HELSINKI COMMISSION
Baltic Marine Environment Protection Commission

Implementation of the HELCOM Objective with Regard to Hazardous Substances

Final Project Report

October 2002

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Implementation of the HELCOM Objective with Regard to Hazardous Substances

Final Report

by

The HELCOM Project Team on Hazardous Substances

with grant award from

The Commission of the European Communities

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This Project has received funding from the Commission of the European Communities (Subv 99/79391), Sweden and HELCOM. The report represents the opinions of the author and the Project Team on Hazardous Substances. The Commission of the European Communities is not liable for any use that may be made of the information in this report.

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0. Executive Summary

The HELCOM Objective with regard to hazardous substances is to prevent pollution of the Convention Area by continuously reducing discharges, emissions and losses of hazardous substances towards the target of their cessation by the year 2020, with the ultimate aim of achieving concentrations in the environment near background values for naturally occurring substances and close to zero for man-made synthetic substances.

Following the adoption of HELCOM Recommendation 19/5 on hazardous substances the Helsinki Commission decided to establish a special project on that issue. The European Commission awarded a grant on the terms as set out in the agreement and its annexes on the Implementation of the HELCOM Objective with regard to hazardous substances in a contract between the EU Commission and the Helsinki Commission (subv 99779391). The time schedule of the project was set as from 1 May 1999 to 31 May 2002 and was prolonged until 31 December 2002. Funding was further provided by the lead country Sweden and the Helsinki Commission.

A project team was established to work on the implementation on this HELCOM Objective, consisting of representatives of all Contracting Parties, as well as of representatives from various non-governmental organisations. The project team has achieved the following results:

- A pragmatic selection of substances/groups of substances from Appendix 3 of the HELCOM Recommendation 19/5 was made and used in a study in order to gain experiences on methods to gather necessary information and to develop a comprehensive information base and reporting system. This work was carried out in cooperation with relevant HELCOM bodies and taking into account ongoing activities in international bodies and the work done in other relevant fora. The legislative situation and the main uses of the selected hazardous substances have been identified to get an overview on the major exposure for the Baltic Sea Area from different sources.

- When selecting hazardous substances for priority action the specific conditions in the Baltic Sea Region have to be taken into account. A comprehensive overview on these specific natural and socio-economic conditions in the Baltic Sea area has been elaborated. Due to natural conditions the Baltic Sea ecosystem can be more vulnerable to anthropogenic chemicals than the marine or freshwater environments addressed within the OSPAR and EU framework and might call for more stringent measures to combat pollution by hazardous substances. Various socio-economic factors in the Baltic Sea Region might contribute to market occurrence and use of hazardous substances that significantly differ from those on the EU market. This again might make different measures necessary than those applied in other geographical regions.

- A follow up on the 50 % reduction goal as stated in the 1988 Ministerial Declaration has been finalized. A Final Progress Report including a new overall conclusion has been elaborated, focussing on the reduction results, trends and data gaps as well as on the experience from that approach and the reasons for the problems encountered. It may be concluded that it is very likely that the 50 % target has now been reached for most of the substances. However, specific substances in specific applications need further attention. This can be established based on current knowledge and does not need further data collection exercises. The cessation target replaced the 50 % target and will be the guiding objective for the further work.

- The legal, market and use situation of the 26 pesticides selected for immediate priority action have been clarified and the following conclusions were made:
    - They are no longer in use or have been banned within all Contracting Parties and by that the cessation goal can be taken as largely reached;
    - Stocks of obsolete pesticides, however, pose a serious threat, e.g. when stored under unsafe conditions, and have to be further addressed.

- Guidance documents on mercury and its compounds, cadmium and its compounds, SCCP, NP/NPE, dioxins and PCBs have been elaborated. The documents contain available information on production and use of the selected substances, sources of emissions and discharges, possible pathways to the marine environment, and monitoring data. They assess the extent of the problem caused by these hazardous substances, identify possible measures to reach reduction and cessation of emissions, discharges and losses and instruments to implement these measures. Finally, proposals for possible HELCOM actions are discussed. The documents aim to provide guidance with regard to:
    - Identification of relevant sources of release;
    - Prioritisation among sources;
    - Identification of appropriate measures to cease these releases;
    - Identification of appropriate policy instruments to implement these measures;
    - Making the choice among the available instruments and measures aiming to get the best outcome for the efforts taken.

- Examples intended to stimulate small and medium sized enterprises (SME) to substitute hazardous substances by less hazardous, preferably non-hazardous substances, considering also related processes, have been compiled.

- According to the availability of data and other provisions within the HELCOM Contracting Parties different strategies were chosen to collect and utilize data. The advantages, disadvantages and/or experiences made with e.g. product registers, questionnaires, downstream user approach, cooperation with industry and other stakeholders are discussed in detail. This provides a basis for future data collection activities.

- Crucial for the implementation of the cessation goal is to create awareness among all stakeholders including the public. Therefore e.g. leaflets have been elaborated, meetings with relevant stakeholders were organised and a special web site has been launched and kept up-to-date.

- Due to the work of the project team the awareness with regard to hazardous substances has been increased, especially within the Contracting Parties not being members of EU and a functioning network has been established.

Given the experience gained from this project and the development within EU a new approach in the future work on hazardous substances and a more effective implementation of measures already identified are needed. Thus, the work in the nearest future should focus on capacity building, awareness rising and assistance to countries. This would mean a change in the profile of the work towards a more sustainable development with regard to hazardous substances within the Contracting Parties. Crucial for a successful future work on the issue of hazardous substances is the political willingness and the firm commitment by the Contracting Parties to make every endeavour to implement HELCOM's Objective with regard to hazardous substances. In the context of the implementation the Contracting Parties have started to elaborate national concepts.

1. Background

The gradual pollution of the Baltic Sea marine environment by hazardous substances represents a serious threat to the environment and to the health of coming generations. Although monitoring indicates that the loads of some hazardous substances have been reduced considerably over the past ten years, problems still persist (HELCOM 2001 g). Comprehensive knowledge about the impact of most available chemicals, and their combinations, on human health and the environment is still lacking. Furthermore, yet unknown substances also pose a considerable threat to the environment. This is indicated e.g. by high production rates of detoxifying enzymes in fish. The increasing number of these man-made substances is a matter of concern and calls for the application of the precautionary principle, i.e., to take preventive measures when there is reason to assume that substances or energy introduced, directly or indirectly, into the marine environment may create hazards to human health, harm living resources and marine ecosystems, damage amenities or interfere with other legitimate uses of the sea even when there is no conclusive evidence of a causal relationship between inputs and their alleged effects.

The marine ecosystem of the Baltic Sea is very sensitive due to natural conditions. Because of the very specific hydrographic, chemical and physical conditions of the Baltic Sea Area, and its geological history, it possesses quite unusual fauna and flora. Marine and freshwater organisms live side by side, and there are a number of living relicts. The fragile ecological balance is threatened by pressure related to the activities of the 85 million people who live and work in the Baltic drainage basin. The exchange of water in the Baltic Sea is very slow, and hazardous substances once released to the Baltic Sea environment, can remain there for a very long time. Due to their intrinsic properties, they can accumulate in the marine food web up to levels, which might be toxic to the organisms themselves, or to their predators.

The 1992 Helsinki Convention - the Convention on the Protection of the Marine Environment of the Baltic Sea Area – aims to protect the marine environment of the Baltic Sea (water-body, seabed, living resources) from all sources of pollution (land, ships, airborne). The governing body of the Convention is the Helsinki Commission, also known as HELCOM. One of the duties of the Commission is to make Recommendations on measures relating to the purposes of this Convention.

1.1 What are hazardous substances?

Hazardous substances in this context are substances or groups of substances that are

- **p**ersistent and
- liable to **b**ioaccumulate and
- **t**oxic

or other substances or groups of substances, which are agreed by the Commission as requiring a similar approach as the substances, mentioned above even if they do not meet all the criteria for toxicity, persistence and bioaccumulation, but which also give grounds for concern. These could for example be endocrine disrupters and substances that can damage immune systems.

1.2 Where do hazardous substances come from?

Hazardous substances are emitted from all stages of the product chain, from the raw material and the production processes, from the use of products and from the handling of products as waste. Emissions from point sources, like land based industrial installations and mines, generally have been reduced substantially, while the relative importance of emissions from diffuse sources, like consumer products, is increasing.

1.3 Hazardous substances in the Baltic Sea

According to the findings of the last assessment (HELCOM 2001 g) cadmium concentrations in herring and other organisms in the Baltic Proper and in the southern Gulf of Bothnia are still increasing, for unexplained reasons. Concentrations of other heavy metals are generally stable or declining, but still problematic locally around significant past and present sources. Falling concentrations of organochlorine compounds have been linked to health improvements in bird and mammal populations, but studies reveal continuing reproduction problems, so levels of organochlorine compounds may still be too high. Dioxins and PCBs were no longer decreasing during the 1990s in the Baltic Proper, which suggests a continuing input from an unknown source. Fish caught in the Baltic Sea is partly exceeding the new EU limits on presence of dioxin in food and feed that entered into force in the beginning of July 2002. Finland and Sweden were granted exemptions, allowing them domestic sale and consumption of Baltic Sea fish until 2006 although the dioxin levels will exceed this limit. DDT has been banned in all countries around the Baltic since the 1970s. Levels have fallen considerably since then, but remain high in comparison to other seas. Organotin compounds (used in anti-fouling agents) are suspected to be behind damage to the reproductive organs of invertebrates observed in the Kattegat and the Belt Sea. Petrochemicals, largely from deliberate or accidental oil spills at sea, remain a serious threat to Baltic ecosystems, especially as shipping is increasing. Endocrine disrupters are a new and still little understood threat to the reproductive capacity of marine organisms. The harmful influence of other as yet unknown contaminants is also suspected, since fish in the Baltic are evidently producing two to three times more detoxifying enzymes than previously, even though concentrations of known contaminants have fallen.

Fig. 1: The HELCOM drainage area.

2. Introduction

The Helsinki Commission adopted in its 19th Meeting (26 March 1998) the HELCOM Recommendation 19/5 concerning the HELCOM Objective with regard to Hazardous Substances, as contained in Annex I.

> The HELCOM Objective with regard to hazardous substances is to prevent pollution of the Convention Area by continuously reducing discharges, emissions and losses of hazardous substances towards the target of their cessation by the year 2020, with the ultimate aim of achieving concentrations in the environment near background values for naturally occurring substances and close to zero for man-made synthetic substances.

The Helsinki Commission recommended that the Governments of the Contracting Parties continue the efforts to reduce discharges, emissions and losses of hazardous substances likely to reach the marine environment, to levels that are not harmful to man or nature as soon as possible and in a stepwise process and time-frame. The Governments of the Contracting Parties should apply the Strategy to implement the HELCOM Objective with regard to hazardous substances and make every endeavour to move towards the target of the cessation of discharges, emissions and losses of hazardous substances, set up by the Kalmar Communiqué of the CBSS, 1996, by the year 2020.

The European Commission decided to award a grant on the terms as set out in the agreement and its annexes on the Implementation of the HELCOM Objective with regard to hazardous substances in a contract between the EU Commission and the Helsinki Commission (subv 99779391). The time schedule of the project was set as from 1 May 1999 to 31 May 2002 and was prolonged until 31 December 2002. Funding was further provided by Sweden and the Helsinki Commission.

The Commission requested the 3rd Meeting of the Working Group on Pollution Reduction[1] to elaborate the Terms of Reference (ToR) for the project "Implementation of the HELCOM Objective with Regard to Hazardous Substances". The joint Meeting of the Chairman and the Secretariat of the Helsinki Commission and the Heads of Delegations to HELCOM endorsed these Terms of Reference as contained in Annex II.

A project team for the implementation of the Objective with regard to hazardous substances was established in 1998 consisting of representatives of all Contracting Parties, i.e. Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Russia, Sweden and the European Commission, as well as of representatives from various non-governmental organisations like The European Chemical Industry Council (CEFIC), The European Chlor-Alkali Industry (EuroChlor) and World Wide Fund for Nature (WWF). Sweden acted as lead country and nominated Ms. Margareta Stackerud as Project Manager. A Project Coordinator, Ms Christine Füll, was appointed on 14 February 2000 to coordinate the work between the Contracting Parties, to carry out the daily work and to act as a secretary for the meetings. A list with all persons who have been involved in the project teams' work, partly or over the whole project period is attached to this report in Annex III.

[1] This was a working group under the HELCOM Technical Committee (TC), which was superseded by HELCOM LAND in 1999/2000. The Project on Hazardous Substances was carried out under the group HELCOM LAND.

According to the work programme stated in the contract between HELCOM and EU (subv 99779391) the project team shall promote the implementation of the HELCOM Objective with regard to hazardous substances. The main tasks and expected results are:

1. Pragmatic selection of substances/groups of substances

An information base and reporting system concerning selected hazardous substances has to be developed for the Contracting Parties.

2. Development of a dynamic selection and prioritisation mechanism

A dynamic selection and prioritisation mechanism to identify the hazardous substances to be given priority in the work has to be developed. In the development of a ranking procedure the work carried out within the Oslo-Paris Commission for the Protection of the Marine Environment of the North-East Atlantic (OSPAR) has to be taken into account. Further, a list on the specific conditions in the Baltic Sea Region to be taken into account when selecting and prioritising hazardous substances for priority action has to be elaborated.

3. Identification and development of relevant measures

The project team should elaborate an overview on the reasons why HELCOM failed to implement the strategic goals set out in the 1988 Ministerial Declaration on the Protection of the Marine Environment of the Baltic Sea Area with regard to Hazardous Substances. This overview should include the learning points from this approach, final conclusions and an explanation of the new goals. Concepts on how to formulate intermediate goals to phase out emissions, discharges and losses of hazardous substances within one generation, on identification of appropriate indicators and on how to obtain relevant data should be elaborated.

The chapters and subchapters in the result section are divided accordingly, i.e., as stated in the contract (subv 99779391) between HELCOM and EU.

In order to meet HELCOM's Objective with regard to hazardous substances, firstly the main uses of the selected hazardous substances have to be identified (qualitatively and quantitatively) to get a picture about the major exposure for the Baltic Sea Area from different industries and different use patterns, and to determine priorities for cost-effective measures. It is also a prerequisite for assessing whether these sources represent either a widespread problem or a problem restricted to regional or local environments within the maritime area.

Data and information on chemicals in society and the environment can be obtained in different ways (see chapter 3.3.8 ff). One possibility is the monitoring of markets, including surveillance of e.g. use of chemicals in production, levels in produced and imported goods, product registers, in addition to the use of permit systems and other legislative matters. Another possibility is the "classical" monitoring of substances in the environment.

Furthermore, data on consumption, discharges, emissions and losses are needed to assess the progress and/or failure of measures aiming at the phasing out of discharges, emissions and losses of man-made and naturally occurring hazardous substances and to examine whether the close-to-zero and background concentration, respectively, have been reached. Also monitoring programmes can support the assessment of progress, however they have some disadvantages: They are very expensive and high efforts are needed to make them representative.

To facilitate the development of comparable ways of obtaining information on chemicals in society and environment HELCOM has proposed a project: "Development of a common strategy to obtain information on the occurrence of hazardous substances in markets, uses and environments in the Baltic region", carried out within the Danish EPA DANCEE strategy "Control over Chemicals". The main activities of the proposed project are described in chapter 3.3.8.7.

3. Results

According to the Grant Agreement (ref. Subv 99779391) the project was expected to result in a) a pragmatic selection of substances/groups of substances, b) a development of a dynamic selection and prioritisation mechanism, and c) an identification and development of relevant measures.

3.1 Pragmatic selection of substances/groups of substances

The project team was requested to make a pragmatic selection of substances/groups of substances from Appendix 3 of the HELCOM Recommendation 19/5 and use it in a study in order to gain experiences on methods to gather necessary information and to develop a comprehensive information base and reporting system. This work was carried out in cooperation with relevant HELCOM bodies. Figure 2 shows the HELCOM selection and prioritisation process for hazardous substances.

The strategy to implement HELCOM's Objective with regard to hazardous substances, attached to Recommendation 19/5 requests HELCOM to consider the respective work undertaken in other fora and especially take the specific conditions in the Baltic Sea into consideration when selecting and prioritising substances of concern including those substances and groups of substances set out in the Appendix 2 according to the following criteria in order to produce a HELCOM List of Chemicals for Priority Action ranked in order of priority.

The criteria used in these and prioritisation mechanisms may include that the substances or groups of substances:

- are a general threat to the aquatic environment due to their hazardous properties;
- show indications of risks for the marine environment or may endanger human health via consumption of food directly or indirectly from the marine environment;
- have been found in one or more compartments of the Convention Area or are likely to reach the marine environment, for instance from a diversity of sources through various pathways.

