



HELCOM RECOMMENDATION 25/2

Adopted 2 March 2004
having regard to Article 20, Paragraph 1 b)
of the Helsinki Convention 1992

REDUCTION OF EMISSIONS AND DISCHARGES FROM INDUSTRY BY EFFECTIVE USE OF BAT

SCOPE: This Recommendation supplements the provisions on principles for issuing permits for industrial plants contained in Annex III, Regulation 3 of the Convention aiming especially on the reduction of (HELCOM priority) hazardous substances. This Recommendation also supplements several sector specific HELCOM Recommendations. Its specific aim is to guide the identification of effective BAT for the control of emissions and discharges of Hazardous Substances (identified by HELCOM for priority action) as well as nutrients and substances causing oxygen depletion in relevant industrial sectors. The aim is also to provide information on substitution of hazardous substances by less- or non-hazardous substances.

THE COMMISSION,

RECALLING Paragraph 1 of Article 6 of the Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1992 (Helsinki Convention), in which the Contracting Parties undertake to prevent and eliminate pollution of the Baltic Sea Area from land-based sources by using, inter alia, Best Environmental Practice for all sources and Best Available Technology for point sources,

HAVING REGARD also to Article 3 of the Helsinki Convention, in which the Contracting Parties shall individually or jointly take all appropriate legislative, administrative or other relevant measures to prevent and abate pollution in order to promote the ecological restoration of the Baltic Sea Area,

RECALLING Article 5 of the Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1992 (Helsinki Convention), in which the Contracting Parties undertake to prevent and eliminate pollution of the marine environment of the Baltic Sea caused by harmful substances,

RECALLING FURTHER Annex II, Regulation 2, where the Contracting Parties should give particular consideration to the avoidance or substitution by less polluting activities or substances and the potential environmental benefit or penalty of substitute materials or activities,

RECALLING FURTHER the Ministerial Communiqué 1998, calling to implement the strategy on the cessation of discharges, emissions and losses of hazardous substances by the year 2020,

RECALLING FURTHER that the Ministerial Declaration 1988, of the ninth meeting of the Helsinki Commission calls for a considerable reduction of land-based pollution,

RECOGNIZING the importance of the prevention of pollution from industry by

- (i) minimizing the hazards to human health and to the environment from toxic, persistent and bioaccumulative substances by the application of best available techniques;
- (ii) developing industrial processes (in particular, recycling of waters) and preventing incidental effluent discharges;
- (iii) developing waste- and stormwater treatment techniques and reuse or further utilization and/or processing of the sludge in a manner causing as little environmental hazard as possible,
- (iv) developing processes and techniques for the collection and treatment of atmospheric emissions,

RECOMMENDS that the Contracting Parties make all efforts to minimize emissions and discharges of hazardous substances and nutrients by effective use of BAT or comparative measures and the substitution principle also taking into account the information identified for the different sectors as presented in the tables of the Annexes of this Recommendation,

RECOMMENDS that the Contracting parties take the following measures in environmental permitting of industrial installations to ensure that an integrated approach is applied in order to achieve a high level of protection of the environment as a whole,

1. General principles in permitting

When setting general requirements and e.g. emission limit values for relevant pollutants the following issues should be taken into account (in addition to the provisions on principles for issuing permits for industrial plants contained in Annex III, Regulation 3 of the Convention):

1.1 The limit values and equivalent parameters or technical measures for relevant pollutants in the permits should be based on best available techniques, without prescribing the use of any technique or specific technology, but taking into account the technical characteristics of the installation concerned, its geographical location and the local environmental conditions.

1.2 When determining best available techniques, bearing in mind the likely costs and benefits of a measure, the information published by EU (especially under the IPPC Directive) and international organizations should among other information be taken into account as well as the sector specific HELCOM Recommendations, when available. Information on relevant sources for sectors concerning hazardous substances and concerning nutrients and substances causing oxygen depletion is presented in the Table of Annex 1. More specific information of pollution sources is to be elaborated and updated regularly for the sectors by the respective Lead Countries (following the guidance set out in the Annex) and submitted as additions to Annex 1 to this Recommendation.

1.3 If local environmental conditions so require stricter measures than those achievable by the use of best available techniques should be required. In this context the emissions of nutrients and HELCOM priority substances should be paid special attention taking also into account the possible specific targets and quality objectives defined for the affected coastal waters and the open sea.

1.4 Applications for permits should be made available for the public for an appropriate period of time to enable it to comment on the application before the permitting authority reaches its decision.

2. Requirements in hazardous substances in permitting

When issuing permits for industrial plants using and/or producing HELCOM priority and/or other hazardous substances the information provided in the Table of Annex 1 on possible measures should be considered. The table pin-points the hazardous substances, which the industrial activity should substitute by less or non-hazardous substances or which should be a target of specific pollution control measure including a probable change of processes. The table also provides the information on the possible measures to reduce or eliminate the discharges and emissions of these substances.

3. Requirements in nutrients and oxygen consuming substances in permitting

When issuing permits for industrial plants the information on possible measures to reduce nutrients and substances causing oxygen depletion presented in the Table of Annex 1 should be considered,

RECOMMENDS that the Contracting Parties report every three years to the Commission, starting from 2006.

