

Development and testing of oil shale ash large scale reuse options

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Oil shale has significant mineral content and therefore, according to Estonian experience, after any kind of thermal treatment, a minimum of 44-46% of oil shale remains as ash. This means significant amounts of material that have to be stored yearly in an environmentally sound way.

In recent years, more attention has been turned to oil shale ash reuse options. Reuse of oil shale ash also increases the material use efficiency of the whole oil shale value chain.

Enefit's latest efforts are more focused on development of large-scale oil shale ash reuse options. The main developments have been made in the use of the binding properties of oil shale ash as a raw material or as a cement substitute in the building materials industry.

At the moment, Enefit uses certain types of oil shale ash in the cement industry as a supplement to the clinker, but we are also expanding these activities by testing new fractions and developing standards in cooperation with Tallinn University of Technology and cement producers.

In addition, we are currently testing oil shale ash as an alternative material in road construction. With EU LIFE+ co-funding we have started Project OSAMAT to test the technical and environmental aspects of using oil shale ash in road construction and standardizing those solutions in the future. Testing of oil shale ash for backfilling and agricultural use is also currently continuing.

All our efforts are towards large-scale solutions, using oil shale ash for reducing the need for storage capacity and improving the material reuse of the process. This has been a continuous and long term process for several years. This presentation gives an overview of the first results of our tests.