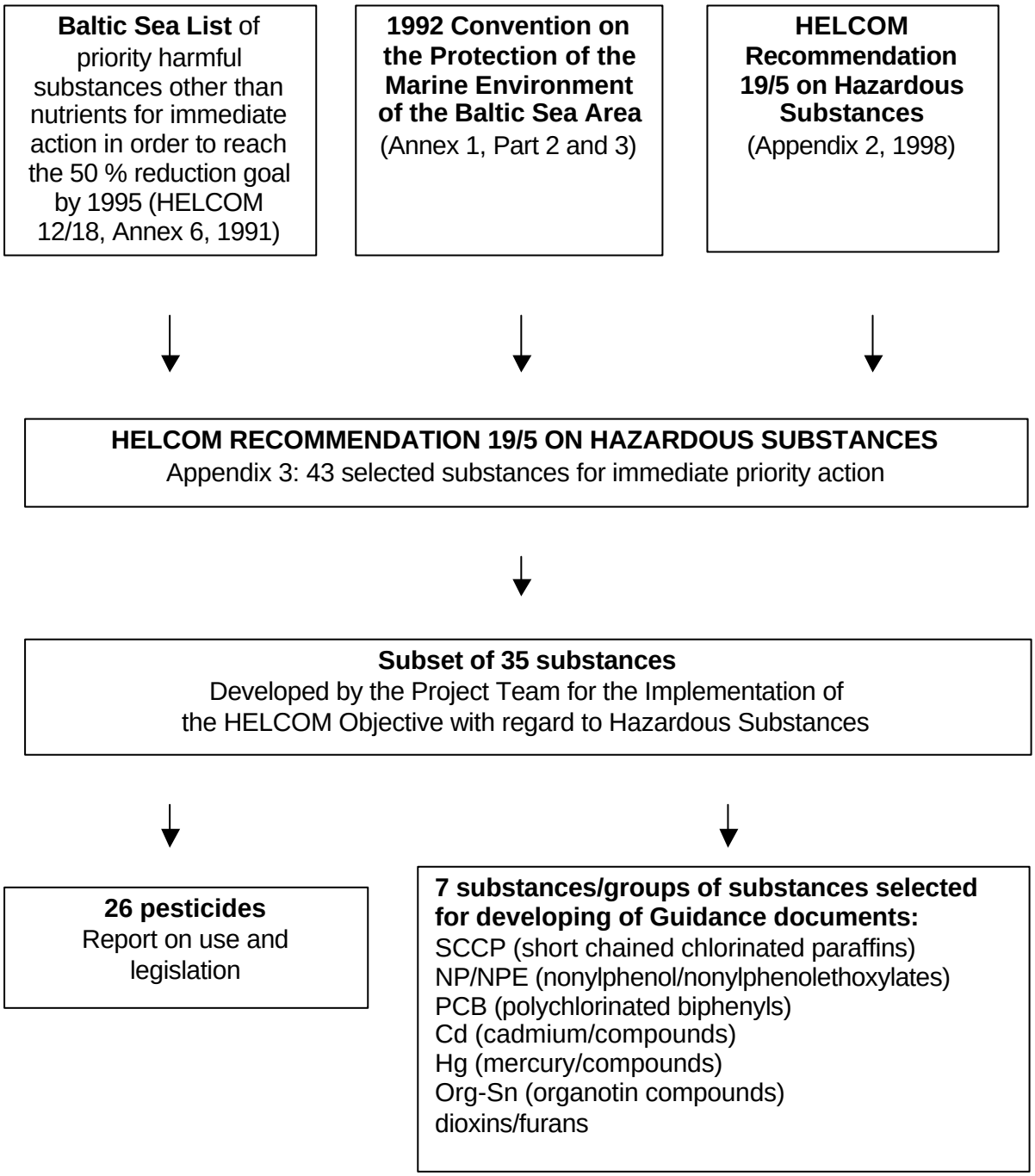
The Appendix 2 of HELCOM Recommendation 19/5, which is identical with the OSPAR candidate list (Annex 3 in OSPAR Strategy), was a compilation of different lists and thus a list of potential substances of concern to be considered by HELCOM. The "extraction/prioritisation process", i.e. the selection of substances for immediate priority action, leading to the list in Appendix 3 of Recommendation 19/5 is described below.

Most of the substances are taken from Annex 1 of the 1992 Convention, Part 2 and 3. That covers the pesticides, DDT, PCBs/PCTs and organotin compounds. Further three substances (nonylphenolethoxylates, chloroform, PAH) were taken over from the 'Baltic Sea List of priority harmful substances other than nutrients for immediate action in order to reach the 50 % reduction goal by 1995" (HELCOM 12/18, Annex 6, 1991). This list was established to deal with the 1988 Ministerial Declaration (Declaration on the Protection of the Marine Environment of the Baltic Sea Area). It is attached to this report in Annex IV.

The project team agreed to also include musk xylene, short-chained chlorinated paraffins and certain phthalates since these substances have also been prioritised within the OSPAR work. Mirex has been taken over from the UNEP/UNECE-Long Range Transport Protocol (LRTAP). Together with eight other pesticides (all selected for immediate priority action), PCBs, dioxins and furans it is one of the twelve POPs listed in the Stockholm Convention (2001) on Persistent

Organic Pollutants, which has the objective to protect human health and the environment from persistent organic pollutants. A table in Annex V lists the substances of concern in various other fora.

Fig. 2: The HELCOM selection and prioritisation process for hazardous substances.



3.1.1 Information base and reporting system

In its attempt to identify the sources, pathways and fate of selected hazardous substances for immediate priority action the project team sent out a questionnaire in an electronic format to the CPs, asking for available information on changes in the discharges, emissions and losses of these substances in the catchment area for the late 1980ies and late1990ies. The discharges, emissions and losses should be given as national figures. Further planned measures and activities for implementation should be reported. The complete questionnaire is enclosed in Annex VI. A detailed discussion on the use of questionnaires to obtain relevant data is given in chapter 3.3.8.2.

The received data on import, production, stockpiling, use and export of substances, information on discharges, emissions and losses were insufficient to establish e.g. an Access database. There were various reasons for that, e.g. lack of transparency and practicability of the questionnaire, technical problems with the electronic format, poor quality of data, but very often simply the non-availability of data. However, the basic problem seems to be that:

- EU accession work has priority over HELCOM work;
- There is a shortage of institutional capacity in the CPs;
- Data collection systems on industrial chemicals and biocides are not in place yet;
- Data collection strategies are at a very early stage of development.

However, data have been used to elaborate comprehensive reports and guidance documents and made available to the public via HELCOM's web site. The data submitted by the Contracting Parties can be looked up in these reports and documents (e.g. pesticide report, report on the 1988 Ministerial Declaration, guidance documents on SCCP, NP/NPE, cadmium, dioxins, mercury, PCB) (http://www.helcom.fi/pollution/hazardous.html). No guidance document on organotin compounds has been elaborated.

For certain substances data compilations are regularly updated within working documents. These working documents are available to the public via HELCOM's web site. An overview on planned, ongoing and finalized projects and activities concerning capacity building in the Baltic Region is also available on the web site (http://www.helcom.fi/land/Hazardous/projectscapbuilding.pdf).

It was agreed that the first reporting on Recommendation 19/5 in 2003 is covered by the questionnaire, the various substances reports and the final project report. Until the next reporting round in 2006 further Recommendations will probably be drafted (e.g. on NP/NPE, SCCP), which would then include an own reporting format. Further details concerning the future reporting and the probable development of a specific reporting format for Recommendation 19/5 have to be discussed. It has to be ensured that information from other HELCOM Recommendations relevant to the project on hazardous substances is included in that reporting. These Recommendations are listed in Annex VII to this report.

3.2 Development of a dynamic selection and prioritisation mechanism

Since the number of substances of concern (see Annex V) is very large, a dynamic selection and prioritisation mechanism to identify hazardous substances to be given priority in the work had to be developed. Therefore the work within OSPAR and other relevant fora had to be taken into account. Further, a list of the specific conditions within the Baltic Sea Region was elaborated and it was discussed how these conditions might influence the ranking procedure within the selection and prioritisation mechanism.

3.2.1 Development of a dynamic selection and prioritisation mechanism to identify the hazardous substances to be given priority in the work

The strategy to implement HELCOM's Objective with regard to hazardous substances, attached to Recommendation 19/5 requests HELCOM to keep the selection and prioritisation mechanisms under review to ensure that it remains effective to identify all aspects of hazard and risk, which should give rise to reasonable grounds of concern about substances. Account should be taken of developments in OSPAR, the International Forum on Chemical Safety (IFCS) and LRTAP.

After adopting a Strategy with regard to Hazardous Substances OSPAR developed a Dynamic Selection and Prioritisation Mechanism for Hazardous Substances (DYNAMEC). It is described as a tool to select those hazardous substances, which should be given priority. The elements of DYNAMEC are:

- Initial selection: identification of substances of possible concern for the marine environment;
- Ranking: application of a ranking algorithm to the initially selected substances to produce ranking of relative risk;
- Selection of substances for priority action.

The complete process is described in detail in an OSPAR document (OSPAR 2000), which can be downloaded from OSPAR's web site http://www.ospar.org/. End of August 2002 OSPAR has published a new working list of "substances of possible concern" from which chemicals for priority action will be chosen. The complete list can be found under: http://www.ospar.org/eng/html/substances/welcome.html.

The DYNAMEC procedure can be seen as a useful basis for the identification and selection procedure. However, to develop a dynamic selection and prioritisation mechanism to identify the hazardous substances to be given priority in the work of HELCOM, additional factors have to be taken into consideration. These are for example the specific natural and socio-economic conditions in the Baltic Sea Region, which are described in chapter 3.2.2. The socio-economic aspects include e.g. the possibility of different usage patterns for priority substances in HELCOM countries which are not (yet) EU-Members. Thus, the main sources of hazardous substances have to be identified in all countries bordering the Baltic Sea.

The "Paradigm for substance flow analyses. Working Document no. 57, 1993/1999", presented by the Danish Environment Protection Agency is a standard tool or procedure for identifying important sources for release of hazardous substances to the environment and identifying the applications of these substances. Thus, the actual and potential exposure of chemical substances to humans and environment can be estimated. Although the paradigm is addressing Danish conditions, the general concept and the principles outlined should be internationally applicable. Substance flow analysis is an analytical tool, to be used for achieving an understanding of the flow of materials and substances in a society, which is necessary to assess the effectiveness of relevant measures. Information resulting from such substance flow analyses should be taken into account when selecting and prioritising hazardous substances to be given priority in the work of HELCOM.

Further, the results of the periodical assessments of the State of the Marine Environment of the Baltic Sea (latest: 4th Periodic Assessment of the State of the Marine Environment of the Baltic Sea, 1994 - 1998) should be also considered when selecting and prioritising hazardous substances. Some of the main findings are highlighted in chapter 1.3. A public version of the assessment is available in printed form and on HELCOM's web site. These assessments are detailed and comprehensive analyses of the biological, chemical and physical features carried out by scientists from all the Baltic States and describe the environmental state of the Baltic Sea, assess developmental trends, identify what or who is responsible for changes – be it human activities or natural variations and finally determine the success of protection measures.

Results from national projects like a Polish project, the goal of which was to make a preliminary assessment which priority hazardous substances are produced, used or stockpiled and may be discharged to the Baltic Sea are of high importance since they show for example the different market situation for HELCOM countries not (yet) EU-Members with regard to certain hazardous substances and can probably give an indication, which similar substances or groups of substances could be of concern.

Another national project "Development and strengthening of the regional co-ordination council's activity on the implementation of HELCOM Recommendations in the Russian Baltic Sea Region", a Russian project proposal submitted to EU within the Programme LIFE-Third Countries aims to build political and administrative capacity within the new North-West Okrug in order to implement the Helsinki Convention and HELCOM Recommendations through transposition into regional environmental legislation and development of implementation programs. The results of this project will also indicate, which substances have to be prioritized in the future, especially with regard to Russia.

The same expectations are related to the BACCON 2.3 project on "Data Collection Strategies on Use and Flows of Chemicals in the Baltic States" and the resulting 1st Baltic Hazardous Substances Report, which will be finalized by 2003 (see chapter 3.3.8.4).

3.2.2 The specific conditions in the Baltic Sea Region to be taken into account when selecting and prioritising hazardous substances for priority action.

A considerable development of selection and prioritisation mechanisms has been conducted under the framework of OSPAR (DYNAMEC) and the EU (COMMPS). They were developed to select hazardous substances used in the Western European countries relevant for the protection of the marine environment of the North Eastern Atlantic and fresh waters respectively. Both natural and socio-economic conditions in the Baltic Sea area differ from that of OSPAR and the EU as a whole. On the other hand the selection criteria both in DYNAMEC and COMMPS are not very region-specific. Hence, they provide a good basis for priority setting under HELCOM as well.

A document discussing these specific conditions has been submitted by Finland and WWF. After approval by the HELCOM Heads of Delegation it was sent to European Chemicals Bureau (ECB) in Ispra in order to support the elaboration on the EU Technical Guidance Document on marine risk assessment, to the EC Expert Advisory Forum on Priority Substances and Pollution Control (EAF) established in accordance to Article 16(5) of the Water Framework Directive 2000/60/EC, and to OSPAR.

Various physical, chemical and biological features can make the Baltic Sea ecosystem more vulnerable to anthropogenic chemicals than the marine or freshwater environments addressed within the OSPAR and EU framework. The physical conditions of the Baltic Sea are likely to retard the degradation of hazardous substances. Hence, more weight should be given to persistence in the selection of substances and the used cut-off values for persistence should be lower. Another feature giving emphasis on persistence is the hydro-geographical conditions, which promote stocking up in time with regard to persistent and bioaccumulative substances.

Various socio-economic factors in the Baltic Sea Region might contribute to market occurrence and use of hazardous substances that significantly differ from those on the EU market.

These specific conditions in the Baltic Sea Region should be taken into account when selecting and prioritising hazardous substances for priority action. It also means that HELCOM's measures to combat pollution by hazardous substances might have to be more stringent than those applied within OSPAR and EU.

Given these facts, the following activities could be considered to facilitate the selection of new substances for priority action within HELCOM:

- Awareness rising (by e.g., national workshops) on the aims and tools of the HELCOM strategy is needed to give basis for selection of substances. HELCOM and CEFIC should assist in organising workshops and other type of awareness rising in the South-Eastern Baltic area. In doing so other capacity activities should be taking into account to avoid overlapping work.
- Market surveys related to i) the import of selected product groups[2], should be carried out in order to facilitate priority setting, ii) the use of selected chemical products in certain industry[3] sectors and to iii) the use of chemicals initially selected in the OSPAR DYNAMEC procedure but excluded from priority setting as being already heavily regulated or phased out on the EC market.

The full report "The specific conditions in the Baltic Sea Region to be taken into account when selecting and prioritising hazardous substances for priority action. (May 2001)" is available on HELCOM's web site under http://www.helcom.fi/a/hazardous/Specific_Conditions1.PDF

3.3 Identification and development of relevant measures

Firstly, the legislative situation and the main uses of the selected hazardous substances had been identified (qualitatively and quantitatively) to get an overview on the major exposure for the Baltic Sea Area from different sources, e.g. industries and different use patterns. Based on this information relevant measures can be identified and developed and priorities for cost-effective measures can be determined.

3.3.1 Follow up on the 50 % reduction goal

The Meeting of Ministers responsible for the environment adopted in February 1988 the Declaration on the Protection of the Marine Environment of the Baltic Sea Area. The Ministers declared their firm determination to make further provisions for reducing discharges from point sources of toxic or persistent substances, nutrients, heavy metals and hydrocarbons by construction and operation of installations and equipment in conformity with the best available technology. In this context it was noted that actions concerning non-point sources would also be needed. In order to fulfil these objectives current and new efforts on reduction of the load of pollutants should aim at a substantive reduction of the substances most harmful to the ecosystem of the Baltic Sea especially of heavy metals and toxic or persistent organic substances and nutrients for example in the order of 50 % of the total discharges of each of them as soon as possible but not later than 1995.

[2] Selection could be based on import statistics and the evaluation, which product groups are dominated by imports from markets on which obligatory environmental classification rules not yet exist.

[3] Selection could be based on the economical relevance of certain industry sectors (textile and leather processing, pulp and paper, wood processing, manufacture of furniture, manufacture of food, metal processing) and the key chemicals in these sectors (e.g. institutional cleaners and textile processing detergents; dye stuffs; metal processing fluids).

The project team on hazardous substances was required to continue the work on those substances for which a 50 % reduction goal was set up by the Commission (HELCOM 12/18, Annex 6, and HELCOM 14/18, Paragraph 6.40).