Information on measures for reducing or avoiding emissions of HELCOM Priority Hazardous Substances¹ or Nutrients from Industry and on emission levels associated with the use of Best Available Techniques (BAT)

This Annex provides in a Table information on specific BAT with regard to the emissions of HELCOM Priority Hazardous Substances and nutrients for relevant industrial sectors; each sector will be presented in a separate spreadsheet.

The information on BAT for each sector is structured in 5 columns as follows:

SECTOR (existing related HELCOM Recommendations)

1) Relevant PS/ Nutrient emitted from the sector	2) Source(s) of emission	3) BAT measures	4) BAT associated emission level	BAT for substitution

With:

The substance(s): all HELCOM Priority hazardous substances¹ and all nutrients, which are emitted in relevant quantities from this sector are addressed here one by one.

The relevant source(s) of the emission within the sector (e.g. part of the process/installation) of substance listed in 1), so that different sources with different BAT can be differentiated.

The BAT measure(s) mentioned in the respective BREF for each source listed in 2)

The associated emission level or range of each BAT measure listed in 3)

Any substitute for substance under 1) for a source in 2) being BAT (according to the BREF)

¹ According to the list of Substances identified as of concern by HELCOM (source: HELCOM Rec. 19/5)

Table presenting information on specific BAT for sectors, which use or have relevant emissions of HELCOM priority substances (PS) and/or nutrients. (At the moment the table contains information only on selected sectors [depending also on the state of finalisation of respective BREF documents]; it will be continuously updated).

Cl-Alkali Industry (related HELCOM Recommendation 23/6)

1) Relevant PS /Nutrient emitted from the sector	2) Source(s) of emission	3) BAT measures	4) BAT associated emission level	BAT for substitution
Mercury (Hg, may be CAS-Nr.)	Hg-Cells	a) For new plants: Hg-free technique = membrane technique. b) For existing plants with Hg-cells: encapsulating, good house keeping	a) No Hg emissions b) Overall emissions into air, product, water: 0,2 – 0,5 g Hg per tonne Cl produced	

Glass industry (related HELCOM Recommendation 14/3)

1) Relevant PS/Nutrient emitted from the sector	2) Source(s) of emission	3) BAT measures	4) BAT associated emission level	BAT for substitution
Lead	Melting of special glass ² Use of contaminated recycled glass	In general in this sector, BAT for dust is considered to be the use of an electrostatic precipitator or bag filter operating, where appropriate in conjunction with a dry or semi-dry acid gas scrubbing system.	dust ³ abatement: bag filter: 5 – 30 mg/Nm ³ ⁴	avoidance of materials rich in lead to be recycled

² The sources for heavy metals are “...minor impurities in some raw materials, post consumer cullet, and fuels. Used in fluxes and colouring agents in the frit industry (predominately lead and cadmium). Used in some special glass formulations (e.g. lead crystal, TV funnel-glass and some coloured glasses). Further emissions of heavy metals arise from downstream activities (e.g. coating, drying, cutting, polishing, secondary processing, product forming operations). These emissions can vary greatly between the different sectors.

³ Further emission levels associated with the use of BAT are:

Metals* (group 1 {As, Co, Ni, Se, Cr VI} + 2{Sb, Pb, Cr III, Cu, Mn, V, Sn})	< 5 mg/Nm ³
Metals* (group 1) {As, Co, Ni, Se, Cr VI}	< 1 mg/Nm ³
Organotin	< 1 mg/Nm ³

⁴ Discharges into water: the emission levels given below are generally considered to be appropriate to protecting the water environment and are indicative of the emission levels that would be achieved with those techniques generally considered to represent BAT...

Cadmium	< 0,05 mg/l
Chromium (total)	< 0,5 mg/l
Lead	< 0,5 mg/l (1,0 mg/l)

Leather processing industry (related HELCOM Recommendation 16/7)

1) Relevant PS / Nutrient emitted from the sector	2) Source(s) of emission	3) BAT measures	4) BAT associated emission level	BAT for substitution
Cr and other heavy metals				25 – 30 % of the fresh Cr input can be substituted by recovered Cr
NPEs	Use as surfactant	a) Substitution b) Biological waste water treatment plant for effluents	b) in WWTP degradable >= 98%	a) NPE can in many cases be substituted by alcohol ethoxylates
Brominated and antimony-containing flame retardant		Substitution	BFR substitution with Phosphate based flame retardants	
Biocides		Substitution In general reduction of water consumption, good housekeeping, process-integrated measures, effluent treatment	Products with the lowest environmental and toxicological impact, used at the lowest level possible e.g. sodium- or potassium-dimethyl-thiocarbamate	
Halogenated organic compounds		Substitution	They can be substituted completely in almost every case. This includes substitution for soaking, degreasing, fatliquoring, dyeing agents and special post-tanning agents Exception: the cleaning of Merino sheepskins	
Nitrogen	Mostly the liming process	Process integrated measures	N(tot): 5 – 10 mg N/l	