BEST AVAILABLE TECHNIQUES FOR CAR- AND TRUCKWASH COMPANIES

The Centre for Best Available Techniques (BAT) is founded by the Flemish Government, and is hosted by Vito. The BAT centre collects, evaluates and distributes information on environment friendly techniques. 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 report is to determine the BAT for car- en truckwash companies. Based on the BAT selection, recommendations are formulated with respect to the environmental permit regulation. The number of carwash installations in Flanders is estimated at more than 1000, the number of truckwash installations at approximately 80. Based on the washing concept, a distinction can be made between rollovers (+/- 50%), tunnel carwashes (+/- 25%), and self-carwashes (+/- 25%). Truckwash installations are almost exclusively rollovers. There are also companies who wash trucks or vans at the customer's site (so-called mobile truckwash). The environmental impact of the sector mainly relates to water. The gross amount of water used per washed vehicle is 100-350 l in a rollover, 200 to 650 l in a tunnel carwash, and 70-80 l in a self-carwash. 350 to 900 l are used per washed vehicle in a truckwash installation. This study pays much attention to the possibilities of reducing the water consumption. A significant reduction of water consumption can be realised by re-using or re-cycling the washing water.

- In the case of "re-use", the washing water is re-used in a low-quality application, e.g. for cleaning of wheel rims or car bottoms. Re-use requires a rather simple "pre-treatment" of the washing water (removal of precipitating or floating parts)

- In the case of "re-cycling", the washing water is re-used in a high-quality application, specifically in the main washing process. Re-cycling requires a further "regeneration" of the pretreated washing water. Regeneration systems based on biological water treatment seem the most appropriate for a normal carwash installation. Physicochemical regeneration techniques are more appropriate for heavier contaminated washing waters, such as those from plants for deconservation of new cars. Systems based on ozonisation may be interesting for weakly contaminated waste waters containing little detergent, such as those from bus wash installations.

The regeneration techniques may be supplemented by additional filtration steps, and techniques for odour control or disinfection. Disinfection of carwash water is however not common in Flanders.
The different techniques that allow re-use and re-cycling, are described in detail in the technical sheets in the annexes. The feasibility of re-using/re-cycling water and the BAT-evaluation depend on the type of installation (self-carwash, rollover and tunnel carwash), as is shown in the table below. The table also gives the achievable consumption levels of fresh water. These levels may be used as guidance value by the authorities to set standards for the maximum allowed water consumption.

Full Dutch version available **here** (1792 Kb)

For more information:
Diane Huybrechts
tel. +32 14 33 58 67
e-mail: diane.huybrechts@vito.be