A Final Progress Report including a new overall conclusion (taking into account the Progress Report of the Esbjerg Goal, 1995) has been elaborated, focussing on the reduction results, trends and data gaps as well as on the experience from that approach and the reasons for the problems encountered. The available data mostly did not allow a final quantitative judgement whether or not the reduction goal of 50 % was reached. However, by using more qualitative information it might be possible to evaluate to which extent the 50 % target has been reached (see also Annex XII).

Based on socio-economic considerations, information concerning reduction programs and investment in wastewater technology and the available substances specific data on release and occurrence it may be concluded that it is very likely that the 50 % target has now been reached for most of the substances. However, specific substances in specific applications need further attention. This can be established based on current knowledge and does not need further data collection exercises. Also, knowledge of exact figures on the development between 1988 and 1998 is not needed to cease the remaining emissions, losses and discharges of the hazardous substances in focus. Those substances, which are still of concern should be dealt with under the HELCOM Hazardous Substances Strategy. This cessation target replaced the 50 % target and will be the guiding objective for the further work. The focus for the work on the cessation goal (Recommendation 19/5) should be on practical reduction measures, administrative capacity and industry efforts needed for implementation.

The full report "The Implementation of the 1988 Ministerial Declaration on the Protection of the Marine Environment of the Baltic Sea Area with regard to Hazardous Substances. A final overall conclusion including the new goals. (May 2001)" is available on HELCOM's web site under http://www.helcom.fi/a/hazardous/MD_50_New_Conclusion_Report.PDF

3.3.2 The Pesticide Report

Pesticides are intentionally introduced into the environment to prevent, destroy, repell, or mitigate any pest. However, the 26 pesticides selected for immediate priority action are persistent, toxic and bioaccumulate in the environment, intrinsic properties, which make them a serious and unacceptable threat to human and environmental health.

From the regulatory point of view the selected pesticides are mostly covered by various HELCOM Recommendations (applying for all Contracting Parties), EC Directives (applying for EU Member States and Accession Countries), various national regulations and legal acts. Nine pesticides are covered by the Stockholm Convention on Persistent Organic Pollutants (2001). The elaborated pesticide report gives an overview on the legal situation concerning the selected substances used as pesticides in the Contracting Parties but explanations concerning possible other uses, exceptions and other detailed information can be also found in the report.

The following conclusions can be drawn:

- The data submitted by the Contracting Parties and information extracted from additional sources (see references in the pesticide report) clarified the legal, market and use situation and it can be concluded that the selected pesticides for immediate priority action (HELCOM Recommendation 19/5, Attachment, Appendix 3) are no longer in use or have never been in use, are not registered for the use as a pesticide, or have been banned – either completely for all uses or at least for the use as a pesticide. This applies for all Contracting Parties. However, there might be a few uncertainties with regard to the Russian Federation. Thus, the working list of hazardous substances can be updated.

- Stocks of obsolete pesticides are a serious problem, which has to be further addressed. Although most of the selected pesticides are not used anymore in nearly all Contracting Parties, they are stored in some countries as obsolete pesticides, partly under very bad conditions. The problems and threats arising from these stockpiles as well as some general ideas to combat the problem of obsolete pesticides are discussed in the report.
- The pesticide report also shows the progress made in the implementation of HELCOM Recommendation 19/5. Concerning the pesticides selected for immediate priority action of its Appendix 3 the cessation goal can be taken as largely reached. This conclusion is based on the assumption that further steps will be undertaken to combat the problem of obsolete pesticides.

The project team informed HELCOM LAND about this need for future action and provided the group with further background information. The 4th HELCOM LAND Meeting (Nov 2001) discussed the problem of obsolete pesticides and decided to await the outcome of a currently ongoing Danish project, which investigates the environmental soundness and economic feasibility of three elimination techniques for obsolete pesticides, which could be an alternative to incineration and to discuss this issue, e.g., the need for a Recommendation on obsolete pesticides, again during the 6th HELCOM LAND Meeting (November 2002), taking into consideration the results of that project.

The full report "The pesticides selected for immediate priority action. A compilation and evaluation of the information given by the Contracting Parties with the focus on use and legislation. (October 2001)" is available on HELCOM's web site under
http://www.helcom.fi/a/hazardous/Final_Pesticide_Report.PDF

3.3.3 Guidance documents on selected substances

The "Extraordinary Meeting of the Project Team for the Implementation of the HELCOM Objective with Regard to Hazardous Substances", held in May 2001, in Berlin/Germany, decided to prepare guidance documents on certain substances, which should take into account the available information from EU, OSPAR, HELCOM (e.g. 4th PA), CEFIC and EuroChlor. Information from other international fora, like e.g. UNEP, was also taken into account. In case no data are available realistic assumptions/estimations of application areas and amount of uses should be made. Risk reduction measures should be identified.

The documents contain available information on production and use of the selected substances, sources of emissions and discharges, possible pathways to the marine environment, and monitoring data. They assess the extent of the problem caused by these hazardous substances, identify possible measures to reach reduction and cessation of emissions, discharges and losses and instruments to implement these measures. Finally, proposals for possible HELCOM actions are discussed.

The documents aim to provide guidance to national policy makers and stakeholders with regard to

- Identification of relevant sources of release;
- Prioritisation among sources;
- Identification of appropriate measures to cease these releases;
- Identification of appropriate policy instruments to implement these measures;
- Making the choice among the available instruments and measures aiming to get the best outcome for the efforts taken.

The following subchapters (3.3.3.1-3.3.3.6) concentrate on the proposals for possible HELCOM actions with regard to selected substances. Further details can be drawn from the particular

documents (HELCOM 2001 b, 2002 d-h), which are also available as independent documents on HELCOM's website (addresses given in the respective subchapters).

3.3.3.1 Guidance document on mercury and mercury compounds

Mercury is a naturally occurring element, a heavy metal that is present throughout the environment. Human activities have increased the amount of mercury that is currently cycling in the atmosphere, in soils, and in lakes, streams and the oceans. Mercury is considered one of the most dangerous metals in the aquatic environment because it can transform into organometallic compounds, which are very toxic and have potential for bioaccumulation and biomagnification. Transformation of inorganic mercury into organic mercury forms is under certain conditions a phenomenon that increases the bioavailability of mercury for aquatic organisms and their predators. Methylmercury e.g., bioaccumulates through the food chain and, once in the body, can affect the fetal and adult nervous systems. As an elementary substance, Mercury is persistent and cannot be degraded into harmless products. In the atmosphere, mercury is transported by wind either as a vapour or as particles. Mercury reaches waters either through direct deposition or as run-off from soil after rain. Coal combustion and refuse incineration are the main anthropogenic sources of atmospheric mercury emissions in Europe, followed by fuel wood combustion, copper/nickel production, lead production and chlor-alkali production. Mercury enters the environment from the intentional use of mercury in man-made products. The main product sources are dental amalgam, batteries, biocides, pesticides and fertilisers, industrial and control instruments, laboratory and medical instruments, lighting appliances (e.g. fluorescent lamps), electrical equipment (switches, relays).

The full document (HELCOM 2002 h) can be found on HELCOM's web site under:
http://www.helcom.fi/land/Hazardous/mercury.pdf

Evaluating the need for actions at HELCOM level it can be concluded that large parts of annual emissions of mercury to the environment come from natural sources and thus cannot be controlled. The remaining parts arise mostly from combustion activities, e.g. combustion of fuels and waste. This creates the possibility for further measures. The emissions arising from fuel combustion are caused by the impurities of the material. A reduction of emissions may be obtained by:

- Reduction of consumption of contaminated fuel, or
- Use of cleaner/mercury-free alternative materials, or
- End-of-pipe measures.

The possibility of implementation of the first two measures highly depends on the economic condition of the plant and country concerned (it may be assumed that alternatives or *e.g.* mercury-free coal are more expensive). Due to this the third option seems to be easier to introduce. There are many available techniques commonly considered as effective for mercury removal, e.g. adsorption measures (wet or with activated carbon). However, many other available techniques allow the reduction of emission not only of mercury, but SO_2 and NO_x as well, e.g. selective catalytic reduction combined with wet scrubber may result in 50 - 80 % Hg, 90 % SO_2 and 90 % NO_x reduction, making the technology more effective for particular pollutants [UNEP 2002]. It should be noted yet, that end-of-pipe techniques do not deal with the cause of the problem since mercury is only transferred from gas to solid phase. If applied, greater concern should be given to proper management/disposal of solid waste produced.

Although many product-related decisions have already been taken by HELCOM, there still are some applications requiring further action. One possibility is regulation concerning mercury-containing thermometers. Other widely used products, as light sources, batteries and pesticides, which may contain mercury have already been regulated by HELCOM.

Emission from waste incineration depend highly on the composition of waste and the content of mercury-containing or polluted products. The emissions should be prevented or reduced in a two-fold approach: on the market and use side by enhancing the phase out of mercury containing products from the markets; and on the emission sides by using efficient abatement techniques, following the provisions in HELCOM Recommendation 16/8 and the EC Directive 2000/76/EC on waste incineration and regarding the information on BAT by the EC information provided in the respective EC BREF.

Proposals for HELCOM actions

HELCOM Recommendation 19/5, aiming at the cessation of *inter alia* mercury discharges, emissions and losses, provides a general frame for the CPs' joint and individual actions and measures. The adoption of more specific Recommendations may be, however, helpful for the Contracting Parties. It may give to the Commission a greater possibility to monitor the work and the progress being done, as well. Most CPs will become European Union Members and be bound by EU regulations. It may be expected that this process will enhance the full implementation of HELCOM Recommendations, especially with regard to discharges and emissions from industrial and municipal point sources. Nevertheless, there will remain enough room for future HELCOM actions, e.g.:

- All CPs should put efforts to implement those provisions of HELCOM instruments, which result from the specific conditions of the Baltic Sea and go beyond the EU legislation requirements.
- Although mercury-containing pesticides are banned within the Baltic Sea Region there are still considerable amounts of stockpiled products. HELCOM may consider and discuss with the countries concerned whether there is a possibility and need for assistance from other CPs to solve the problem.
- HELCOM should consider whether there is a need for a Recommendation concerning the mercury emission from the natural fuel combustion (e.g. heating plants) and elaborate a draft, if appropriate.
- HELCOM should consider whether there is a need for a Recommendation concerning the mercury use in thermometers and other measuring equipment and elaborate a draft, if appropriate.

3.3.3.2 Guidance document on cadmium and cadmium compounds

Cadmium is a heavy metal, which naturally occurs in certain rocks and soils. It is widely distributed in the environment, and one of the earth's crust components. Cadmium is highly toxic, tends to accumulate up marine food webs – and can also affect people who eat seafood. It may lead to potentially fatal kidney and liver problems, brittle bones, and reproductive disorders. The amounts of cadmium in the atmosphere, in soils, lakes, streams and oceans, have increased alarmingly due to man's activities. Cadmium concentrations in herring and other organisms in the Baltic Proper and in the southern Gulf of Bothnia are evidently still rising. Rechargeable batteries containing nickel-cadmium (NiCd) are the largest single source of cadmium for the time being. They are most often used in mobile phones and cordless hand tools, particularly electric drills and screwdrivers; but laptop computers, video cameras, walkie-talkies and other consumer electronics also use nickel-cadmium batteries.

The full document (HELCOM 2002 e) can be found on HELCOM's web site under:
http://www.helcom.fi/land/Hazardous/cadmium.pdf

Evaluating the need for actions at HELCOM level it can be concluded that despite the actions already taken to reduce and restrict the use of cadmium in many applications, the stock of cadmium in circulation in the HELCOM area states is still increasing. This is primarily due to the

large increase in the use of rechargeable NiCd batteries in the period 1985 - 1995. After the mid-1990s the introduction of alternative types of rechargeable battery (Li-ion and Ni-hydride) appears to have halted this increase, but the dramatic fall in the price of cadmium may alter the balance again in favour of the NiCd battery type. It is expected that differences between HELCOM Contracting Parties in patterns of cadmium usage and environmental losses will decline in coming years, partly due to convergences in economic systems and partly in response to convergence in the regulatory initiatives already taken. This is expected to result in general improvement regarding the releases of cadmium to the environment.

One immediate need for action in the HELCOM forum appears to be the strengthening of data creation and retrieval on uses and releases of cadmium in a number of the HELCOM Contracting Parties. As can be seen in the submitted responses to the questionnaire, numerous subsets of data have not been available at this stage, indicating that appropriate data have not yet been aggregated, or maybe in some cases it has not been possible to collect and utilise existing data.

In addition to the ongoing reduction of direct emissions, it should be ensured that releases from spent NiCd batteries are reduced by effective measures. As mentioned, we have not yet seen the full environmental consequences of the widespread and extensive use of NiCd batteries. Emissions of cadmium from incineration of NiCds in household waste are evident today, but long-term releases of cadmium from deposited NiCds will also occur over decades and maybe even centuries, unless adequate measures are adopted.

Proposals for HELCOM actions

Sustained and strengthened initiatives against cadmium releases to the environment may be grouped according to the following focal points:

- Reduce the direct emissions and discharges to air, water and soil from industry, power production with fossil fuels, and waste incineration. This could be achieved by adherence – or approximation – to the standards set in EU emission legislation, by all Contracting Parties, regardless of whether they are current or potential members of the EU. Such standards cover *inter alia*:
  - Better combustion technology and flue gas cleaning techniques at power plants;
  - Regulation of car scrapping, including ban on metal extraction/uncontrolled burning without prior separation of metal and plastic parts.
- Reduce the current and future release of cadmium from NiCd batteries and accumulators.
  - Make use of attained experiences from other nations/locations, in the attempt to sustain or create efficient collection schemes for NiCds already accumulated in society;
  - Consider economic incentives to reduce NiCd battery usage (tax) and to improve collection and recycling of NiCd batteries (a bonus system);
  - Collect open NiCd accumulators in a separate scheme (other user groups);
  - Consider a ban on closed type NiCd batteries including products with built-in NiCds (alternatives are commercially available and widespread already).
- Reduction of other intended cadmium uses over time, and prevention of emergence of new or revived cadmium used, could be obtained by a general ban on cadmium (like for instance in Denmark).
  - Substitution of Cd-containing pigments and stabilizers (probably already addressed);
  - Make campaign to check that imported plastics, ceramics etc. comply with regulations on maximum cadmium content in stabilizers, colourings, fillers and glazes.
- Reduce diffuse releases of cadmium present as impurities in fertilizers, zinc, fossil fuels, cement, lime etc. by optimal choice of raw materials and purification technology (to the extent available), and by enhanced reduction of releases by emission control technology where possible.

- The HELCOM Harmonization report (HELCOM 2001 h) proposes that the HELCOM Hazardous Substances Group should be requested to elaborate a new Recommendation concerning limitation of diffuse sources of cadmium;
- Consider regulation of permitted cadmium content in fertilizer, lime and sludge used in agriculture;
- Replace cadmium-containing sacrificial zinc anodes with (for instance) aluminium/tin/indium anodes to reduce the direct cadmium input to the marine environment (0.6 t annually in Denmark).

- Identify/locate potential sources of cadmium pollution from historical activities (abandoned mine workings and tailings, abandoned industrial sites, fly ash deposits etc).
  - Prioritise and carry out remediation/release reductions on such sites.
- Close data gaps.
  - To support any proposals for HELCOM actions, better data is needed on significant uses and emissions of cadmium to the Baltic Sea Catchment Area. Substance flow studies by each Contracting Party would form a basis for the planning of specific action programs addressing any general problems that are identified, as well as the specific problems in each country.

3.3.3.3 Guidance document on nonylphenol and nonylphenolethoxylates (NP/NPE)

Nonylphenol (NP) is used almost exclusively as an intermediate in the production of other chemicals, with some 60 % used to make Nonylphenolethoxylates (NPEs) and the remainder to make other NP-derivatives. NPEs are used in a wide range of industry sectors as emulsifiers, dispersive agents, surfactants and wetting agents. The most important sector is the industrial and institutional cleaning sector, including domestic cleaning. Occurrence of NP and NPE in the aquatic environment of industrial areas and non-industrial areas as well as in aquatic and terrestrial organisms are reasons for concern. NPE degrade relatively easily in the environment to form short-chained nonylphenolethoxylates and (especially under anaerobic conditions) NP, which are toxic to aquatic organisms. NP and NPEs are accumulated in sewage sludge and sediment. Furthermore, NP bioaccumulates in aquatic species. The toxicity to aquatic organisms and possible endocrine disrupting properties are further reasons for concern.

