

Rehabilitation of an old mine waste site, Lavrion, Greece

2000 Countries covered: Greece

Summary:

An old-zinc-lead plant in Lavrion mining district in Greece was transformed into a technological and cultural park. The Lavrion Technological and Cultural Park area is a unique monument of industrial architecture and archeology. In Greece, there is no similar experience of re-use of an industrial monument of this magnitude. The attempt for double reuse, the development of museum spaces coexisting with new scientific and research spaces, was the central idea of planning. Of particular importance is the decontamination project of the Lavrion abandoned metallurgical plant and broader region of Laureotikis. The biggest challenges of the rehabilitation project were the toxicity and the large volume of mining deposits and slags. Remediation actions for the drastic minimization of the risk in the vicinity of the buildings due to the toxic contaminants in the soil took place. The “dry tomb” technique was used due to its advantages, such as break the pollutant linkage , applied practice to almost the entire range of soil contaminants, cost-effective solution. Also, special hazardous waste found in the Park were stored in the underground repository (max. capacity is approx.5,000 tn). The methodology which was followed for the decontamination was pioneered at national and international level.



Description:

One of the most successful restoration cases in Greece is the creation of the Technological & Cultural Park in Lavrion city. In spite of its small population (about 10.000 habitants), the city was one of the most important industrial centers in Greece during the 19th and 20th century. LTCP was founded in the facilities of the old French Mining Company of Lavrion (Compagnie Francaise des Mines du Laurium/ FMCL) in 1992. In 1977, the FMCL, having run for more than 100 years in the region, ceased its mining activities and entered a time of crisis. Seven years later, the company also ceased its metallurgical activities. Consequently, the town of Lavrio faced a severe unemployment problem. During the 1980's, the town authorities, the company executives and academics in the field of mining and metallurgical engineering participated in extensive discussions, in which the historical value of the area and the plant complex was widely acknowledged, and the need to preserve their historical, architectural and technological characteristics was emphatically stressed. That time, the idea of the Lavrion Technology and Cultural Park (LTCP) was born based on the importance of preserving the technological-historical identity of the complex. An innovative initiative aiming at the renovation of the old plant complex and its re-use as a technology and cultural park was very important for many reasons. First of all, the park would revive the area's historical identity and collective memory as a place of production since ancient times. In addition,

the park would contribute to the technological upgrading of Athenian manufacturing industries by means of technology transfer, spin-offs, new business environment creation, advanced infrastructure and development of new applications and processes or product innovations. In that frame, an old zinc-lead plant in Lavrion mining district was transformed to a Technological & Cultural Park. The implementation of the project was monitored by the National Technical University of Athens (NTUA) and supported by the local municipality. The services provided by LTCP support research, education and technology. Today, the LTCP is essentially the only Technology Park in Attica, which specializes in key areas of modern applied technology, such as information technology, electronics technology, telecommunications, robotics, laser technology, environmental technology, energy, shipbuilding, marine technology, etc. The restoration cost of the plant complex was about 15,23 million Euros and was covered from EU and national sources.

Good practice areas:

Environmental sustainability

Remediation of the contaminated sites

Economic sustainability

21 established businesses -Local development and prosperity with supporting entrepreneurship (i.g establishment incentives like reduced rents)

Social responsibility

Development of cultural & archaeological tourism. The importance of preservation of the industrial heritage of the Lavriotiki area is recognized in national level. The complex of the old France Mining Company has declared industrial monument. Furthermore the mechanical equipment is concerned as unique industrial archeology.

Organisations involved:

National Technical University of Athens

http://www.ltp.ntua.gr/home_en

Innovation category:

System

Impact on the mining value chain

- MINE CLOSURE / WASTE management (incl. Permitting)

Mine closure / Waste

- mine site reclamation/rehabilitation for subsequent uses

Linked policies

Regional Planning & Urban Development

Transferability:

The message which should be transferred is that the successful rehabilitation of the old lead mining site and the foundation of the LTCP was the outcome of an innovative approach and transparency in every stage of the project . The key factors of success were the active involvement of key stakeholders (Greek State/Ministry of Culture , local authorities, Academia/NTUA) and the interdisciplinary cooperation between experts.

Innovation drivers and barriers

Drivers:

Economic

Tax reliefs, Funding Support
(75% EU, 25% Greek State)

Barriers:

Other

The restoration of LTCP had Regional Planning & Urban Development issues (i.e outside urban planning zones)

Impact Area

Area:

Environment, Ecosystem services and quality of natural resources

Impact on listed area:

+: Implementation of an extended environmental restoration project

Area:

Human/Social, Public participation

Impact on listed area:

+: Cultural events

Area:

Human/Social, Education and skills

Impact on listed area:

+: Organization of educational activities: workshops, seminars, congresses

+: Implementation and promotion of large scale pilot research projects

Area:

Economic, Employment

Impact on listed area:

+: Incubating startups