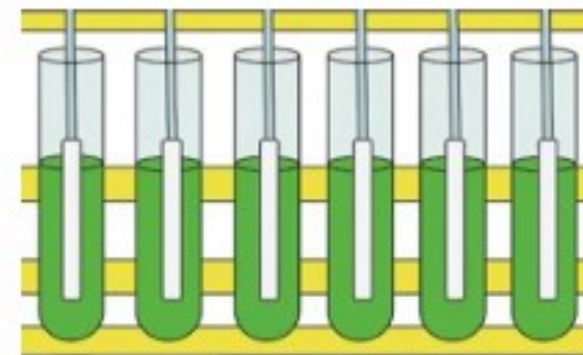


Primary urban
wastewater

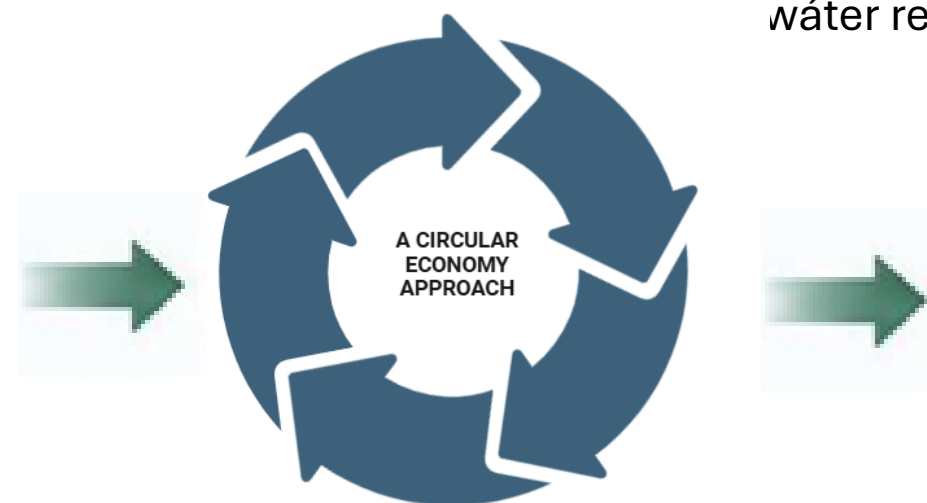
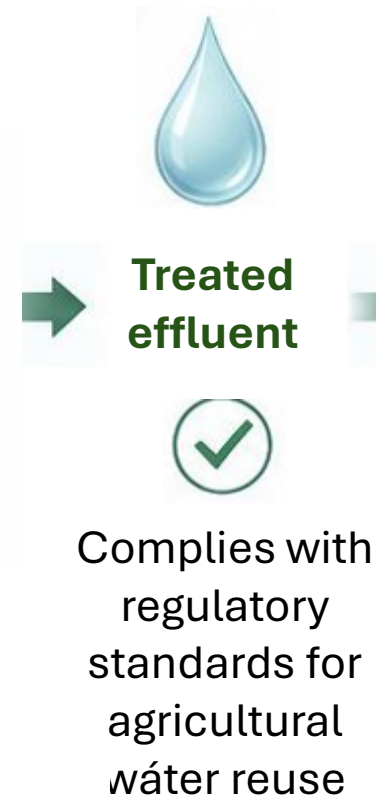
HIGH REMOVAL EFFICIENCIES (19-100%)

Nitrates (NO_3^-)
Ammonium (NH_4^+)
Phosphates (PO_4^{3-})
Heavy metals
(Fe^{2+} , Cr , Ni^{2+} , Cu^{2+})

Semi-continuous
cultivation
($D = 0.3 \text{ day}^{-1}$)



Chlorella sorokiniana *Scenedesmus obliquus*



2. BIOMASS PRODUCTION AND CHARACTERIZATION

Harvested
biomass



Distinct biochemical profiles

Chlorella sorokiniana



Protein-rich
43.40% of dry weight

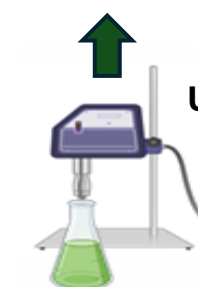
Scenedesmus obliquus



Carbohydrate-rich
39.07% of dry weight

3. BIOMASS VALORIZATION: BIOSTIMULANT POTENTIAL

Aqueous
extracts
(sonication)



Superior performance of *C. sorokiniana* extracts

Germination index
(watercress seeds)



Up to 135% at $0.5 \text{ g} \cdot \text{L}^{-1}$

Cytokinin-like
activity (cucumber
cotyledons)



Adventitious roots
(soybean)

129% at $0.5 \text{ g} \cdot \text{L}^{-1}$
218 % at $2 \text{ g} \cdot \text{L}^{-1}$



Chlorophyll
retention (wheat
leaves)



Dual-purpose strategy for a sustainable future



Efficient biorremediation
and water reclamation



High-value biomass
production



Natural biostimulants for
agricultural applications



Supports EU Farm to Fork Strategy
(2020) and the transition to a bio-based
circular economy