The full document (HELCOM 2002 g) can be found on HELCOM's web site under:
http://www.helcom.fi/land/Hazardous/npnpe.pdf

Evaluating the need for actions at HELCOM level it can be concluded that even if the EU draft proposal on a risk reduction strategy fulfils a lot of the requirements to implement the HELCOM target to be aimed for by the year 2020, it will not cover all CPs, and further measures may also be needed related to other use areas of NP/NPEs, not covered by the EU proposals. The quantity of NP/NPEs in sewage sludge is a result of the many non-industrial uses and industrial uses of NPE-based products. For the use of NPEs in agriculture pesticides and adjuvants containing NPEs, draft measures proposed are measures taken by national authorities when granting authorisation. The use of NP/NPE by the offshore sector seems to decrease (or already has been ceased) in some countries on a voluntary basis. There is, therefore, a need to examine if other uses, due the risk posed to the marine environment, and especially taking the special conditions of the Baltic Sea into account, should be added to those uses recommended for restrictions on marketing and use.

Presently, two HELCOM Recommendations are related to NP/NPE:

- HELCOM Recommendation 23/7, *Reduction of discharges and emissions from the metal surface treatment*, where NPE is included;
- HELCOM Recommendation 23/12, *Reduction of discharges and emissions from production of textiles*, where APEOs are included.

There seems to be a base for HELCOM to agree on its own for actions aiming for the HELCOM 2020 target in relation to NP/NPE.

Proposals for HELCOM actions

As stated above, measures likely to be taken within the EU will to a large extent fulfil the requirements of the HELCOM target to be aimed for by the year 2020. These measures will not, however, involve all CPs and further measures may also be necessary.

Since it is not yet possible to judge to what extent measures resulting from the work in progress in the EC will enable the HELCOM 2020 target to be achieved for NPs/NPEs, HELCOM should in 2003:

- Review what is likely to be achieved by the EC measures that have by then been adopted;
- Consider the need for further HELCOM actions in order to achieve the year 2020 target.

The existing HELCOM Recommendations, related to NP/NPE (23/7 and 23/12), will likely not cover the actions to be expected to fulfil the target with regard to NP/NPE, why preparing a Recommendation specific for NP/NPE is proposed.

Such Recommendation may include the following items:

- Setting up interim targets concerning other areas, not covered by the EU-measures, as well as EU-measures already taken, where appropriate;
- Considering measures, like limit values, to protect the marine environment, especially related to the specific conditions of the Baltic Sea;
- Work for a ban on marketing and use for the use of NP/NPEs in agricultural pesticides;
- All Contracting Parties should put efforts into collecting information on the availability of and experiences on the use of, technically, environmentally and economically acceptable alternatives to NP/NPE. This information should preferably be included on the HELCOM web site;
- In the light of the progress within the EU framework, develop further complementary actions, if appropriate.

3.3.3.4 Guidance document on short-chained chlorinated paraffins (SCCP)

The main uses of short-chained chlorinated paraffins (SCCP) in Europe were in metal working fluids, as plasticiser in paints, coatings and sealants, as flame retardant in rubbers and textiles, and in leather processing (fat liquoring). But due to an increasing unspecified “other” use new product developments using SCCP cannot be excluded. Less environmentally hazardous substitutes are available for most major applications. All environmental contamination of SCCP is likely to represent a widespread problem, due to the persistent, bioaccumulative and toxic (PBT), as well as carcinogenic properties of SCCP. Emissions from different, also diffuse sources, have the potential to reach the maritime area. On the basis of the accessibility of data on the amount of emissions, discharges and losses from several sources, it is not always possible to fully estimate the degree of risk to the marine environment. However, the absence of data to quantify emissions from each source should not be a hinder to observe potential risks. Hence, the absence of quantifiable data does not eliminate a risk as such.

The full document (HELCOM 2002 f) can be found on HELCOM’s web site under:
http://www.helcom.fi/land/Hazardous/sccp.pdf

Evaluating the need for actions at HELCOM level it can be concluded that even if most HELCOM CPs will be bound to harmonised EU-restrictions on the marketing and use (76/769/EEC) of SCCP, it will not cover all CPs and the phasing out only deals with the most severe uses. In light of the information so far collected on MCCP and LCCP by the UK (in its risk assessment of MCCP) and

Germany (in the document "Draft OSPAR Background Document on the Grouping of Substances for Assessment Purposes, based on the example of Short-, Medium- and Long-Chained Chlorinated Paraffins (PDS 00/3/4), see OSPAR web site), further consideration on the whole range of Chlorinated Paraffins is likely to be needed. New data on uses of SCCP in Europe 1998 show an increasing category "other uses". This category should be studied in order to find out what uses it is composed of, taking into account the uncertainties in data collection mentioned above. Presently, one HELCOM Recommendation is related to SCCP, namely Recommendation 23/7, Reduction of discharges and emissions from metal surface treatment, where SCCP is meant to be included in the group chlorinated organics mentioned. There seems, thereby, to be a need for HELCOM to agree on its own for actions aiming for the HELCOM 2020 target.

Proposals for HELCOM actions

Within the framework of Council Directive 76/769/EEC on restrictions on marketing and use a Directive has been adopted 25 June 2002 regarding SCCP (2002/45/EC). This Directive gives sufficient restrictions on the most important uses of SCCP by volume. It further includes a review clause, which gives the possibility within three years of the further inclusion of other uses, e.g. in products, such as plasticisers in paints, coatings and sealant and as flame-retardant in rubber, plastics and textiles. HELCOM is recommended in 2003 to review the outcome so far of:

- The review clause included in Directive 2002/45/EC;
- Legislative actions on SCCP within the framework of Council Directive 76/769;
- The Water Framework Directive list on priority substances;
- The EU Risk Assessment and the possible Risk Reduction Strategy for MCCP;

and to consider the need for further actions in order to achieve the HELCOM 2020 target.

The existing HELCOM Recommendation 23/7 will probably not cover the actions needed to fulfil the HELCOM 2020 target with regard to SCCP, why preparing a Recommendation specific for SCCP is proposed.

Such Recommendation may contain the following items:

- Contracting Parties that are bound by PARCOM Decision 95/1 should increase their efforts to implement this Decision by national measures.
- All Contracting Parties should pay attention to identifying uses of SCCPs that have not previously been recognised. To this end, the project team on hazardous substances has initiated the development of a common strategy to obtain information on the occurrence of hazardous substances in markets, uses and environments in the Baltic region. This should be worked out together with all relevant stakeholders within two workshops. A concrete proposal has been submitted via the consultant COWI to EPA´s DANCEE.
- All Contracting Parties should put efforts into collecting information on the availability of, and experiences on the use of, technically and economically acceptable alternatives to SCCP. This information should preferably be included on the HELCOM web site.
- Contracting Parties should take action to ensure that any decisions on substitution take account of the fact that the work so far in the EU risk assessment of MCCPs has indicated a potential need for risk reduction measures for some of the uses of MCCP.
- In the light of the progress within the EU framework, further complementary actions, should be developed, if appropriate.

3.3.3.5 Guidance document on dioxins

Polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans have never intentionally been produced, but they are formed as by-products or impurities in several industrial processes (manufacturing of chemicals, pesticides, steel and paints, pulp and paper bleaching) as well as in most combustion processes (exhaust gases, incineration below 1200 °C). There is no use of

dioxins and furans either, but they are ubiquitous in the environment. Average consumers are exposed to dioxins mainly via food but human exposure to dioxins can also occur through working in relevant industries, industrial accidents, through human breast milk and drinking water. The best-known and most harmful congener is 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD). Dioxins have a broad series of toxic and biochemical effects, some of them are even classified as known human carcinogen. Even very small dioxin concentrations can cause negative effects towards human health and the environment. Dioxins are not soluble in water, highly soluble in fat and not biodegradable. Thus, they bind to sediment and organic matter, and bioaccumulate in the food web. They may be also transported over long distances and give rise to transboundery pollution. Those dioxins, which were released to the environment many years ago, are still contributing to current exposure.

The full document (HELCOM 2002 d) can be found on HELCOM's web site under:
http://www.helcom.fi/land/Hazardous/dioxins.pdf

Evaluating the need for actions at HELCOM level it can be concluded that as long as EU measures do not apply to all of the countries of the Baltic region, it is useful to have specific actions in this area. Actions should, however, be compatible with EU actions. The most urgent need seems to be filling knowledge gaps concerning emissions to and concentrations in the environment. As mentioned before, the EU Commission has plans to start programmes to identify important dioxin sources and to carry out measurements in the accession countries. The same kind of project is just going on initiated by Denmark with a goal to carry out a survey of dioxin in the Central and Eastern European Countries (CEEC) in the Baltic region (Poland, Estonia, Latvia, Lithuania and Russia). That project will probably generate new emission data, which can also be used by HELCOM.

Proposals for HELCOM actions

One evident conclusion is that more data on dioxin emissions and concentrations in the Baltic region are needed. If new investigations show remarkable sources (point or diffuse), administrative or informative actions should be focused on them. The air emission estimations for the countries, made by TNO, indicate for example that small residential combustion is an important source of dioxins. Although there were no emissions estimated for landfilling it is worth studying if there are such fires or substances in landfills that can result in substantial dioxin emissions. Furthermore there is little if any comprehensive knowledge at all of possible dioxin fluxes in discharged or drainage waters. The knowledge on the dioxin amounts in wastes and previously polluted areas is not comprehensive either.

The following principles would be useful, when HELCOM Recommendations or other actions are planned:

- The Community Strategy for Dioxins, Furans and Polychlorinated Biphenyls prepared by the European Commission is a good basis for further research and measures, in HELCOM co-operation, to reduce dioxin formation, emission and exposure.
- The actions within HELCOM should be co-ordinated with measures taken by other international parties or fora (OSPAR, OECD, UNEP, and UNECE).

Detailed proposals:

- The knowledge concerning dioxin/furan sources, emissions and concentrations in the environment has to be improved. Especially country specific information about potential point sources of halogenated hydrocarbons should be searched for in co-operation.
- Activities related to local and regional risk assessments and risk reduction measures should be planned, drafted and possibly even to some extent decided without unnecessary delay. The HELCOM strategy for risk management and preliminary decisions on Recommendations for risk reduction measures may be specified later when the improved (and country specific) research data is made available.

- Measures aiming at a broad reduction of emissions of halogenated hydrocarbons from waste treatment and from combustion processes in industry should be promoted by HELCOM using its available means.
- The measures necessitated by EU legislation and obligations or recommendations, probably to be set as follow-up actions according to the Community Strategy for Dioxins, Furans and PCBs, should be taken into account when formulating HELCOM Recommendations concerning the legislation or practice in EU applicant countries as soon as possible. Russia should be recommended to apply the same standards and strategies for risk reduction.
- Other new international conventions of relevance to dioxins and furans (UNECE POP, Stockholm Convention) should be ratified by the HELCOM countries without delay.
- Pollution load compilations (PLC), by HELCOM, should in future include data on the amounts of persistent organic compounds including dioxins and furans.

3.3.3.6 Guidance document on measures aiming at safe handling and reduction of releases of PCB from PCB-containing equipment in use.

A compilation of information, derived from HELCOM Recommendations, EU-Directives, UN-ECE-LRTAP, UNEP and OSPAR, and analysis of appropriate measures aiming at safe handling and reduction of releases of PCB from PCB-containing equipment in use could serve as a guidance document for authorities and all owners and users of PCBs.

This document gives an overview on the chemical properties of PCBs, the main international and national legislations and regulations with regard to PCBs, the main uses and applications and a summary of the main PCB emission sources. It lists and explains identified possible measures to reduce releases of PCB from PCB-containing equipment. The following possible measures have been identified:

- Full implementation of Council Directive 96/59/EC and HELCOM Recommendation 6/1;
- Capacity-building;
- Avoidance and control of unintended by-production;
- Ban of the import of PCB-containing products;
- Carry out inventories (identification and labelling) of PCB-containing equipment and products;
- Improved inspection, instructions and maintenance in order to prevent, avoid and discover accidents, abnormal operation conditions, leakage and spillage;
- Clean repair and decommissioning of equipment;
- Decontamination and avoidance of re-introduction of PCBs via recycling of contaminated equipment and material;
- Clean building renovation and demolition;
- Information campaigns and educational measures;
- Technology transfer and information exchange;
- Avoidance of PCB emissions from incineration processes;
- Establishment of safe collection and storage schemes;
- Proper/safe interim storage;
- Safe destruction and environmentally sound disposal/incineration;
- Landfilling: to be carried out properly or avoided;
- Restricted transport;
- Waste inventories;
- Substitution of PCB;
- Decontamination of PCB-contaminated sites and soils.

Due to the different preconditions in the nine countries bordering the Baltic Sea a generally valid evaluation on which measures are most (cost)effective to reduce releases of PCB to the environment is not possible. However, an attempt is made to give a certain guide to prioritise the above-identified possible measures. So, the highest priority should for example be given to measures concerning existing equipment containing significant amounts of PCB (transformers and power capacitors).

The full report (HELCOM 2001 b) (is available on HELCOM's web site under http://www.helcom.fi/a/hazardous/PCB_Guidance_on_Measures.PDF

3.3.4 Guidance documents on substitution

Recommendation 19/5 suggests the principle of substitution of the use of hazardous substances by less hazardous substances or preferably non-hazardous substances where such alternatives are available as a means to reach the HELCOM Objective with regard to hazardous substances. The project team collected information on substitution approaches and made it available on HELCOM's web site in order to give advice and to promote the substitution principle.

Substitution should be understood as active choices, between and including combinations of chemical substances, preparations, other materials and technical solutions in order to reduce concern for exposure of hazardous substances to man and the environment and the risks associated with the use of chemicals. Products should be understood as all types of goods to be marketed, from chemical preparations to articles like electrical components, medical instruments, cars and machines. However, when one substance is replaced by another, aiming at achieving a lower level of risk, it is important to ensure that the replacement always poses a less overall risk to health and the environment.

Substitutes may be a substitute on the substance or material level, meaning a substance/material is replaced by another substance/material providing more or less the same characteristics. Another type of substitute is the alternative that represents another way of fulfilling the same function. The report: "Heavy metals in waste" (COWI 2002) compiles various options for substitution of the heavy metals lead, mercury, cadmium, and chromium and assesses also the costs for substitution.

The Swedish National Chemicals Inspectorate (KEMI) elaborated a brochure/document to stimulate small and medium sized enterprises (SME) to substitute hazardous substances by less hazardous, preferably non-hazardous substances, considering also related processes. This brochure is available in printed form as well as on HELCOM's website under: http://www.helcom.fi/land/Hazardous/investinlesshazardousproducts.pdf

Many of the diffuse sources of hazardous chemical substances are due to the fact that products are widely used. This use is hard to control and to acquire sufficient knowledge of. Professional users of chemical substances are buyers, and not producers or distributors of chemicals. These industrial users of chemicals are the most crucial part of industry when it comes to substitution efforts. They need to raise relevant demands and questions to acquire sufficient knowledge for evaluating potential risks connected to their applications.

The above-mentioned brochure should serve as an example of how environmental demands and the use of chemicals may be addressed by industry. It also contains a few examples of successful cases of substitution and should support efforts of industrial users of chemical substances:

- To reduce risks related to chemical substances. This should be achieved without essentially increasing other harmful impacts on health and environment such as increased energy consumption or wastewater load;

- To enhance the development of supplier-customer interchange regarding new possibilities for products and technique;
- To guide principal calculations of costs for substitution in a way that not only expenditures but also possible savings and increases of revenues are considered.

There are some situations where substitution typically should be considered:

- A new product is to be developed;
- Plant investments, re-investments or extensive maintenance is planned;
- Processes and products are screened in order to evaluate future problems and possibilities;
- A substance is of concern to relevant national/international bodies due to hazardous properties;
- Customers and consumers demand products free of certain substances.

Substitute chemicals have to be evaluated regarding risk. If concern for hazardous exposure cannot be avoided, measures to reduce exposure to man and environment should be analysed and developed.

On the market there are various substances, preparations and components with similar properties and applicability, but for which appropriate information on hazard to man and environment is more or less lacking. The following may facilitate transfer of information:

- Clear demands on information exist in the purchase situation;
- Manufacturers put pressure on sub-suppliers;
- Suppliers who provide information are chosen to deliver or to develop alternatives;
- Industry Federations put pressure on their members to provide information;
- Investor demands on information;
- Cooperation between small and medium sized companies in order to put pressure on suppliers.

Manufacturers aware of the performance of processes and products have the best abilities to make successful substitutions. National authorities should encourage and urge for investment in less hazardous products to become a self-sustaining ingredient of manufacture.

