SUSTAINABLE DEVELOPMENT GOALS AND ELECTRA 生物电

The H2020-ELECTRA project is contributing to the UN's sustainable development goals listed below through the following activities:

Increasing access to quality irrigation water, including necessary nutrients, and decontaminated soil and sediments can help many isolated communities improve or diversify their agricultural products.

Developing systems based on microbial electrochemistry (purification, desalination) can provide water in a sustainable and economic way, improving or providing access to sanitation and hygiene to the populations of countries with scarce resources. Especially nowadays when wastewater treatment is considered necessary to eliminate the pathogens and viruses.

Increasing access to low-cost sources of disinfected and decontaminated water can contribute significantly to better gender equity, by improving the access of women and men to water and water-related services.

Providing technologies for purification of wastewater from small populations by microbial electrochemical systems is a sustainable process, with low initial investment costs and maintenance, which can be implemented in municipalities that cannot afford conventional treatment technologies.

Promoting the use of recoverable biogas such as methane and hydrogen, from waste; or converting solar energy into biochemical energy, as well as producing biofuels from CO2 "feeding" electroactive bacteria with electrical current.

Biotechnological processes for bioremediation of contaminated GW, WW, sediments and soil can help the industry to be more efficient by treating its waste more effectively or reducing water consumption in the productive sector by providing tools to reuse it.

Promoting decentralized intelligent wastewater treatment, without energy costs, that reuses water and contributes to the beautification of cities.

Enhancing the potential for water reuse – through the use of bioelectrochemical systems, by allowing food to be produced in the place where it is consumed, minimizing the deterioration of food by transport and storage.

By providing such superior technologies, which target a number of priority compounds of high environmental concern, ELECTRA will actively contribute to solve problems within the fields of the environmental challenges that both Europe and China are facing.

Improving bioremediation technologies which can remove hydrocarbons and their derivatives, metals, nutrients, antibiotics or micropollutants that are harmful marine life and limit marine biodiversity.

Developing systems that should remove various contaminants, including complex mixtures, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands.