

SYMBIOREM is a project funded by the European Union, running from September 2022 to August 2026. The project is coordinated by the University of the Basque Country (UPV/EHU) and includes 17 partners from 10 countries.



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**Innovative nature-based
solutions to reduce
environmental pollution**

The project

The presence of pollution in water and soil poses multiple risks to human, animal, and ecosystem health, contributing to diseases and biodiversity loss.

The EU-funded SYMBIOREM project (Symbiotic, circular bioremediation systems and biotechnology solutions for improved environmental, economic and social sustainability in pollution control) aims to use the **bioremediation capabilities** of microorganisms, microbiomes, proteins, plants and animals to **remove pollution** from the environment.

What is bioremediation?

Bioremediation is the use of either naturally occurring or deliberately introduced biological organisms (e.g., microorganisms, microbiomes, proteins, plants and animals) to consume and break down environmental pollutants, in order to clean a polluted site.

In addition, SYMBIOREM will:

- Develop **new circular business models** to turn residues and contaminants from polluted environments into valuable resources.
- Increase the **safety** of bioremediation and revitalization strategies, mitigating the risks of pollutants' remobilization.
- Increase the acceptance of bioremediation solutions by **engaging citizens** in participatory research, collaborative modelling, and collaborative management of bioremediation technologies.

12 novel bio-based technologies and strategies

To contribute to the EU Zero Pollution Action Plan, SYMBIOREM will develop 12 innovative nature-based solutions to target the four most common pollutants in soil and water in Europe: **heavy metals, mineral oil, Polycyclic Aromatic Hydrocarbons (PAH) and Volatile Aromatic Hydrocarbons (VAH)**. The project will also focus on mixed contamination, eutrophication, organic micropollutants and microplastic.

These solutions will be tested in five archetypes of contaminated environments (industrial brownfields, mixed solid waste landfills, urban diffuse pollution of surface water bodies, agricultural drainage, and marine sediments) in 10 locations:

