

# APPLICATION OF INNOVATIVE CONSTRUCTED WETLANDS TO TREAT LEACHATES FROM LANDFILLS

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- ❑ XILOGA's landfill is a non-hazardous waste management facility in Galicia (NW Spain) → 40000 tons waste /year
- ❑ It generates 20000 m<sup>3</sup>/year of leachate from effluents released and the rainwater percolation.

- ❑ Constructed wetland → efficient, inexpensive, easy to operate and environmentally sustainable.
- ❑ This CW works in line with 2030 Agenda and the UN sustainable development goals.



## WETLAND SYSTEM

Constructed wetland combination for leachates treatment:

- ✧ **Floating treatment** installed on the leachate pond as primary treatment.
- ✧ **Aerated Vertical Wetland** combined with **Geopolymers** as second step.
- ✧ **Electroactive biofilm-based wetland** for run-off water.

→ Recovery of treated water to be reused in the facilities and/or suitable for discharge

## LEACHATE CHARACTERISTICS

Organic matter hardly biodegradable

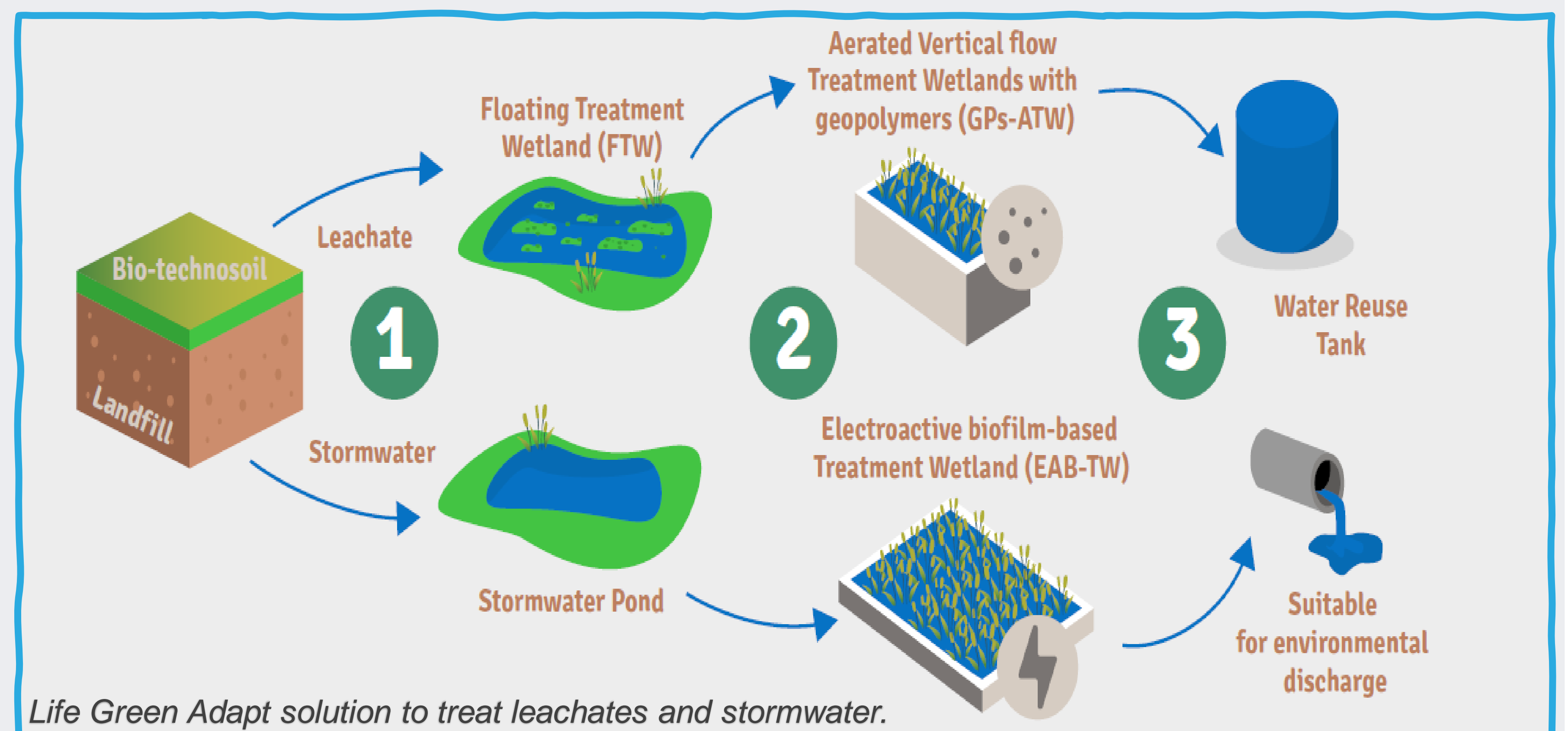
- COD (mg/L): 3740 ±702
- BOD<sub>5</sub> (mg/L): 1075 ±196

Elevated concentration of ammonium:

- NH<sub>4</sub><sup>+</sup> (mg/L): 1237 ±16

Other pollutants:

- Brown colour, heavy metals, oils...



**LIFE GREEN ADAPT Project** aims to increase landfill resilience to climate change events by use of green and nature-based solutions.

## PARTNERS



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