

ABSTRACT

The Centre for Best Available Techniques (BAT) has been founded by the Flemish Government and is hosted by Vito, the Flemish Institute for Technological Research. The BAT centre collects, evaluates and distributes information on techniques that minimise the impact on the environment as a whole. Moreover, it advises the Flemish authorities on how to translate this information into its environmental policy. Central in this translation is the concept “BAT” (Best Available Techniques). BAT corresponds to the techniques with the best environmental performance that can be introduced at a reasonable cost.

The aim of this study is to identify the BAT for the dredging or excavation of sand, gravel, clay and loam. On the basis of the techniques selected as Best Available Techniques, recommendations are formulated with respect to the environmental permit legislation and the eco-investment support policy.

The study focusses on installations that excavate sand, gravel, clay and loam. The applied processes are subdivided into the preparation of the site, the excavation or dredging of the raw material, the processing, classification and storage of the mineral and the transport.

The major environmental effects associated with these activities are the emission of dust and the noise nuisance. Waste, soil pollution and energy consumption are of minor importance. Dredging and excavation may also have an effect on the level and the flow of underground water.

In order to reduce the environmental effects originating from the excavation of sand, gravel, clay and loam 54 environmental friendly techniques are suggested in this study. After evaluation 41 of them are selected as BAT. 14 of these are to be taken into consideration in case of local dust or noise nuisance. Implementation of these techniques will e.g. reduce the influence of excavation and dredging on the groundwater level. BAT for the reduction of dust emissions are a.o. the maintenance of the roads on the site, a number of general measures of good practice for storage and shipping and sowing or planting newly constructed embankments and open ground. In the event of noise nuisance BAT is to apply one or more measures such as the construction of a baffle board, the enclosure of the sound sources or the installation of silencers. BAT for reducing other environmental impacts from the excavation and dredging are also selected.

The BAT selection in this study was based on a preparatory study by the Belgian Building Research Institute (BBRI/WTCB) with a literature survey, a technical and socio-economic study of the industry, cost calculations, plant visits and discussions with industry experts, representatives of the federations, suppliers and authorities. The formal consultation was organized by means of an advisory committee the composition of which is given in Annex 1.