EXECUTIVE SUMMARY

The centre for Best Available Techniques (BAT), hosted by Vito (Flemish Institute for Technological Research), collects and distributes information on environmental friendly techniques. The objective of this study is to examine techniques that minimise environmental pollution (the so-called "candidate BAT") for non-ferrous metals processes. Of these "canidate BAT", the Best Available Techniques are selected and used to evaluate the current environmental legislation in Flanders (Belgium).

This study is based on the conclusions of the BREF "BAT for the non-ferrous metals processes", finalised in May 2000 by the European IPPC-Bureau (see http://eippcb.jrc.es).

The non-ferrous metals industry is of strategic interest for the entire Belgian economy. Belgian companies occupy an international leading position with respect to the production of non-ferrous metals, including copper, cadmium, indium, zinc, germanium, selenium, etc. The sector consists mainly of large and medium-sized companies, that are competing on a global scale.

In general, the choice of non-ferrous metals processes is determined by the raw materials used. In the BREF, both primary and secondary production are examined. Since input materials vary widely, the industry is characterized by a large variety of processes. For secundary production in particular, the processes are often complex and site-specific. Flanders (Belgium) has production plants for most of the non-ferrous metals listed in the BREF, except for mercury and primary aluminium.

Environmental concern is increasing, also in Flemish non-ferrous metals companies. Nevertheless, emissions into air of metals, SO_x, NO_x and dioxins are still considerable. In the BREF, the importance of *fugitive* emissions, especially from dust, has been emphasized. At present, information about these emissions is scarce, also in Flanders. Moreover, the industry discharges a relatively large load of metals into surface water. In addition, the administrative classification of the input, either as resources or as waste, is an important point at issue in Flanders. The energy consumption level of the industry is estimated to amount to 12.8 PJ, or about 4% of the total industrial energy consumption in Flanders.

The BREF lists a large number of "techniques to be considered in the determination of BAT". Our report concentrates on the BAT-conclusions described in the executive summary of the BREF. For each individual Flemish non-ferrous IPPC-installation, we have analysed to what extent BAT have already been implemented.

Furthermore, the BREF-conclusions are compared to the current Flemish permit legislation of the non-ferrous industry. In general, it is concluded that the Flemish legislation, as well as the current environmental performance of the installations, are in line with the BAT-requirements from the BREF. To further improve upon the environmental performance of the Flemish industry, more stringent emission limit values are suggested for air pollution (dust, SO_x and, dioxins) and for water pollution (As, Cd, Co, Cr, Cu, Hg, Ni, Pb, Tl, and Zn).