Hazardous substances segment of the HELCOM Baltic Sea Action Plan
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Hazardous Substances – towards a Baltic Sea with life undisturbed by hazardous substances

Introduction
The overall HELCOM goal is to achieve a Baltic Sea with life undisturbed by hazardous substances.

Pollution caused by hazardous substances refers to a massive number of different anthropogenic substances ending up in the marine environment including substances that do not occur naturally in the environment and substances occurring at concentrations exceeding natural levels. Although monitoring indicates that the loads of some hazardous substances have been reduced considerably over the past 20–30 years, problems still persist, and concentrations in the marine environment of some new substances have even increased (e.g. perfluorinated substances).

Once released into the Baltic Sea, hazardous substances can remain in the marine environment for very long periods and can accumulate in the marine food web up to levels which are toxic to marine organisms. Levels of some hazardous substances in the Baltic Sea exceed concentrations in e.g. the North East Atlantic by more than 20 times. Hazardous substances cause adverse effects on the ecosystem, such as

- Impaired general health status of animals;
- Impaired reproduction of animals, especially top predators;
- Increased pollutant levels in fish for human food.

Some fish species caught in some parts of the Baltic Sea are not suitable for human consumption as they contain hazardous substances exceeding established concentration levels. Certain contaminants may be hazardous because of their effects on hormone and immune systems, as well as their toxicity, persistence and bio-accumulating properties.

Within HELCOM substances are defined as hazardous if they are toxic, persistent and bio-accumulative (PBT-substances), or very persistent and very bio-accumulative (vPvB). Moreover, substances having an equivalent level of concern such as substances with effects on hormone and immune systems are also hazardous substances.

Especially substances which are persistent and bio-accumulative may cause potential hazards to humans.

Ecological objectives
The agreed goal of HELCOM on hazardous substances is a Baltic Sea undisturbed by hazardous substances.

The goal is described by four ecological objectives:

- Concentrations of hazardous substances close to natural levels,
- All fish safe to eat
- Healthy wildlife,
- Radioactivity at pre-Chernobyl level.

In order for the ecological objectives to be operational, indicators with targets, reflecting good ecological and environmental status of the Baltic marine environment, have been agreed upon as contained on page Error! Bookmark not defined..
Cross-references with other objectives

Failure to reach the objectives for hazardous substances will impair the achievement of favourable status of biodiversity.

At the same time the achievement of management objectives for Eutrophication and Maritime Activities will have an impact on reaching the goal of a Baltic Sea undisturbed by hazardous substances.

Taking into account the potential hazard of the substances of specific concern to the Baltic Sea marine environment, the substances on page Error! Bookmark not defined. were selected for inclusion in the Baltic Sea Action Plan acknowledging the possible revision of the list and the actions in the future when more information will be available.

In order to address specific sources of hazardous substances and to reach the goal of a Baltic Sea with life undisturbed by hazardous substances

WE ADOPT HELCOM RECOMMENDATION 28E/8 concerning environmentally friendly practices for the reduction and prevention of emissions of dioxins and other hazardous substances from small-scale combustion.

In relation to the HELCOM Recommendation 28E/8, WE FURTHER AGREE to develop in 2008 specific efficiency requirements and emission limit values for small scale combustion appliances.

In order to address identified important sources of hazardous substances WE AGREE to update HELCOM Recommendation 19/5 on the HELCOM Strategy for hazardous substances and HELCOM Recommendation 24/5 concerning Proper handling of waste/landfilling as well as HELCOM Recommendation 24/4 for the iron and steel industry,

Taking into account the importance of reducing heavy metal and other hazardous substances emissions from energy production and industrial combustion plants, WE AGREE by 2008 to evaluate the need to develop further requirements in these sectors,

WE AGREE to develop and to submit for HELCOM’s assessment national implementation programmes by 2010 with a view to evaluating the effectiveness of the programmes at a Ministerial Meeting in 2013 and to further evaluate whether additional measures are needed either on a national, HELCOM or global level. In developing the programmes we agree to take into account the need for:

- identification of sources of the selected hazardous substances or substance groups (taking also into account the relevant sectors as contained in other documents section, page Error! Bookmark not defined.);
- a ban or restrictions on the use of identified relevant hazardous substances or substance groups;
- substitution of the selected hazardous substances or substance groups with less hazardous substances;
- development of technical guidance documents for environmental permitting addressing hazardous substances;
- capacity building for authorities and industries with regard to identification of hazardous substances and the possibilities for elimination of the use of substances as well as application of BEP and BAT;
- raising awareness among consumers by arranging campaigns and disseminating information about environmentally friendly products;
- relevant legislation including a proper definition of hazardous substances;

WE AGREE to further identify, estimate and reduce the discharges, emissions and losses from sources within the identified potential sectors and main uses and include them into national implementation programmes/ Programmes of measures under the EU Water Framework Directive for HELCOM Contracting States that are also EU Member States.
The selected hazardous substances or substance groups as on page Error! Bookmark not defined. will be taken into account when environmental permits will be established or renewed for different industrial activities and municipal wastewater treatment plants and municipal landfill sites where the substances or the substance groups potentially occur. BAT and BEP are to be applied where hazardous substances might be released. Furthermore, co-operation will be developed for a mutual information exchange on hazardous substances with the European Chemical Agency in Helsinki,