Currently, several public projects on substitution of hazardous substances in products and processes are carried out in EC countries:

- "Substitution of hazardous substances in products and processes"; sponsored by EC Commission DG Environment and DG SANCO; 2001 till 2002; http://www.oekopol.de/de/aktuell/umweltv_stoffe.php3
- "Sustainable substitution of hazardous chemicals" (www.subchem.de), project with the German federal research program on "Frameworks for Innovations Towards Sustainability [riw]"; 2001 till 2003; sponsored by the German Ministry for Education and Research (BMBF) www.riw-netzwerke.de;
- "Substitution of Hazardous Substances – Guidance for Users of Chemicals"; sponsored by German Federal Environmental Agency; 2001-2002; www.oekopol.de

3.3.5 National concepts supporting the implementation of 19/5

This chapter gives examples on how the Contracting Parties reflect the cessation goal or certain aspects of it in their national systems. Since the cessation goal is a very complex issue and various, even small activities can contribute to it, this chapter cannot cover all activities and is thus not claiming to give a complete picture on all national concepts.

Denmark

Denmark has a chemical policy, which is partly based on the Government's "Strategy for intensified efforts in the field of chemicals in Denmark, in the EU and globally," of January 1999. The goal of the present Danish chemical strategy is to restrict as far as possible the consumption of dangerous chemicals and to ensure that their manufacture, use and disposal do not cause unacceptable effects in people or the environment. One of the corner stones of the Government's strategy is the "List of Undesirable Substances" (LOUS). Today, the LOUS includes about 70 chemical substances or substance groups. The LOUS advises companies, buyers and other professional users of substances, the use of which substances should be reduced or stopped in the long term. The LOUS is also a dynamic list from which substances can be removed at any time, should they no longer pose a threat, whereas others can be added, should new information show that they are problematical. It is, thus, a firm foundation on which to base the on-going task of integrating the generation goal into our future work on chemicals. The industry and retail trade have voluntarily applied the LOUS - even though it is not backed by any legislation.

Examples on how the use of problematic substances is limited:

- Action plan for reducing the use of phthalates, i.e., softeners added to PVC;
- Action plan for reducing the use of certain fire-retardants, i.e., the brominated fire-retardants;
- Bans on certain especially harmful pesticides;
- Approval scheme for pesticides;
- Bans on lead compounds and metallic lead in products;
- Bans on certain biocides in antifouling paint for small boats (pleasure boats);
- Restrictions on private use of paints and lacquers containing solvents;
- Introduction of taxes on phthalates and industrial greenhouse gases;
- Information campaigns for reducing the use, e.g., of LAS in washing products, chlorine in households and bactericides in consumer products;
- Mapping of the formation of dioxin and campaigns against the private incineration of waste in wood-burning stoves as this can produce dioxin;
- The "Cleaner Products Support Programme" supports a number of projects aimed at promoting the substitution, for instance, of phthalates, PVC plastic, lead products, and brominated fire-retardants, by less harmful alternatives.

In Denmark, manufacturers and importers are obliged to investigate and classify the chemicals used in their products. The Danish EPA published its "Advisory List for Self-Classification of Dangerous Substances" in February 2001. The Advisory List encompasses about 20,000 substances that are acutely toxic, cause heritable genetic damage, are carcinogens, are allergens by skin contact or are dangerous to the aquatic environment. Such computerised appraisals will play a vital part in our efforts to obtain more information on the many known and unknown chemical substances in circulation, substances about which we need to know more - not least when we must meet the generation goal.

Estonia

Hazardous substances in Estonia are covered by several legislative acts (e.g. Chemicals Act, Water Act, Waste Act, Integrated Pollution Prevention and Control Act etc.) and managed by five different ministries. Therefore, the main challenge for the future is to guarantee the co-operation and data exchange between different institutions being responsible for chemicals management.

The legislative aspects on hazardous substances are more or less adopted in the frames of EU accession, therefore the requirements of EU Framework Directive (2000/60/EC), dangerous substances directives (76/464/EEC and its daughter directives), HELCOM etc. have been introduced into national legislation. However, the implementation and control on chemicals

exposure and monitoring is inadequate. As the existing system on chemicals management in Estonia is quite complicated (managed by five different ministries), the reformation of that issue is currently under discussion to clarify the responsibilities and achieve a more coherent and effective system.

In 2001/2002 an Estonian Chemicals Safety Development Plan was elaborated. The ultimate task (for 2010 and onwards) is to create a chemicals risk management system, including the ensurance of the control over chemicals impact on human health and environment. The first steps (goal for 2004) are to get an adequate overview on the existing situation, e.g. production, import and export of different chemicals (including hazardous substances listed in 19/5), to identify and assess the impact on human health and environment, implement the preliminary measures to avoid accidents etc. To achieve those short- and long-term goals an inter-ministerial Committee on Chemicals Safety has been established, with a task to guarantee the participation of different stakeholders in the implementation of the chemicals policy. The rise of public awareness on chemicals as well as producers and industries on chemicals risks is of great importance.

From the environmental point of view the permitting procedures must deal more effectively with hazardous substances, including environmental risk assessment, replacement of hazardous substances with less dangerous ones, introduction of Best Available Technology principles etc.. The adequate monitoring requirements should become a part of an environmental permit, which enables to control the hazardous substances discharges as well as their impact to the receiving environment. The permitting system and information gathered through it will be one component of an environmental information system and state environmental register.

The emission reduction programmes for dangerous substances of concern must be elaborated and implemented. Those substance-specific programmes include the estimations on the exposure of the substance as well as measures to reduce the discharges in order to achieve the environmental quality objectives set.

Finland

In spring 2002, the Finnish Council of State made a decision-in-principle on actions to protect the Baltic, Finland's Programme for the Protection of the Baltic Sea. In order to achieve a good ecological state of the Baltic Sea, action will be taken in six main sectors, two of which are reducing the risks caused by dangerous substances and increasing environmental awareness.

One of the aims is to gain knowledge of inputs of hazardous substances into the Baltic Sea and to gain sufficient information on their concentrations and effects in order to set reduction priorities. The long-term goal is to prevent hazardous substance discharges from harming the ecosystem of the Baltic Sea or human health. Another aim is to reduce the levels of permanent, bio-accumulating and toxic substances already present in the Baltic Sea marine environment to near back-ground values for naturally occurring substances and close to zero for synthetic substances.

Hazardous substances enter the Baltic Sea from community and industrial wastewater, drainage water or as airborne depositions. Efficient reduction of discharges and loads is not possible without international cooperation. Finland has committed itself in several international contexts to reducing loads of hazardous substances. The EU Water Framework Directive (2000/60) and the directive on discharge of dangerous substances into the aquatic environment (76/464) also set emission limits.

There are about 5,000 hazardous chemicals in use in Finland. Monitoring inputs of these substances and assessing their impact is for the most part inadequate. Further information is urgently needed to begin reducing the use and loading of hazardous substances in the order of priority as soon as possible. Promoting this task in neighbouring areas is a new focus in neighbouring area cooperation.

Legislative and other effective measures to restrict the use and loading of the priority hazardous substances shall be prepared. The environmental permit procedure shall be developed so that the

terms and monitoring of the permits pay closer attention to hazardous substances. Releases from contaminated sediments in inland watercourses shall be reduced.

The setting and achieving of effective reduction goals shall be promoted in the EU and in other international cooperation, and measures to reduce hazardous substance discharges shall be supported in neighbouring area cooperation.

Further information shall be acquired on the hazardous chemicals used in Finland and on hazardous substance discharges. In addition to the EU priority list, another priority list shall be drawn up for those substances requiring urgent attention at the national level.

The monitoring of inputs of hazardous substances and their environmental levels shall be made more effective. Environmental permits shall include requirements to gather monitoring data as per the environmental protection legislation.

The new information shall be used to reduce inputs of hazardous substances originating in Finland, in an organized way and in order of priority.

Further, in the end of August 2002, Finland has introduced new legislation banning the production, import and export of persistent organic pollutants (POPs) or any goods treated with them, except if used under laboratory conditions for research purposes. The decree, which takes effect in September 2002, gives Finland a lead in the implementation of a global convention on POPs signed last year in Stockholm.

Germany

The beginnings of an active European environmental policy date back to 1973. Since then a number of different individual EU Directives on water protection have been passed and implemented in national legislation. Hazardous substances in Germany are covered by several legislative acts (e.g. German Federal Water Act, Waste Water Charges Act, Ordinance of Dangerous Substances (Gefahrstoff-Verordnung), Technical Rules for Hazardous Substances 500 (TRGS 500), Use of Fertilizers Ordinance) and numerous EU Directives (e.g. dangerous substances, urban wastewater, groundwater, IPPC Directive etc.) concerning water protection, the control, evaluation and assessment of risks of chemicals and the reduction of emissions/discharges in industrial branches (see also Annex X). These statutes and regulations include instruments aiming on the reduction of emissions, discharges, and losses of hazardous substances to the air, water and soil. The current work focuses strongly on the implementation of the EC Water Framework Directive (WFD) 2000/60/EC, which came into force on 22 December 2000.

With respect to the current EU Chemicals Policy the Directive on classification, labelling and packaging of dangerous substances (67/548/EEC) and the Directive on restrictions of marketing and use of certain dangerous substances and preparations (76/769/EEC) have been implemented in Germany by the Chemikalienverbots-Verordnung (Gefahrstoff-Verordnung, Ordinance of Dangerous Substances). The substitution principle for hazardous substances in the working environment is laid down in this national legislation as “duty of the employer to investigate” alternatives and “order to substitute” if necessary (§ 16 GefStoffV). Guidelines concerning health and safety at work are set by the revised ”Technical Guidelines on Dangerous Substances“ (TRGS 516), in force since July 1996. Germany implemented the Regulation on ‘existing’ substances (EEC 793/93) and plays an active role e.g. as lead country for specific substances in the assessment and evaluation of risks to the environment. One important issue is the substitution of hazardous substances by less harmful substances.

The absence of hazardous substances has become a relevant market demand with regard to consumer products, and “Health and environment” has turned into an important policy in general. With respect to substitution of hazardous chemicals there are voluntary agreements with the industry (altogether more than 42, e.g. on the phasing-out of Nonylphenol-ethoxylates (NPOEs) in cleaning agents and detergents); labelling (used for specific products, e.g. wood preservatives)

and the eco-label “Umweltzeichen” that is granted to products in which specific substances are not allowed to be used.

Germany initiated a series of projects to support the implementation of the cessation goal. One of these projects dealt with the formulation of requirements for discharges of substances into waters (UBA Texte 60/99) and elaboration of a Guidance Manual for Formulators and other Professional Users of Chemicals” (UBA Texte 89/99), which aims to support companies in their choice and use of chemical products with a view on sustainable and long term water protection. A central point of the manual is to improve the communication on the properties of substances and their pattern of use. The manual contains suggestions for strategic actions for eliminating environmentally hazardous, water-relevant substances.

Two other research projects have been commissioned by UBA Berlin, namely "Distribution of persistent chemicals in marine ecosystems" and Development of a Concept for the Evaluation of Hazardous Substances in the Marine Environment within the Framework of the OSPAR Convention". Exposure ananlysis with different computer models for six substances have been carried out and data on production, occurrence in the marine environment, biodegradation, bioaccumulation, ecotoxicity, physico-chemical properties, as well as information on use pattern and other information related to the input into the environment has been collected and documented for all substances.

Latvia

In Latvia, hazardous substances are covered by several legislative acts:

- The Law on Chemical Substances and Chemical Preparations of 21st April 1998; in force since 1st January 1999 states competence of institutions for control and supervision of activities with chemicals in general. This Law shall not apply to the following products in the finished stage, intended for final users: medical products (including veterinary medicine); cosmetics; foodstuffs, food additives and animal feeding stuffs; pesticides; radio-active substances; readymade explosives or chemical substances put on market with the aim to obtain pyrotechnically effects; biotechnological products; wastes; additional provisions for transport of dangerous goods, and additional provisions regarding the narcotics and psychotropic substances and the precursors.
- The Regulation of the Cabinet of Ministers No. 418 of 27th October 1998 “Procedure for Compilation and Submitting Safety Data Sheets on Chemical Substances and Chemical Products”, in force since 1st January 1999;
- The Regulation of the Cabinet of Ministers No. 228 of 29th June 1999 “Classification, Labelling and Packaging of Chemical Substances and Chemical Preparations”;
- The Regulation of the Cabinet of Ministers No. 158 of 25th April 2000 “Regulation on Restrictions and Prohibits for Use and Marketing of Dangerous Chemical Substances and Dangerous Chemical Preparations; in force since 1st January 2001;
- The Regulation of the Cabinet of Ministers No. 448 of 23rd October 2001 “On Necessary Level of Education for Persons Performing Commercial Operations with Chemical Substances and Chemical Preparations” is in force since 1st January 2002;
- The Regulation of the Cabinet of Ministers No. 340 of 6th August 2002 “Order of import, registration and risk assessment of new chemical substance”, in force since 1st January 2003;
- The “List of Dangerous Substances” was approved by the Minister of Environmental Protection and Regional Development on 18th May 2001.

A specific implementation plan has yet to be developed.

Lithuania

Lithuania will get transition periods to implement three EU environmental Directives: Until the end of 2009 to implement the 1991 urban waste water treatment directive, until end of 2006 for the 1994 packaging and packaging waste directive, and until end of 2007 for a 1994 directive controlling volatile organic compound emissions from petrol storage and distribution.

A specific implementation plan has yet to be developed.

Poland

In 2001 Poland submitted her implementation plans for EU Directives relevant for HELCOM's project on hazardous substances. Although most EU Directives slightly differ with regard to their ultimate goals (discharges etc. are to be reduced, not eliminated) some of them concern the same substances or groups of substances as listed in Recommendation 19/5. Due to this fact, implementation of both, EU Directives and HELCOM Recommendations should not be regarded separately, especially when financial and human resources are limited. Among the implementation plans to EU Directives in the field of the environment the following are relevant for HELCOM's project on hazardous substances:

- Council Directive 76/464 of 4 May 1976, on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community as well as the daughter directives 82/176/EEC, 83/513/EEC, 84/156/EEC, 84/491/EEC, 86/280/EEC, 88/347/EEC and 90/415/EEC;
- Council Directive 86/278 of 12 June 1986 on the protection of the environment, and in particular of the soils, when sewage sludge is used in agriculture;
- Council Directive 91/689 of 12 December 1991 on hazardous waste;
- Council Directive 96/59 of 16 September 1996 on the disposal of polychlorinated biphenyls and polychlorinated terphenyls (PCB/PCT).

The aforementioned directives will be (and partly already are) transposed into the Polish law by the following law acts:

- Environmental Protection Law of 27 April 2001;
- Act on Waste of 27 April 2001;
- Water Law (Approved by the Sejm, passed to the Senate – upper chamber if Parliament) and appropriate executive orders.

After a thorough assessment of Polish possibilities to fully implement EU directives in the field of environment, the Government decided to apply for transition periods. With regard to the above-mentioned directives only one such period (until 2007) was applied for concerning the implementation of 76/464/EEC (incl. daughter directives). The remaining three directives will be implemented until the end of 2002 or according to the time schedule indicated in the directives themselves.

Russia

In August 2001 Russia started the project "Development and Strengthening of the Regional Co-ordination of Council's Activity on the Implementation of HELCOM Decisions in the Russian Baltic Sea Region", an EU LIFE Third Countries project. The project application was very much appreciated and officially supported by HELCOM. This project aims to build political and administrative capacity within the new North-West Okrug in order to implement the Helsinki Convention and HELCOM Recommendations through transposition into regional environmental legislation and development of implementation programs. The two main tasks of the project are to set up a HELCOM Implementation State Office under the Regional Department of the Ministry of Natural Resources and development of communication tool with the stakeholders and the public

and to get practical experience in legal transposition and implementation work by carrying out three pilot projects:

- Harmonisation of Russian reporting formats on emission from point sources with the Reporting formats of HELCOM Recommendations.
- Setting up requirements and an implementation strategy for Best Available Technology (BAT) in pulp and paper industries of North-West Okrug of Russia.
- Development of a program on cessation of the PCB releases to the environment in the North-West Okrug of Russia.

Russia has already prepared a first interim project report.

Further, the Russian Federation signed the Stockholm Convention on POPs in May 2002. In this connection the elaboration of the Russian National Program on POPs including a part devoted to HELCOM strategy and activities with regard to hazardous substances is planned. Within the elaboration of a Russian National Program on POPs international obligations of Russia and its regional features will be taken into consideration. In October 2002 an All-Russian Conference on POPs will be held in Moscow within the UNEP framework (sub-program on chemical substances). Its target is the elaboration and discussion of the Russian National Program on POPs.

Sweden

In February 2001 the Swedish Government put before Parliament the Bill "A Chemicals Policy for a Non-toxic Environment". The Bill, which was presented in cooperation with the Left Party and the Environment Party, clarifies the environmental objective "A Non-toxic environment", setting out six subgoals and strategies on how to achieve them:

1. By 2010, data will be available on the properties of all intentionally manufactured and extracted chemical substances on the market. The same requirements will apply for both new and existing substances. In addition, by 2020, as much data as possible will be available on the properties of all unintentionally manufactured and extracted chemical substances on the market.

