



WASTE2COAG

Brine and Metal Wastes Valorisation to Produce Coagulants for Wastewater Treatment



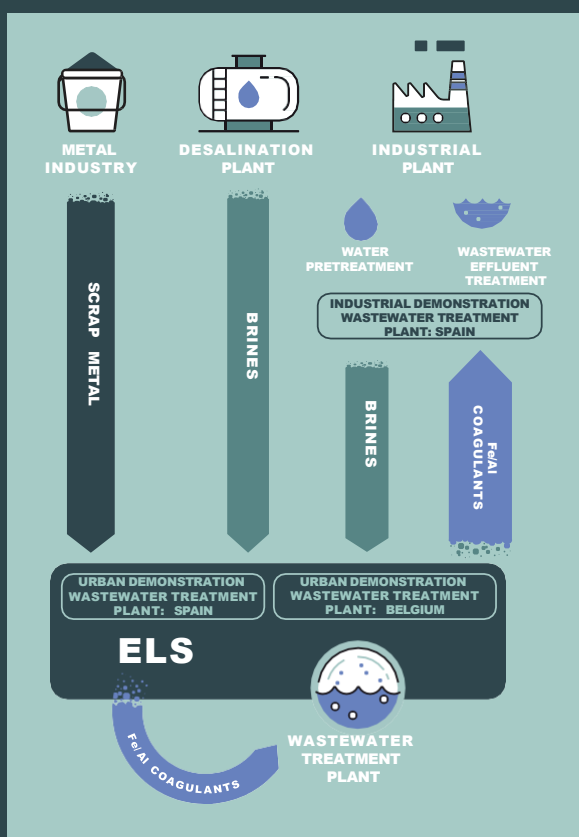
The LIFE Waste2Coag project has received funding from the LIFE programme of the European Union under the Grant Agreement no LIFE20 ENV/ES/000430

Duration: October 2021 - April 2026
Budget: €1,564,295 (55% EU funding)

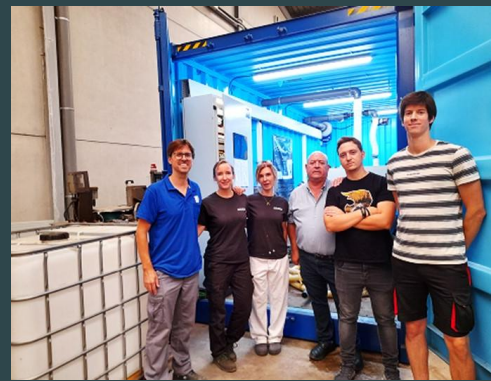
CONCEPT

The LIFE Waste2Coag project demonstrated an innovative and resource-efficient solution for brine and metal waste valorisation, producing sustainable coagulants for wastewater treatment. The solution is based on the Electrolytic System (ELS) technology and the coagulants produced can be applied in-situ for pollutant removal at both urban and industrial wastewater treatment plants (WWTPs).

APPROACH



DEMONSTRATION PLANTS



JOVIAR's industrial WWTP (Spain) Production and validation of coagulants

- Brines valorised: 0.86 m³
- Energy consumption: 6.2-13.2 kWh/kgFe; 11.3-12.0 kWh/kgAl
- Metal concentration in coagulant: 800-1,200 mgFe/L; 300-900 mgAl/L
- Wastewater treated: 16.7 m³



Gandia-La Safor urban WWTP (Spain) Production and validation of coagulants

- Brines valorised: 30 m³
- Energy consumption: 14.6 kWh/kgAl
- Metal concentration in coagulant: 977 mgAl/L
- Wastewater treated: 3,588 m³



Wulpen urban WWTP (Belgium) Production of coagulants

- Brines valorised: 12.3 m³
- Energy consumption: 32.9 kWh/kgAl
- Metal concentration in coagulant: 910 mgAl/L

IMPACT

Industrial Application



Climate change impact reduction

compared to commercial coagulant production

31% (Al-based coagulants)



Resource use, minerals and metals impact reduction

compared to commercial coagulant production

69% (Al-based coagulants)

47% (Fe-based coagulants)



Removal efficiencies

Heavy metals (Cu, Zn, Cr, Ni) removal using produced coagulants

>92% (Al-based coagulants)

>70% (Fe-based coagulants)

Urban Application



Climate change impact reduction

compared to commercial coagulant production

11% (Al-based coagulants)



Resource use, minerals and metals impact reduction

compared to commercial coagulant production

69% (Al-based coagulants)



Removal efficiencies

using produced Al-based coagulants

76.1% COD

67.4% PO₄-P

76.4% TSS

86.1% Turbidity

PROJECT PARTNERS



For more information, visit our website

www.lifewaste2coag.com

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