

LIFE DIANA ACTIONS

A. Preparatory actions

- A.1 Review of EU legislation and materials requirements for landfills construction and restoration
- A.2 Design of pilot plan site

B. Implementation actions

- B.1 Collection of oil wastes and preparation of stabilizers
- B.2 Lab-scale neutralization/stabilization experiments
- B.3 Scale-up of stabilization technology; Pilot-plant waste stabilization at oil refinery site
- B.4 Scale-up of stabilization technology; Pilot-plant trials at landfill site

C. Monitoring of the impact of the project actions

- C.1 Monitoring of the project impact
- C.2 Business model development and transferability evaluation
- C.3 Life Cycle Assessment / Life-Cycle Cost Analysis

D. Public awareness and dissemination of results

- D.1 Dissemination Planning and execution
- D.2 Information and awareness raising

E. Project management

- E.1 Overall Project Management
- E.2 Project Monitoring



DEVELOPMENT OF A PILOT UNIT FOR
THE VALORIZATION OF PETROLEUM
REFINERY SLUDGES TO NEW
ADDED-VALUE RAW MATERIALS

PARTNERS



POWER
MEDIA PRODUCTIONS



LIFE DIANA

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THE ENVIRONMENTAL CHALLENGE

In Greece the petroleum refineries produce approximately 34.000 tons of Petroleum Refinery Sludges (PRS) per year, while the corresponding PRS quantities produced in Europe are estimated to around 1.000.000 tons. Available technologies for the treatment of PRS include incineration, biodegradation and thermal plasma treatment. Due to the complex and inconstant composition of PRS, cost-effective treatment and proper disposal pose considerable technical and industrial challenges worldwide.



LIFE DIANA OBJECTIVES

- Address an environmental challenge through an innovative procedure that may be easily transferred to other EU country.
- Identification and development of industrial minerals and soil, like perlite and bentonite that will be mechanically, chemically and thermally modified so they can be efficiently mixed with PRS.
- Stabilisation of PRS, through their mixing with industrial minerals and soil, in order to produce an "Engineered Soil" that may be used for the construction and restoration of landfill and quarries.
- Construction of a Pilot Unit, at MOH refinery, that will produce 3.000tn/year of Engineered Soil.
- Pilot use of the produced Engineered Soil in order to monitor and evaluate its environmental performance.
- Broad dissemination activities that will involve stakeholders and local communities.

EXPECTED RESULTS OF LIFE DIANA

- Petroleum Refinery Sludges will be stabilised and converted to useful Engineered Soil.
- The produced Engineered Soil will be used for site rehabilitation or landfilling.
- Important CO₂ reduction as PRS will not be incinerated but re-used as Engineered Soil (in line with EU Waste Management Hierarchy).
- Life-cycle assessment and replicability of the PRS valorization technology.
- Information and awareness-raising targeting both the general public and specific audience.