To achieve this the Government will strive to persuade the EU to introduce a knowledge requirement for the health and environmental properties of chemical substances. This can be achieved by modifying EU regulations so that the same requirements that are currently put on new substances also apply to existing substances. Substances that do not fulfil these requirements may not be sold or used.

2. In 2010, products will be labelled with health and environmental information on the hazardous substances they contain.

To achieve this the Government will encourage the EU to develop a EU-common system of health and environmental information for goods that are not chemical products. Pending the introduction of such a system, companies should submit such information voluntarily.

3. New products will be as free as possible from: a) carcinogenic, mutagenic or reproduction-toxic substances by 2007 if the products are intended for sale to the consumer; b) new organic substances that are persistent and bio-accumulating as soon as possible or by 2005 at the latest; c) other organic substances that are very persistent and very bio-accumulating by 2010 at the latest; d) other organic substances that are persistent and bio-accumulating by 2015 at the latest; e) mercury by 2003, cadmium and lead by 2010 at the latest. The Government also feels that this target should be extended to include substances that are endocrine-disruptive, allergenic, or may damage the nervous system or the immune system. Strategies for how this part of the work is to be carried out must be developed by 2005.

The Government will strive for the introduction of EU regulations banning the use of those substances covered by target 3. On the national level, the guideline values stipulated in target 3 should act as a guide for companies prior to binding EU regulation being adopted. In a longer-term perspective, the Government will strive for a global phase-out of these substances.

4. Health and environmental hazards that are posed during the production or use of chemical substances will continuously decrease until 2010 in accordance with indicators and key ratios that have been established by the relevant authorities.

The National Chemicals Inspectorate and the Swedish Environmental Protection Agency are developing indicators and ratios to monitor risk reduction. Companies will receive greater responsibility for risk assessment and risk management. The precautionary principle and the product choice principle will serve as guidance.

5. Target values for at least 100 selected chemical substances that are not covered by the third target will have been established by the relevant authorities by 2010. The aim is for these guideline values to eventually be established as environmental quality norms.

6. Polluted areas will be identified and investigated. By 2010, measures will have been taken for at least 30 % of the areas assigned a very large or large risk class.

The National Chemicals Inspectorate and the Swedish Environmental Protection Agency will have the main responsibility for developing the guideline values. Companies must strive to ensure the target values are not exceeded.

The Government is proposing that all chemicals used – regardless of whether they are new or already exist – should be subject to the same information requirements regarding their intrinsic health and environmental properties. The proposal states that substances for which there is no information available must not be released onto the market after 2010. Information on substances that are manufactured in substantial amounts and, subsequent to initial comprehensive tests, are judged to be particularly hazardous must be available at an earlier date.

The Government emphasises in particular that substances that are persistent and bio-accumulating, mutagenic or reproduction-toxic should be phased out. There is currently a ban in force within the EU until 2007 which forbids the use of chemical substances that cause cancer, behavioural changes and reproductive abnormalities in humans in chemical products that are available to consumers. The Government proposes that this ban be extended to cover goods other than chemical products.

The Government Bill is mainly the result of the proposals put forward by the Chemicals Committee in their report “Non-hazardous products – Proposals for implementing new guidelines in chemicals policy” (SOU 2000:53), submitted to the Government in June last year. The Environmental Objectives Committee’s draft targets under the Non-toxic environment objective stipulated in its report “The future environment – our common responsibility” (SOU 2000:52) have also served as a basis for the Government’s proposals.

The new EU Chemicals Policy (REACH System)

Up to now, four important European legal instruments have regulated chemicals in the Community: The Directives on classification, labelling and packaging of dangerous substances (67/548/EEC) and dangerous preparations (88/379/EEC); the Regulation on ‘existing’ substances (EEC 793/93); and the Directive on restrictions of marketing and use of certain dangerous substances and preparations (76/769/EEC).

Within the current EU Chemicals Policy existing substances can be used witout testing. In 2002, more than 100 000 existing substances have been registered in the EINECS. The effects and also the uses of these substances are widely unknown. The burden of proof lies on the public authorities. This is a long process, and until September 2002 only about 20 substances have been risk assessed and 140 are on a priority list (http://ecb.jrc.it/existing-chemicals/). There are no efficient instruments to ensure the safe use of most problematic substances and there is a lack of incentives for innovation, in particular of less hazardous substitutes.

The weaknesses of the current legislation have been identified, and led to the White Paper on the Stategy for a Future Chemicals Policy[4], adopted by the Commission in February 2001:

- The Commission's Chemicals Strategy will aim to shift the burden of proof from the regulator to industry and to improve the chain of responsibilities.
- The Strategy will be based on the principles of precaution, prevention, producer responsibility, polluter-pays and substitution to stimulate the replacement of dangerous substances with less dangerous substances.
- One of the key objectives of the new chemical policy is to reach, within a generation, the proper assessment of the impacts on humans and the environment of all chemicals on the market.

This Strategy should also enable the EU and its Member States to meet international obligations, including the HELCOM Objective with regard to hazardous substances. The work of the OECD on chemicals, with the objective of sharing information and criteria on risk reduction programmes, will be essential.

The main content of the new proposal is a new coherent and efficient system for new and existing substances called the REACH system. The Community will be the first region in the world that efficiently and effectively tackles the burden of the past. The White Paper proposes a systematic approach to existing substances, which comprise more than 99 % of the total volume of chemicals. The three elements of the system are:

- Registration: all existing and new chemicals above 1 tonne (around 30000 substances) will be tested and registered in a central database. It is estimated that about 80 % of the total number of substances produced in more than 1 tonne/year/producer will only require registration. Registration requirements are:
  - Information on identity and properties of substances (including toxicological, eco-toxicological properties);
  - Intended uses: estimate human & environment exposure;
  - Production quantity envisaged;
  - Proposal for classification and labelling of substance;
  - Safety Data Sheet;
  - Preliminary risk assessment covering intended uses;
  - Proposed risk management measures;
  - Authorisation.
- Evaluation: will take place for all substances exceeding a production volume of 100 tonnes (around 5000 substances), as well as for lower volumes when substances have certain hazardous properties. Authorities will carry out the evaluation to decide on substance-tailored testing programmes and on the appropriate course of action.
- Authorisation: For substances that are carcinogenic, mutagenic or reprotoxic and for substances that are persistent organic pollutants (POPs) (around 1400 substances), an authorisation procedure will ensure stringent control. Authorities will give a specific permission for uses that can be shown safe. This ensures *inter alia* that authorities focus on substances of most concern and on substances produced in substantial quantities, and that innovation (development of safer chemicals) is stimulated because the development of low volume new substances is facilitated.

The EU Water Framework Directive (WFD)

An important part of the WFD is the adopted strategy against water pollution by establishing specific measures for the progressive reduction of discharges, emissions and losses of priority substances and the cessation or phasing out of discharges, emissions and losses of priority hazardous substances. In line with Article 16 of the WFD "Strategies against water pollution" and

[4] See http://europa.eu.int/comm/environment/chemicals/whitepaper.htm

based on the COMMPS work the Council and European Parliament adopted a first list of priority substances, which includes 33 substances or groups of substances for which emission controls will be specified for the progressive reduction of discharges, emissions and losses. 11 out of these substances have been identified as priority hazardous substances for which the Commission shall propose measures aiming at cessation of their discharges, emissions and losses into the environment within 20 years. 14 priority substances are under review as possible priority hazardous substances. In addition to the EU priority substances the Member States shall identify their national priority substances and establish Environmental Quality Objectives for these in accordance with Annex V of the Directive. Altogether, 15 substances from the EU priority list, 9 of which are priority hazardous substances, are also on HELCOM's list of substances for immediate priority action. In order to provide guidance for the implementation of the Water Framework Directive (WFD common implementation strategy) several EU expert groups on different issues have been established, and priority substances are dealt with in the Expert Advisory Forum. E.g. fact sheets are being elaborated on all priority substances containing information on sources and possible reduction measures. The Directive 76/464/EEC on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community (DSD) has the objective to eliminate or to reduce pollution of waters by dangerous substances listed in its Annexes. However, the DSD will be totally integrated in the Water Framework Directive by 2013, and the WFD will be the main frame to curb emissions of hazardous substances in EU. The work going on in EU to implement the WFD is producing a lot of information on priority substances and possible control measures to reduce emissions and discharges for both point and diffuse sources and is of great importance also for HELCOM. Further EU Directives with relevance for the HELCOM work on hazardous substances are listet in Annex X.

The European Marine Strategy

The 6th Environment Action Programme stipulates the development of a thematic strategy for the protection and conservation of the marine environment with the overall aim "to promote sustainable use of the seas and conserve marine ecosystems", because the marine environment is subject to a variety of threats, including *inter alia* contamination by dangerous substances. The objective with regard to hazardous substances is to progressively reduce discharges, emissions and losses of substances hazardous to the marine environment with the ultimate aim to reach concentrations of such substances in the marine environment near background values for naturally occurring substances and close to zero for man-made synthetic substances. Activities and actions to implement this objective are i) implementation of the Water Framework Directive, ii) making proposals for chemicals policy and pesticides strategy, iii) development of a pilot programme for monitoring of dioxins, and iv) consideration of need for action on harmful antifouling in addition to the implementation of the IMO Convention on Harmful Antifoulants.

3.3.6 Available Instruments to implement HELCOM Recommendation 19/5

Any policy measure to implement HELCOM Recommendation 19/5 should assist and educate trade and industry to act in a precautionary and responsible way with regard to import, production and use of hazardous substances. The authorities should use their instruments in a way that open and pro-active companies benefit from it compared to those companies hiding information and postponing required measures. Further, national measures should make use of projects, processes and instruments also relevant in the EU context if applicable. Available Instruments are information, economical instruments, agreements and commitments, and regulatory instruments.

Information

Promoting the accessibility and the flow of information on hazardous properties of substances in the market and possible alternatives is one of the key instruments to promote the implementation of HELCOM Recommendation 19/5. This could include for example:

- Making HELCOM's list of hazardous substances, including a brief explanation, available to industry associations, companies and environmental inspectorates. The explanation could also include some advise that companies should ask their chemical suppliers for confirmation that their products do not contain these substances.
- Making existing information on practical alternatives available to industry, enabling companies to avoid the use of hazardous substances in processes and products. The information should be specific for certain products and processes.

Economical instruments

Economical instruments could include three principal types of measures:

- Companies placing hazardous substances on the market or releasing it into the environment could be charged with environmental taxes. Pre-requisite for such a system however are clear and preferably internationally agreed criteria to determine such substances, or lists of hazardous substances internationally recognised. Also, the methodology to determine the tax to be paid by companies needs to be simple and transparent, and it should not lead to substitution with possibly more harmful substances.
- Companies or sectors willing to phase out the release of hazardous substances may receive public financial support within research and development projects. Such projects should usually involve more than one company and the results should be publicly available in order to promote the dissemination of innovative solutions.
- Since customer's demands are the best incentive for industrial manufacturers of chemicals and other goods to reduce chemicals risks, local and national governments could set up demands on the absence of hazardous substances when calling for best offers. This may be for example relevant with regard to building and construction works, office furniture and communication equipment, institutional cleaning services, uniforms and vehicles for police and army.

Agreements and commitments

If there is a limited number of players in the market, commitments of single companies or agreements among companies (or association) in certain sectors of trade and industry can be very effective to phase out releases of certain hazardous substances. Such sector-initiatives should usually include suppliers and users of chemicals. However, it is important that clear targets and indicators for success are set, regular progress reporting takes place and a clear process management scheme among the stakeholders exists. It may be also useful that the authorities give some advise in such a process. Examples for such initiatives are:

- Company based programs, e.g. concerning heavy metals in car manufacturing or brominated flame retardants in manufacturing of electronic articles;
- Sector related inventories and programs concerning certain hazardous chemicals, e.g. nonylphenols in textile industry;
- Agreements between the suppliers of certain chemicals (e.g. textile processing chemicals) and users of these chemicals (textile finishers) on the introduction of information instruments regarding the environmental properties of the products.

Regulatory instruments

Marketing and use restrictions are fully harmonised legislation in the EU, thus any national restrictions have to be notified to the Commission and then considered at EU level. On national level, this is a tool for exceptional cases only. It may be more appropriate to use the existing instruments in environmental legislation to promote the cessation of releases of hazardous substances from processes and products:

- Site related activities involving the use of chemicals and the release of emissions usually need a permit from the authorities. The permit could regularly include the condition that the company needs to have documentation on the environmental properties of all chemicals based at least on EU Safety Data Sheets. The documentation has to be provided to inspectors on request.

- Obligatory checks for hazardous substances used or generated in the company as part of the environmental permitting process may be a very effective tool. It could be based on the HELCOM list of hazardous substances, on the list of substances to be included into the European Pollutant Emission Register, the list of priority substances under the Water Framework Directive or on any national list, for example used in river basin management plans. However, this tool may not be very effective regarding those companies discharging into the public sewer.
- Regarding smaller companies using chemical products that could contain hazardous substances, the municipal water authorities and wastewater treatment companies could be involved. Hazardous substances would occur in the sewage sludge or the municipal discharge. In case the municipal waste water treatment companies would have to comply with certain emission or sewage sludge thresholds they may get interested in promoting the phase out of these substances at their clients' processes.
- Authorisation of biocides and plant protection products on national level could regularly check whether or not hazardous substances are contained.

Using the right instruments

In order to make a good choice among the available instruments a number of criteria should be applied in decision-making:

- How will the applied instrument impact on those companies who are supposed to phase out releases of hazardous substances from their products or processes? Will the companies respond in the desired manner?
- Will the applied instrument(s) work in a cost-effective way towards achieving HELCOM's Objective with regard to hazardous substances? Are there other instruments or processes to achieve the goal in a more efficient way?
- How will progress be monitored?
- What sanctions or additional incentives could be applied if the instrument does not work sufficiently?

Though having carefully assessed the strength and the weaknesses of instruments in advance, the taken measures may work out different in practise. Hence, it is important to define indicators for success in advance and to monitor the performance of the applied instruments.

3.3.7 Concept on how to identify appropriate indicators

Indicators measure developments in selected issues, including progress towards agreed targets. They simplify information that can help to reveal complex phenomena. (http://www.eea.eu.int/). An environmental indicator is a parameter or a value derived from parameters that describe the driving forces, the pressures on the environment, the state of the environment and its impact on human beings, ecosystems and materials, and the responses steering that system (DPSIR chain). This indicator framework links human activities to their ultimate environmental impacts and the societal responses to these impacts. The first indicator framework was developed by OECD (1995).

Since indicators are not necessarily objective, the further development and application of indicators is a process, which should ensure the participation of all stakeholders, a careful examination of validity and analytical soundness. Further, the data availability and data quality have to be taken into account. Thus, the project team on hazardous substances did not consider the task to develop a concept on how to identify appropriate indicators as first priority since the above-mentioned preconditions had to be established first.

However, the Baltic Environmental Forum has published its 2nd Baltic State of the Environment Report based on environmental indicators (BEF 2000), proposing *inter alia* new primary driving forces relevant for the Baltic States. The report further discussed various indicators with regard to

hazardous substances, e.g. pressure and state indicators concerning POPs and heavy metals and response indicators with regard to heavy metals. But available data did not allow a sound evaluation of the state of the environment or trends regarding hazardous substances. For most of the priority hazardous substances, neither market data nor data on releases or environmental occurrence were available in 2000. Within the BACCON 2.3 project BEF (see chapter 3.3.8.4) further data were collected. In 2003, BEF will publish the 1st Baltic Hazardous Substances Report on the occurrence of HELCOM Recommendation 19/5 priority hazardous substances on the national market of the three Baltic States.

The Latvian Environment Agency also published a report on Environmental Indicators in Latvia (MoE Latvia, 2002). It discusses pressure indicators like the pesticide consumption in Latvia, response indicators like the regulation of use of persistent organic pollutants, state indicators like POP concentrations in marine organisms and food products, heavy metal concentrations in precipitation and in crops.

HELCOM MONAS is currently preparing a report on environmental indicators and "State of the Baltic Sea Marine Environment in 1999 – 2002" for the HELCOM Ministerial Meeting in 2003. It will include indicators concerning atmospheric deposition of heavy metals and lindane, riverine and direct load of heavy metals, and concentration of heavy metals and lindane in biota. The project team on hazardous substances has suggested including the legal status of the pesticides selected for immediate priority action (Recommendation 19/5, Appendix 3) as response indicator.

3.3.8 Concepts how to obtain relevant data

Concepts on how to obtain relevant data and the data collection strategies are depending on:

- The type of substance;
- The availability of data (e.g. product register or comparable data bases on the use of hazardous substances);
- The extent of co-operation between authorities and certain industry sectors or other users of relevant chemical products;
- The financial and personnel capacity to generate and/or to find and process available data.