WE ALSO AGREE that screening and assessment of the occurrence and effects of a subset of the selected hazardous substances in the Baltic Sea marine environment will be started in 2008, in co-operation with the Nordic Council of Ministers, in order to further develop measures for selected substances,

WE FURTHER AGREE as soon as possible, but not later than in the beginning of 2009, that the screening of the occurrence and effects in the environment should be complemented with screening of the sources of selected substances in municipal and industrial wastewaters as well as landfill effluents and storm waters,

WE AGREE to evaluate as soon as possible, but not later than in the beginning of 2009, the practical introduction of the whole effluent assessment (WEA) approach to monitoring of complex discharges of hazardous substances into the HELCOM framework and to establish a pilot project to test some of the presented methods by making a survey in the HELCOM countries in municipal wastewater treatment plants and some specific industrial sectors. The outcome of this pilot project should be used to evaluate the effluents jointly for the Baltic Sea region and to possibly establish PBT (persistent, bioaccumulating, toxic)-based discharge limit values based on the WEA approach,

WE AGREE by 2010 to establish and develop appropriate chemical product registers in order to have more reliable substance-specific information on uses and amounts of chemicals used. It has to be taken into account that existing registers and those under development should be used as much as possible and the respective developments under e.g. the EU regulatory framework for Registration, Evaluation, Authorisation and Restriction of Chemicals, REACH (EC1907/2006) should be built upon,

WE AGREE to use the information created through implementation of the EU chemicals legislation REACH in order to decrease pollution caused by hazardous substances to the Baltic marine environment for HELCOM Contracting States that are also EU Member States,

WE ALSO AGREE by 2009 if relevant assessments show the need to initiate adequate measures such as the introduction of use restrictions and substitutions in the most important sectors identified by the Contracting Parties and taking as a starting point the list as contained in the other document section (page Error! Bookmark not defined.):

- medium-chain chlorinated paraffins (MCCPs)
- octylphenols (OP)/Octylphenol ethoxylates (OPE)
- perfluorooctanoic acid (PFOA)
- decabromodiphenyl ether (decaBDE),

and WE ALSO AGREE to consider similar approaches with regard to hexabromocyclododecane (HBCDD)

WE AGREE by 2010 in the whole Baltic Sea catchment area of the Contracting States to ban the use, production and marketing of (taking into account the as contained in the other document section (page Error! Bookmark not defined.):

- endosulfan
- pentabromodiphenylether (pentaBDE) and
- octabromodiphenylether (octaBDE),

WE AGREE to start by 2008 to work for strict restrictions on the use in the whole Baltic Sea catchment area of the Contracting States of (taking into account the information as contained in the other document section (page Error! Bookmark not defined.):
- perfluorooctane sulfonate (PFOS)
- nonylphenol/nonylphenolethoxylates (NP/NPEs)
- Short-chain chlorinated paraffins (SCCPs),

WE AGREE to assess by 2009 the possibility of introducing restrictions for cadmium content in fertilisers,

WE AGREE to apply strict restrictions on the use of mercury in products and from processes and support the work towards further limiting and where feasible totally banning mercury in products and from processes. WE FURTHERMORE AGREE to review this issue at the 2010 HELCOM Ministerial Meeting,

WE AGREE on the need to apply the same requirements for products marketed globally as in the internal European market concerning hazardous substances,

WE AGREE to implement as soon as possible the Globally Harmonised System (GHS) on classification and labelling of chemicals and to take into account guidelines for preparing safety data sheets,

WE ALSO EMPHASISE the importance of influencing ongoing work on hazardous substances in other international forums by coherent input by HELCOM Contracting States, where possible based on a common HELCOM position:

- to the development of EU BAT Reference Documents (BREFs) in order to enhance implementation of BAT with regard to hazardous substances with special focus on main uses or on uses having high emission factor to the environment
- to the updating of the EU Water Framework Directive list of priority substances and substances to be evaluated under REACH with a special focus on those substances included in Annex XIV of the EU chemicals legislation REACH for those Contracting States that are also EU Member States including by transmitting monitoring data to the European Chemical Agency
- on placing of plant protection and biocides products on the market, if e.g. levels of these substances in the Baltic marine environment are so high that they may cause adverse effects on marine organisms,

WE FURTHERMORE AGREE to promote and support the identification of new candidate substances and their inclusion in the 2001 Stockholm Convention on Persistent Organic Pollutants and the 1998 Aarhus Protocol on Persistent Organic Pollutants to the UNECE Convention on Long-Range Transboundary Air Pollution, taking into account adequate assessments in particular on their impact on the marine environment,

WE AGREE that all Contracting Parties ratify the 2001 Stockholm Convention on Persistent Organic Pollutants and the 1998 Aarhus Protocol on Persistent Organic Pollutants to the UNECE Convention on Long-Range Transboundary Air Pollution as soon as possible but not later than 2010,

