

TREATMENT AND UTILIZATION OF WASTE INCINERATION BOTTOM ASH – FINNISH EXPERIENCES

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Abstract

In order to decrease landfilling of municipal solid waste (MSW), number of waste incineration plants have been constructed in Finland for the past decade. The total amount of MSW has decreased but different technical, environmental and legislative issues related to the treatment and utilization of municipal solid waste incineration (MSWI) bottom ash (BA) have raised concern within the waste sector and the policy makers in the country. In this paper, the results of a three year research project are shortly summarized, in which the recovery and utilization of MSWI BA has been comprehensively studied in the country. During the project, a modern Dutch dry treatment technology called ADR (Advanced Dry Recovery) was used. The process separates efficiently non-ferrous and ferrous metals from the BA and generates mineral fractions of different grain sizes. At the moment, these mineral fractions are of no value and they mainly end up in landfill sites where high amounts of taxes need to be paid (70€/t in the year 2016 in Finland). The presented research project took the first steps in order to create actual products from this waste derived material in different applications such as road construction and concrete industry in Finland. It is certain that the work on this matter has only started but the results presented in this paper are promising and offer interesting point of views for the other countries struggling with the same issues.

Keywords

Municipal solid waste incineration bottom ash; Treatment; Utilization; Finnish practical experiences;