ABSTRACT

The Flemish Centre for Best Available Techniques (BAT centre) is founded by the Flemish Region and hosted by Vito. The BAT centre collects and distributes information on pollution prevention and control techniques.

The objective of this study is to trace techniques that minimise environmental pollution caused by service stations against a reasonable price. On the basis of the techniques selected as Best Available Techniques, recommendations concerning environmental permit legislation and promotion through investment support are presented to the Flemish Government.

The study focuses mainly on the techniques for preventing environmental pollution from the core activity of the service stations, that is the storage and the distribution of petrol and diesel. The attention herewith was particularly drawn on the stage II vapour recovery of petrol (vapour recovery during car tank filling), which so far has not been regulated. The stage I vapour recovery of petrol (vapour recovery during storage tank filling) is already included in the Flemish regulation Vlarem II as a sectoral condition.

Within the sector of the service stations in Flanders a distinction can be made between the majors on the one hand and the smaller independents on the other hand.
The storage and the distribution of motor fuels in service stations cause a number of environmental impacts. The main environmental key issue still concerns the emissions of volatile organic compounds released during the filling of the petrol storage and petrol car tanks. These compounds contribute to the creation of ozone in the lower layers of the atmosphere, cause odour pollution and can present danger to human health. Vapour recovery is a technique with which VOC emissions of storage and car tanks can be reduced.
Potential contamination of soil and groundwater due to fuel spills also constitutes a point of special interest for service stations.

The selected BAT consist of a number of measures that improve the environmental performance of the service stations without putting an unreasonable financial burden on the companies involved. The selected BAT are among others vapour recovery to reduce refuelling emissions and several techniques to prevent soil and groundwater pollution like leak detection and cathodic protection of storage tanks, waterproof floorings, leakproof nozzles.

The selected BAT support on the one hand the existing legislation of Vlarem II for this sector and can serve on the other hand as a basis for additional permit conditions. In particular a regulation for stage II vapour recovery is elaborated, with attention for area of application, periods of transition, efficiency and technical provisions, supervision, control, certification and reporting.

Stage II vapour recovery is the only technique qualified for environmental investment support. This support amounts to 20 % and can only be offered under certain conditions to the independent station owners.

Stage II vapour recovery is not a cheap technique (average additional cost per litre petrol is 0,04 to 0,09 BEF). The investment in itself is nevertheless feasible, provided a

number of preconditions within the sector are fulfilled. This doesn't mean however that this additional effort can not be fatal for some station operators.

The VOC emission level of the service stations in Flanders amounts in the year 1997 to about 4000 tonnes per year. Thanks to stage I and stage II vapour recovery this emission will be reduced in the year 2010 to about 1000 tonnes per year, assuming a steady petrol sale the coming 10 years. A reduction of 3000 tonnes per year represents almost 2% of the total listed VOC emissions in Flanders.

The BAT selection and counselling were brought about on the basis of, among others, socio-economic studies, cost calculations, foreign BAT reports, and discussions with industry experts, representatives of the federations, suppliers, and specialists from (semi) public institutes. The formal consultation was organised by means of an advisory committee (see annex 1.2).