WE AGREE to promote the Strategic Approach on International Chemicals Management and participate in the regional implementation process as soon as possible but not later that 2010,

WE FURTHER AGREE starting in 2008 to develop biological effects monitoring to facilitate a reliable ecosystem health assessment,

WE FURTHER AGREE to continue HELCOM’s work with regard to radioactivity, including monitoring of discharges, emissions from nuclear power plants as well as their effects in the marine environment in order to reach the targets for radioactivity.
HELCOM RECOMMENDATION 28E/8

Adopted 15 November 2007
having regard to Article 20, Paragraph 1 b) of the Helsinki Convention

ENVIRONMENTALLY FRIENDLY PRACTICES FOR THE REDUCTION AND PREVENTION OF EMISSIONS OF DIOXINS AND OTHER HAZARDOUS SUBSTANCES FROM SMALL-SCALE COMBUSTION

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,

RECOGNISING that small-scale combustion appliances are land-based sources from which considerable emissions of dioxin are likely to reach, directly or indirectly, the marine area,

RECALLING that dioxin compounds are hazardous substances selected for immediate action by HELCOM,

RECOGNISING ALSO that dioxins are toxic and carcinogenic to aquatic organisms, and bioconcentrate at low trophic levels in the aquatic ecosystem,

RECOGNISING ALSO that the release of dioxins arising in domestic combustion appliances can be minimised by applying Environmental Friendly Practices,

TAKING INTO ACCOUNT that abatement measures for dioxins also affect the emissions of other hazardous substances,

NOTING that for the purpose of this Recommendation the following definitions apply:
- “Dioxin” means chlorinated dibenzo-p-dioxin (PCDD) and dibenzofuran (PCDF) compounds;
- “Domestic combustion appliances/small-scale combustion appliances” mean boilers, stoves and open fireplaces, used for domestic heating, cooking, baking, sauna bathing or other, similar purposes generating an input effect of less than 50 kW;
- “Fuel” means solid fuel consisting of pure material of wood, peat or coal,

NOTING ALSO that the purpose of this Recommendation is to prevent and eliminate pollution of the marine environment by the application of Environmentally Friendly Practices for the use of small-scale combustion appliances with a view to limiting emissions of dioxins and other dioxin-like compounds,

NOTING FURTHER that this Recommendation applies to combustion appliances using solid fuel,

RECOMMENDS to the Governments of the Contracting States to take the necessary measures to:
1. Ensure the introduction of the use of an increasing number of low-emission combustion appliances

- Environmentally sound combustion appliances should be promoted for small-scale combustion installations. Suppliers should be made aware of environmentally sound practices for combustion appliances below 50 kW and should be involved in the promotion of Best Environmental Practises (BEP) for households;
- At enterprises, annual internal inspections (by the operator) and regular instructions on the proper use of the technical equipment by authorised experts (e.g. professional chimney sweepers) should be recommended or made mandatory,

2. Enhance public awareness

2.1 Public awareness should be enhanced regarding
   a) importance of environmentally friendly practices to minimise effects of small-scale combustion in domestic and small enterprise furnaces;
   b) purchase of domestic combustion appliances, the preparation and storage of fuel and the operation of the combustion appliances,

2.2. Public awareness should be enhanced in the abovementioned fields by developing guidelines and arranging information campaigns for households and small enterprises. The information should aim at promoting the following measures and practices:
   a) when new appliances are installed, certified or other products with high environmental performance should be chosen;
   b) only combustion appliances constructed in accordance with the amount of energy required for its purpose should be installed;
   c) combustion appliances should be operated in a way that optimises combustion processes, taking into account at least the following modes of operation:
      (i) fuel: • fuel should be prepared and stored in a way that ensures that it is dry when combusted • fuel should be homogeneous in quality and size • any such waste (plastics, paper, painted wood, etc.) which contribute to the formation of dioxins should not be incinerated or used as fuel; However wood waste, with the exception of wood waste which may contain halogenated organic compounds or heavy metals as a result of treatment with wood-preservatives or coating, can be used as fuel
      (ii) loading: • each load of fuel should be in accordance with the quantity/size for which the combustion appliance is designed and constructed • frequency of loading should be adapted to the combustion appliance and adjusted to maintain good combustion conditions
      (iii) operation: • start-up periods should be as short as possible and dry fuels of appropriate size/shape should be used. • during the burning period, inlet of air should be adjusted to optimal combustion conditions. Deficit or excess air should be prevented;

   d) combustion appliances should be regularly maintained by removing bottom ash. Chimneys should be regularly swept in order to reduce emission of dioxins and to prevent chimney fire.

RECOMMENDS FURTHER that the Contracting Parties develop in 2008 specific efficiency requirements and emission limit values for small scale combustion appliances,
RECOMMENDS FURTHERMORE that the Contracting Parties report on the implementation of the Recommendation to the Commission, based on reporting requirements developed by the Land-based Pollution Group.