According to the availability of data the HELCOM Contracting Parties could be divided into the Nordic Countries (Finland, Sweden, Denmark), Germany, the Accession Countries (Estonia, Latvia, Lithuania and Poland) and Russia or into EU- and Non-EU-Countries. Due to this difference in availability different strategies might be needed to obtain data.

In the Nordic countries, Product Registers for chemicals have been established to enable a more stringent control and better knowledge regarding the use and distribution of chemicals. When such product registers or comparable databases on chemicals and pesticides exist it is possible to ask for these data with the help of a questionnaire (see chapter 3.3.8.2).

For countries, which do not have a product register or comparable central data bases on chemicals information deriving from e.g. EU risk assessment reports, national substance flow analysis, Nordic Product Registers, etc. can be a starting point for further investigation on potential sectors, current uses or types of chemical products in which a certain hazardous substance may occur. Their national authorities could then ask users in certain sectors about type and amount of chemicals they are using (see chapter 3.3.8.3).

An additional information source is the reporting on other HELCOM Recommendations, which have relevance to the HELCOM Objective with regard to hazardous substances. Annex VII is listing all these Recommendations. Available monitoring data on releases from relevant sectors can be utilized in that way.

The following subchapters describe the various approaches to obtain relevant data and include further considerations.

3.3.8.1 Product Registers

The basic information in a Product Register is the registration of

- The intended uses of the chemical product (use and industry categories);
- The individual substances in this product;
- The concentrations of the individual substances in the chemical product;
- The annual marketed tonnages of products and / or substances.

The data on intended uses can indicate if the product is likely to increase discharges, emissions, and losses to the environment, and information about annual marketed tonnages may support a rough quantitative estimation. Product Registers also contain information about down-stream uses and thus also provide information on substances that are found in small quantities in a considerable number of different chemical products. However, the consumption of chemical products might represent only a minor source of emissions, discharges and losses compared to other sources like industry, urban wastewater treatment plants, products other than chemicals etc. Further, Product Registers could indicate the importance of diffuse sources of hazardous substance also for other countries.

3.3.8.2 Questionnaires

In its attempt to identify the sources, pathways and fate of selected hazardous substances for immediate priority activity the project team sent out a questionnaire to the CPs, asking them to report changes in the discharges, emissions and losses of these substances in the catchment area for the late 1980ies and late1990ies. The discharges, emissions and losses should be given as national figures. The complete questionnaire comprising 17 questions is included in Annex VI. The questionnaire contained two levels of questions, basic and detailed ones, asking for available data.

The received data on import, production, stockpiling, use and export of substances, information on discharges, emissions and losses were insufficient (quality, quantity, transparency) for building up a database. There were various reasons for that, e.g. lack of transparency and practicability of the questionnaire, technical problems to set up the database or poor quality of data.

The problems in detail comprised e.g. that data were submitted without stating exactly the year, the weights/amounts, including misleading use of comma and dots. The use of terminology (trade, marketing, placing on the market, sale, use, consumption) was inconsistent and unknown national abbreviations were used. Often, data were contradictory in itselves, no national figures but overall data for e.g. Europe were submitted and no preselection of really needed information had taken place. Frequently, the same answers were copied to several questions. On the other hand lots of questions were not answered at all without indicating the reason for that (e.g. not relevant, no data available, data confidential etc.). Despite great efforts of the project team it was not possible to get complementary data.

Lessons learnt from that exercise are that first of all a questionnaire has to be as short as possible and easy to handle. Complicated questions are not necessarily leading to detailed and comprehensive answers, thus, one question should only ask for one particular issue. If possible, ready answers should be offered to be selected according to a system of multiple choices. If an operational database should be build up, a general electronic mask should be designed within a discussion database with restricted access so that everybody could directly insert information.

Instead of asking “basic” and “detailed” questions a questionnaire should be rather structured into the sections legislation and measures, production and uses, and releases to the environment and stockpiling. An example, how such a questionnaire could look like is given in Annex XI.

3.3.8.3 Down Stream User Approach

The project team has developed a strategy on Downstream User Approach, which is considered an appropriate instrument to investigate the occurrence of priority hazardous substances on the national market, without setting up intensive monitoring. Further, it could supplement the data submitted by the CPs within a questionnaire. However, this approach should only be used in a very targeted way and with a clearly defined purpose.

What is Downstream User Approach?

Downstream User Approach means that users in certain sectors should ask about type and amount of chemicals they are using. Many players are involved in distributing chemicals within the (national) economy. Producers of substances and importers of chemicals form the top of the supply chain. All companies, which follow in the supply chain (traders, repackers/refillers, formulators, industrial users professional end users, like e.g. craftsmen, consumers) could be called “downstream users”. Usually the importers of chemicals know the potential technical use of their products and their direct customers. Mostly they have no information on what practically happens further down the stream. Although this situation may change in future[5], currently the producers and importers do not know much on the conditions of use and the users have problems to obtain sufficient substance information from their suppliers. Communication on the supply chain very often does not function well up to now and hence there is poor information, which chemicals end up where in the market. But since releases of hazardous substances can be expected from all processes and products in which they are used there is the need to identify those products and processes.

What can be achieved by such a new approach?

There is no common system in the EU yet to track the use of chemical substances down to the application of chemical products and articles but it will be developed under EU’s new chemicals policy (REACH). Thus, this approach might be a strategy to obtain chemicals market information in the most (cost) efficient way. The type of use is an indicator for exposures that might occur and makes pathways of release predictable. This information is needed to discuss measures to prevent emissions, discharges and losses to the environment from process and products flow e.g. by modification of the production process or the substitution of hazardous substances with less hazardous substances. Starting the data collection work from the user’s end may also have the advantage that it facilitates questions to supplier for more information and that it educates industry to work with Safety Data Sheets and other standard information tools. It will also lead to a better knowledge which companies are actually involved in importing hazardous substances onto the national market

This strategy further serves the commitment of HELCOM and its Contracting Parties to maintain and develop a constructive dialogue on the reduction of hazardous substances with all parties concerned, including producers, manufacturers, user groups, authorities and environmental NGOs to ensure that all relevant information is available for HELCOM’s work with regard to hazardous substances. That means that industry has to be encouraged to co-operate in fulfilling the objective

[5] According to the EU Chemicals Policy, in future the producers and importers of substances will be obliged to register their substance at EU level, including definition and risk assessment of the intended uses of their products. They will be required to communicate it to the downstream users (e.g. via the Safety Data Sheets). In future, it will be illegal to use substances for not registered purposes.

by *inter alia* providing reliable data on production volumes, use patterns, emission scenarios, exposure concentrations and properties of substances.

Has industry a benefit of it?

Trade and industry have the possibility to actively take over their responsibility according to the Responsible Care Program, which includes elements of data collection on enterprise level, product stewardship and public reporting. Since customers from western markets get more aware on the risk related to hazardous chemicals in consumer products, an open information policy and substitution of hazardous substances might improve the competitive situation of Eastern European companies on the (western) market. The chemical industries in the countries of the EU may be interested to combat unfair competition due to continued production and use of hazardous substances in Eastern Europe.

Relevant sectors for down stream approach

In order to start the data collection work on down stream use (in particular in EU accession countries and Russia), the CPs should seek to identify national contact persons in down stream user industries. Relevant sectors are for example:

Down Stream Industries other than Chemical Industry

- Textile processing industry (in particular textile finishing industry)
- Leather processing industry
- Plastic processing industries (not polymer producers), including soft foam production
- Metal processing industry, in particular shipbuilding
- Rubber processing industry

Manufacturers of Chemical Products

- Producers of paints, varnishes, coatings, sealants
- Producers of textile processing chemicals
- Producers of tenside based cleaning agents (in particular for industry cleaning)
- Producers of master batches for plastic processing
- Producers of rubber processing chemicals

The complete document is available on HELCOM's web site under:
http://www.helcom.fi/a/hazardous/downstream_user_update_March_02.PDF

3.3.8.4 Data Collection Strategies on Use and Flows of Chemicals in the Baltic States

The Baltic Environmental Forum (further BEF), a regional co-operation organisation of the Ministries of the Environment of the Baltic States, is carrying out a Baltic States' Regional Project on Chemicals Control (BACCON). The aim of this project is to support the efforts of Estonia, Latvia and Lithuania in the process of accession to the European Union in the field of Chemicals Control. The overall goal is to strengthen the information exchange and co-operation among the Baltic States, to systematise information on existing chemicals on the national markets, and to clarify the present situation in field of Chemicals Control.

One of the sub-projects of the Baltic Chemicals Project is a project on "Data Collection Strategies on Use and Flows of Chemicals in the Baltic States" (BACCON 2.3). The Baltic Environmental Forum (BEF) will publish the results of the BACCON 2.3 project in December 2002/January 2003 under the title 1st Baltic States' Hazardous Substances Report. This publication is targeted to the

Baltic and international governmental institutions responsible for policy development and data collection systems regarding hazardous substances[6].

Goals regarding information on market occurrence of certain substances:

- To initiate a data collection process to obtain information on the uses of certain hazardous substances in the Baltic States;
- To support the Baltic States in their contribution to the HELCOM activities on hazardous substances (implementation of HELCOM Recommendation 19/5).

Goals regarding management of hazardous substances:

- To raise awareness of industry and state authorities with regard to the potential occurrence of these substances in chemical products used in certain sectors of industry (metal, textile, chemical manufactures, etc.);
- To promote hazard communication on the supply chain by motivating industry to ask information from suppliers.

The report will provide information and assessment on:

- Description and evaluation of the applied data collection methodologies:
    - "Supply chain method", i.e. data collection from industrial users of chemicals and by this motivating requests for more information up the supply towards suppliers and producers;
    - "Statistical method", i.e. using the foreign trade statistics to identify the importers and import volumes of product groups potentially containing hazardous substances;
    - Data collection directly from state registers on plant protection preparations and biocides.
- Overview on the occurrence of HELCOM priority substances in certain sectors of industry and general data availability in the Baltic States;
- Evaluation of the behaviour of the actors on the supply chain, in particular the industrial users in the Baltic States (sector specific), the Baltic importers and suppliers of chemicals and the European producers.

The report will provide recommendations:

- How to increase the availability of information on the occurrence of certain hazardous substances on the market;
- How to improve the flow of information up and down the supply chains.

The overall goal of another sub-project on "Chemicals Risk Management at Company Level" (so-called "BACCON 2.4") is to integrate management tools regarding a) hazard communication on the supply chain, b) substitution of hazardous chemicals by less hazardous alternatives ("cleaner" production and "cleaner" products) and c) public reporting on use of dangerous chemicals into management systems. The project is mainly devoted to Baltic enterprises but administrations will also benefit from it. In the scope of the project it is planned to introduce to ca. 10 Baltic companies (chemicals producers, textile companies, metal processing companies, furniture producers[7]) an integrated chemicals risk management system and to multiply this experience via several workshops and publications. The main benefit for companies is to get acquainted with Chemicals Risk Management Systems. The implementation of such a system will support the preparation for the accession to the European Union. It will build up capacity for chemicals control, ensure compliance with legislation as well as increase competitiveness and market chances.

[6] "Hazardous substances" as defined in HELCOM 19/5 and in the EC Water Framework Directive (WFD).

[7] Part of the target branches for the BACCON 2.4 project belong to the industrial sectors which are identified as relevant downstream users for some of the industrial chemicals included in the HELCOM priority hazardous substances list as well as in the priority list of the EC Water Framework Directive.

The cooperation with the Baltic Environmental Forum has always been very fruitful. Their findings, and especially the 1st Baltic Hazardous Substances Report will be of importance for HELCOM's future work on hazardous substances.

3.3.8.5 Capacity building and activities related to chemicals control

The project team on hazardous substances compiled information on capacity building, inventarisation of chemicals and activities related to chemicals control in the three Baltic States, Poland and the Russian Federation. The collected information can be used to identify potential or ongoing activities, which could facilitate or contribute to the implementation of HELCOM's long-term strategy with regard to hazardous substances. It could also help to identify possible synergies among different activities, gaps of activity and to coordinate the work of relevant actors in order to avoid doubling of work and to use available resources in the most efficient way. Thus, this document could be the basis to use the network of projects going on in the Baltic Sea area as a source of information on the occurrence and use of hazardous substances and as a mean to spread more awareness and knowledge on the Hazardous Substances Strategy among the various stakeholders in the region.

HELCOM's Contracting Parties provided this document to consultants and other stakeholders involved in the listed projects and used and spread this information broadly.

The compilation has been going on for a longer period and has been updated regularly. The last update as of June 2002 is available on HELCOM's web site:
http://www.helcom.fi/land/Hazardous/projectscapbuilding.pdf

3.3.8.6 Cooperation with and contribution of industry to obtain relevant data

A HELCOM/CEFIC Information Day was held 14 February 2001, in Brussels, Belgium, kindly hosted by CEFIC. The pleasant atmosphere offered the possibility to establish closer contacts between the project team on hazardous substances and industry. The team assumes CEFIC to be a valuable partner for sharing information on (open) uses and probable releases of hazardous substances, especially in the eastern HELCOM countries. CEFIC offered to provide modelled and/or monitored volumes. Particular uses are accidental knowledge, however, when being in possession of those data, CEFIC is willing to provide it.

The agenda comprised a general overview on the work of the Helsinki Commission, the relation between HELCOM, OSPAR and EU work with regard to hazardous substances and the implementation of the HELCOM Objective with regard to hazardous substances. These presentations were given by the Project Manager and the Coordinator. This was followed by presentations on the relationship of industry to OSPAR, EU and HELCOM and CEFIC's position on future co-operation with HELCOM (S. Cassidy), the position of EuroChlor and its contribution to marine risk assessment (A. Lecloux) and the initiatives of CEFIC towards the chemical industry in CEEC countries (K. Lang/F. Doktor).

It was *inter alia* agreed that the HELCOM project team could get an invitation to the activities within the CEFIC/EU twinning programme under PHARE to strengthen the capability of Central and Eastern European Chemical Industry Federations these projects, especially for respective workshops in Poland. CEFIC showed its willingness to provide information on networking and contact points of relevant chemicals traders as well as data on estimated market/production volumes of some substances like NP/NPE and SCCP for Russia, Poland, Estonia, Latvia and Lithuania. The idea of carrying out workshops aiming at know-how-transfer, where manufacturers

of chemicals/chemical products inform their potential customers in industry on alternatives in order to continuously reduce and cease the use of products containing short-chained chlorinated paraffins and alkylphenolethoxylates was discussed. A possible title for such a workshop could for example be “Textile processing with reducing the releases of NP/NPE to the environment”. CEFIC, representing the producers of these substances is not in the position to initiate these kinds of workshops. HELCOM has to take the initiative for such events, aiming at increasing awareness about hazardous substances and their risks within the whole supply chain. CEFIC would however be willing to participate in such events, which have to be carried out on user organisation/formulator level, and provide information about the main risks of certain processes caused by the use of hazardous substances and alternatives to those processes.

3.3.8.7 Development of a strategy to obtain information on the occurrence of hazardous substances

When the project team on hazardous substance was requested to give advise to HELCOM bodies on further activities and selection of substances for monitoring purposes, the Team agreed that an advise on particular substances to be monitored would not be useful for the time being but stated also that there is a need to develop a common strategy among the various fields of data collection (to which monitoring belongs) related to hazardous substances. Therefore the relevant stakeholders should develop such a strategy in a common process, preferably within one or two workshops. To facilitate the development of comparable ways of obtaining information on chemicals in society and environment HELCOM has proposed a project: “Development of a common strategy to obtain information on the occurrence of hazardous substances in markets, uses and environments in the Baltic region”, to be established under the Danish EPA DANCEE programme “Chemical Control” and implementation of convention strategy, integrating these workshops. In the beginning of February 2002, COWI has submitted the proposal for this DANCEE project, including workshops with all relevant stakeholders.

The main activities of the proposed project are arrangement, participation in and reporting from two workshops, development of national reviews and of recommendation for guideline on data collection strategies. A first workshop is aiming to develop the framework for a common strategy, identify stakeholders and information status, and to agree on the details of the inventarisation exercise. The workshop will be reported in proceedings, and the plan for the remaining project will be reported in an inception report to DANCEE. A draft plan for the guidance document will be produced. The review of strategies will cover current needs, systems and activities to collect data on production, use, release and environmental occurrence of hazardous substances in the region. The inventarisation should follow the same systematic approach for all countries and should strictly aim at information needed for the development of the strategy guidance document. The second strategy workshop will work out guidance for policy makers, relevant national agencies and the relevant HELCOM bodies on how to design more integrated and cost-effective data collection on hazardous substances. The final activity is development of a recommendation for a common strategy for data collection regarding chemicals in society and environment.

