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ABSOILS - LIFE09 ENV/FI/000575

Sustainable Methods and Processes to Convert Abandoned Low-Quality Soils into Construction Materials

ABSOILS is a LIFE+ project which demonstrates conversion of abandoned and low-quality soils - such like soft clays - into construction materials. The ABSOILS project is carried out in co-operation among the beneficiaries: Biomaa, Rudus and Ramboll Finland. It is also supported by the Finnish Ministry of the Environment and the Uusimaa cities - Helsinki, Espoo and Vantaa. The project is co-financed by the EU LIFE+ Environmental Policy & Governance programme (LIFE09 ENV/FI/000575). The ABSOILS project started in September 2010 and will be finished in December 2014.



In general the project will address the challenges of the European policies and legislation concerning waste and promote waste recovery and sustainable recycling with a focus on life-cycle thinking and the development of recycling markets. The challenges faced by the project and related to the abandoned soils and their conversion into useful earth construction materials include:

- the creation of necessary knowledge and know-how 1) about the possibilities and methods to use materials based on different types abandoned soils for the construction of different types of civil-engineering applications, and 2) about the environmental and economic value and benefits resulting from the use of materials based on the abandoned soils for civil-engineering purposes (like earth construction)
- the verification of the feasibility of the materials and applications based on abandoned soils for civil-engineering with respect to the environmental safety criteria, the technical criteria given for the intended applications and the economic competitiveness with the conventional civil-engineering solutions;

- the assurance of the established use of abandoned soils in civil-engineering projects through the coordination of the regional material flow and civil-engineering projects and the elimination of legislative obstacles that prevent the efficient use of valuable secondary materials in appropriate civil-engineering applications.

The implementation of the ABSOILS project involves several interconnected actions. The project is going to determine the most efficient recipes for the stabilisation of abandoned soils with commercial and non-commercial binder components.

The project also addresses some other crucial issues in the pilot-scale, such like the efficient mixing of the different, soft clay materials and the powdery binder materials for the stabilisation and construction of different applications.

The technical, environmental as well as economic feasibility of the converted materials and applications will be verified and evaluated by the environmental life-cycle assessment, life-cycle cost assessment and the follow-up activities of the pilots.

In order to ascertain the established practice of recycling feasible secondary materials and aggregates in regional construction works, the ABSOILS project is going to create and demonstrate a Model for Sustainable Regional Material Service System (RMSS) for the Uusimaa region. The RMSS will direct the use of regionally produced and generated materials and aggregates to the short-term and long-term infrastructure construction projects with the assistance of practical logistics and Internet operated database.

The know-how, information, and instructions will be actively disseminated to the most important target groups: municipalities, road administrations, contractors, industrial enterprises, politicians and legislative authorities, civil-engineering consultants, and universities and other educational institutes in Europe.

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