3.3.9 Concept how to raise awareness

One crucial issue for the implementation of the cessation goal is to create awareness among all stakeholders including the public. This awareness is the basis for the creation of a functioning network and allows input of information and ideas from all directions. In order to raise this awareness, the Project Coordinator attended and/or initiated numerous meetings with relevant actors from Contracting Parties, cooperated with other relevant organisations, participated and/or initiated seminars and workshops (see Annex VIII). Further, the project team participated in the work of other projects, relevant for the work on hazardous substances, and supported, as well as

initiated further projects. A leaflet has been elaborated, posters designed and presented and a hazardous substances web site is kept up-to-date (http://www.helcom.fi/pollution/hazardous.html).

Press releases (see Annex XII), given interviews and articles in scientific magazines complete the picture. Achievements of the project were mentioned in “Environment Daily” 1046, 27/08/01 and in the Baltic Environmental Information Dissemination System (BEIDS Briefing 2001-32). An article in BNA’s (publisher of print and electronic news) "Water Pollution” (Volume 24 Number 19, September 12, 2001, Page 773, ISSN 1522-4090) was devoted to the “Decline In Hazardous Substances Entering Sea”. Environment News Service reported on the cut of toxic discharges, August 24, 2001.

In the following chapters some examples are described in further detail.

3.3.9.1 Leaflets

In order to create awareness of the HELCOM Objective with regard to hazardous substances a project leaflet has been elaborated and translated into national languages. The paper leaflet was distributed very broadly, e.g. among participants of various meetings, in info corners and libraries of authorities etc.. The English version of this leaflet is also available on HELCOM’s web site. Further, links to the leaflets in other national languages are provided there, guiding the reader to the respective web site of authorities and administrations of the Contracting Parties.

3.3.9.2 Meetings to inform relevant stakeholders

Since the cooperation with CEFIC had some limitations the project team agreed that it was necessary to establish for the future better contacts with national industry associations of users of chemicals especially in the eastern countries. Therefore a meeting in the Baltic States with these national user associations as well as with a representative from the EU Commission was arranged by the project team in order to inform them on HELCOM objectives and EU requirements with regard to hazardous substances.

That meeting, held in Sigulda, Latvia, 6 February 2002, aimed at raising awareness on substances dangerous to the environment among the industrial users of chemicals. For example, producers of cleaning products or paints, textile finishers, plastic processors or engineering companies would in future much more need to consider the chemicals they use regarding their environmental hazards. Authorities will more and more also expect industrial users of chemicals to take full responsibility for their processes and products. Industries in EU accession countries may benefit from the HELCOM project with regard to their future compliance to EU legislation transposed into national requirements.

The Meeting was opened by Mr. Armands Plate (Ministry of Environmental Protection and Regional Development of Latvia). He welcomed HELCOM’s initiative to arrange such a meeting and stressed *inter alia* the importance of the cooperation between authorities and industry associations within the work on hazardous substances and chemicals control. For the implementation of HELCOM Recommendations as well as EU Directives it is crucial to involve all stakeholders and all members of the chemicals supply chain. He thanked HELCOM for facilitating with this meeting the dialogue and the cooperation between authorities and industry associations and wished the participants a successful meeting.

Half of the participants of the meeting represented the authority side, including both, the chemicals and water authorities. The other half of the participants represented the industry associations, including plastics, chemicals, metalworking, paint, textile and electronic industry. These branches

are considered to be potentially the most important professional users of chemicals or preparations that contain hazardous substances. Thus, one of the objectives of the meeting, i.e. to raise awareness on substances dangerous to the environment among the industrial users of chemicals has been met.

The agenda of that meeting is annexed to this report (Annex IX). The outcome of the Meeting has been made available for the public on HELCOM's web site:
http://www.helcom.fi/a/hazardous/Outcome_of_Meeting.PDF

The issues presented and discussed were:

- EU requirements regarding Hazardous Substances;
- The role of the industrial users of chemicals and their associations;
- Example from the Baltic States on how the issue of hazardous substances is reflected in the work of the Industry Associations;
- Examples from the Nordic Countries on how to avoid hazardous substances in products and processes.;
- Roles and co-operation of enterprises and administrations.

The main messages given to industrial users of chemicals were to ask their supplier for sufficient information on the properties of the chemicals and preparations you purchase, to avoid the usage of hazardous substances in their products and production processes and to replace chemical products containing (priority) PBT substances by less hazardous alternatives.

During the project duration a lot of national, international and bilateral meetings have taken place (see Annex VIII). This report can only reflect some of them. E.g., the outcome of the HELCOM/CEFIC Information Day held 14 February 2001, in Brussels, Belgium, is described in detail in chapter 3.3.8.6. Information concerning specific meetings with the Baltic Environmental Forum are available on BEF's website: http://www.bef.lv/.

3.3.9.3 Cooperation with other relevant fora

An intensive cooperation with other relevant fora (like OSPAR, EU, UNEP, etc.) took place via e.g. information exchange, participation in meetings and is evident from the content of this report. It is reflected in various documents as well as in the list of meetings the Project Coordinator attended (see Annex VIII). In the reference list the Internet addresses of these other relevant fora/organisations are mentioned.

4. Overall assessment and conclusions

The HELCOM Project on Hazardous Substances, funded by EU, Sweden and the Helsinki Commission over the period of 1 May 1999 until 31 December 2002 has established a basic working environment and a network for future cooperation. The project has kicked-off the process and started further activities, which have to be continued within the work towards the cessation goal until 2020.

The main tasks of the project have been carried out and the expected results were reached.

1. The project team made a pragmatic selection of substances/groups of substances. Although the elaboration of an information data base was not possible due to the heterogeneity of the submitted data and other reasons described in detail in chapter 3.3.8.2, the reporting was ensured via various reports and working documents, which are all available on HELCOM's web site.

2. Concerning the development of a dynamic selection and prioritisation mechanism the project team concluded that the mechanisms as applied under OSPAR and EU WFD provide a good basis for the work in the HELCOM area but need to be modified to take into account natural and socio-economic conditions in the Baltic Sea Region. A list of these specific conditions in the Baltic Sea Region to be taken into account when selecting and prioritising hazardous substances for priority action has been elaborated.

3. The project team elaborated an overview on the reasons why HELCOM failed to implement the strategic goals set out in the 1988 Ministerial Declaration on the Protection of the Marine Environment of the Baltic Sea Area with regard to Hazardous Substances until 1995. The project team elaborated a follow up on the 50 % reduction goal. This overview includes the learning points from this approach, final conclusions and an explanation of the new goals. It may be concluded that it is very likely that the 50 % target has now been reached for most of the substances. Within the guidance documents specific measures to reduce discharges, emissions and losses of selected hazardous substances were identified and proposals for actions on HELCOM level made.

However, in the beginning there were certain circumstances and obstacles, which induced the project team to call for an "Extraordinary Meeting with Regard to Hazardous Substances". This meeting was held in May 2001, in Berlin, Germany, and identified the main constraints and obstacles. The preconditions for and the timing of the project were in many respects unfortunate:

- For all CPs (except Russia) and the observer organisations the HELCOM work on chemicals was and is a low priority task ranked behind EU Freshwater Policy (WFD) and Chemicals Policy and OSPAR. EU accession countries especially focus on the accession process.
- In order to implement the HELCOM Objective, information on the market occurrence, use and release of priority hazardous substances is needed. Especially in the EU accession countries and Russia the availability of these data is limited, data collection systems on industrial chemicals and biocides and data collection strategies are at a very early stage of development and not yet in place.
- Capacity building with regard to chemicals control in the EU accession countries and Russia is of vital importance. So far this capacity is not yet sufficient.
- Shortage of manpower and financial resources within the CPs to work sufficiently on the issue of hazardous substances within HELCOM.

Despite these obstacles in the beginning a lot of achievements have been made. These are *inter alia* documented in various publications, which are all available on HELCOM's web site under http://www.helcom.fi/pollution/hazardous.html and described in the previous chapters of this report. Among the main achievements are:

- Awareness with regard to hazardous substances has been increased, especially within the CPs not (yet) being members of EU and a functioning network for future cooperation has been established;
- Guidance documents identifying specific measures to reduce discharges, emissions and losses of SCCP, NP/NPE, cadmium, dioxins, mercury, and PCBs;
- Clarification that 26 pesticides selected for immediate priority action are not or no longer in use in nearly all of the Contracting Parties;
- Russia's possibilities to implement HELCOM's Objective with regard to hazardous substances have been improved considerably due to a EU LIFE Third Country Project, which started in autumn 2001. This Russian project proposal was officially supported by HELCOM;
- A project application "Development of a common strategy to obtain information on the occurrence of hazardous substances in markets, uses and environments in the Baltic region. Overview of Chemical Monitoring Strategies in Eastern Europe HELCOM parties" has been initiated and was submitted to DANCEE by COWI;
- The dialogue with industry and the close cooperation with other international organisations with regard to hazardous substances have been improved.

5. Outlook

The Recommendation 19/5 on the HELCOM Objective with regard to Hazardous Substances gives the perspective of reaching the goal by the year 2020. The work has thus to continue within HELCOM over the years to come. Different approaches have to be applied. At this first stage of the process the work has focused on the establishment of a working basis and a functional network, which can be used in the future to facilitate the cooperation.

Given the development within EU (new strategies, new member countries) and the experience gained from this project a new approach in the future work on hazardous substances and a more effective implementation of measures already identified are needed. HELCOM has to find niches where it can add value to ongoing activities (e.g. in EU, OSPAR etc.). Thus, the future work should focus on capacity building, awareness rising and assistance to countries. This would mean a change in the profile of the work on hazardous substances towards a more sustainable development with regard to hazardous substances within the Contracting Parties. This option takes into account the political willingness to implement the cessation goal. Due to the specific conditions in the Baltic Sea Region this might imply measures that go beyond the focus on EU work and the relations of HELCOM and EU work with regard to hazardous substances.

The increased awareness and the established network could be used as a basis for the future work. The main efforts should therefore focus on the following activities:

- Continue the increasing of awareness
  Further development of HELCOM web pages on hazardous substances, information campaigns in the countries of the Contracting Parties, brochures on different items (e.g. substitution), guidance documents in national languages.

- Meetings, seminars, trainings, workshops
  These kind of events should aim at informing relevant stakeholders (e.g. industrial users of chemicals, inspectorates) on hazardous substances, responsibilities (also upcoming ones with regard to the new EU Chemical Strategy) and available alternatives and encourage and enable them to use tools and instruments to avoid or substitute hazardous substances by less or non-hazardous substances. The information should be specific for certain products and processes (e.g. institutional and industrial cleaners, or metal cutting fluids).
- Tailored projects
  Initiation and coordination of joint projects, twinning projects, bi- and trilateral cooperations among Contracting Parties, coordination and assistance within small specific subprojects (e.g. projects on substitution of hazardous substances or related processes, projects on inventarisation).
- Assistance to countries
  This could be assistance to EU accession countries in their efforts to implement EU legislation with regard to hazardous substances, assistance to Russia's work on their EU Life Third Country Project on hazardous substances.
- Capacity building activities
  Developing awareness, knowledge, skills, own environmental expertise, management-ability, inter-institutional co-operation and resourcing (number of staff and technical equipment) within trade/industry and state institutions in the Baltic Sea Region to reduce in the long run reliance on external technical, scientific or material assistance.

The main advantage of this option is that it takes into account the differences between the Contracting Parties and that measures to implement the cessation goal could be tailored for various countries thus being more (cost)efficient. Progress would become more visible for people involved in the work on hazardous substances. This again would increase the motivation to work further on that issue. However, attention has to be paid to the support of accession of the Baltic States already carried out by the Baltic Environmental Forum (BEF). This work should be integrated in further HELCOM activities and any duplication be avoided.

The HELCOM Heads of Delegation during their 9th Meeting (HELCOM HoD 9/2002) decided to continue in line with what is outlined above, i.e., to change the profile of the work on hazardous substances with the focus on capacity building and a more effective implementation of measures already identified. This Meeting also agreed that a person coordinating the work with regard to hazardous substances as well as financial resources are needed.

Further activities are planned or have already started and it should be safeguarded that they can be effectively continued and finally brought to a successful end:

- The elaboration of further guidance documents on the (so far) remaining substances for immediate priority action;
- Participation in the project on the "Development of a common strategy to obtain information on the occurrence of hazardous substances in markets, uses and environments in the Baltic region" (see chapter 3.3.8.7);
- Making use of the results from the Russian EU LIFE Third Country Project (see chapter 3.3.5);
- Further data collection, applying new strategies (make use of the practical results from the BEF projects and the 1st Hazardous Substances Report)
- Awareness rising with special topic-related campaigns (e.g. exchange of Hg-containing thermometers together with relevant industry, information campaign on dioxins arising from private uncontrolled burnings etc.);
- Maintenance of a web site offering information and practical examples concerning substitution of substances, products or processes;

- Workshops aiming at know-how-transfer where manufacturers of chemicals/chemical products inform their potential customers in industry on alternatives in order to continuously reduce and cease the use of products containing hazardous substances, e.g. short-chained chlorinated paraffins and alkylphenolethoxylates (possible title: “Textile processing with reducing the releases of NP/NPE to the environment”);
- Implementation of the proposals for HELCOM action as outlined in the guidance documents on selected substances (probably with special emphasis on dioxins);
- Keeping the document on capacity building activities updated;
- Elaboration of reporting format for Recommendation 19/5 and/or probable new Recommendations;
- Solve the problem on obsolete pesticides in the Baltic Region;
- Check out the use of unexpected/not yet known substances in certain industry sectors (e.g. in Russia). This could serve as a basis for the selection of further substances for priority action;
- Elaboration of national concepts for the implementation of the cessation goal.

One crucial point for a successful future work on the issue of hazardous substances is the firm commitment by the Contracting Parties to make every endeavour to implement HELCOM’s Objective with regard to hazardous substances.

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AMAP	http://www.amap.no
Artic Council	http://www.arctic-council.org
Baltic Environmental Forum (BEF)	http://www.bef.lv/
Danish Environmental Protection Agency	http://www.mst.dk/homepage/
Danish Ministry of the Environment	http://www.mst.dk/homepage/
Estonian Ministry of the Environment	http://www.envir.ee/eng/index.html
EuroChlor	http://www.eurochlor.org/
European Chemical Industry Council (CEFIC)	http://www.cefic.org/Homepage/shwHomepage.asp
European Chemicals Bureau (ECB)	http://ecb.jrc.it/
European Commission (EC)	http://europa.eu.int/comm/environment/index_en.htm
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Latvian Environment Agency	http://www.vdc.lv/eng/
Ministry of Environmental Protection and Regional Development of the Republic of Latvia	http://www.varam.gov.lv/
Ministry of Environment of the Republic of Lithuania	http://www.am.lt/EN/VI/rubric.php3?rubric_id=109
Ministry of the Environment of Poland	http://www.mos.gov.pl/index_main.shtml
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Nordic Council of Ministers	http://www.norden.org
Norwegian Pollution Control Authority	http://www.sft.no/english/
Organization of Economic Co-operation and Development (OECD)	http://www.oecd.org
Oslo and Paris Commission (OSPAR)	http://www.ospar.org/

Russian Regional Public Organisation "Ecology and Business"	http://www.ecobusiness.narod.ru/
Swedish Environmental Protection Agency	http://www.internat.environ.se/
Swedish National Chemical Inspectorat (KEMI)	http://www.kemi.se/default_eng.htm
United Nations Environmental Programme (UNEP)	http://www.unep.org/
UNEP Chemicals	http://www.unep.ch/
UNEP Global Programme of Action	http://www.gpa.unep.org
UN-ECE	http://www.unece.org/
World Wide Fund for Nature (WWF)	http://www.panda.org/

7. Abbreviations

a	annum (year)
a.i.	active ingredient
Art.	article
AMAP	Arctic Monitoring and Assessment Programme
AOX	Adsorbable Organic Halogen
APEO	Alkylphenolethoxylates
BACCON	Baltic States' Regional Project on Chemicals Control
BAT	Best Available Technology
BCF	Bioconcentrationfactor
BEF	Baltic Environmental Forum
BEP	Best Environmental Practice
BHC	Benzene hexachloride
BUA	Beratergremium umweltrelevanter Altstoffe
CBSS	Council of the Baltic Sea States
Cd	Cadmium
CEEC	Central and Eastern European Countries
CEFIC	European Chemical Industry Council
COMMPS	Combined Monitoring-based and Modelling-based Priority Setting
CPs	Contracting Parties
DANCEE	Danish Co-operation for Environment in Eastern Europe
DBE	1,2-Dibromoethane
DDT	Dichlorodiphenyltrichloroethane
Den	Denmark
DSD	Dangerous Substances Directive (76/464/EEC)
DYNAMEC	Dynamic Selection and Prioritisation Mechanism for Hazardous Substances
EAF	EC Expert Advisory Forum on Priority Substances and Pollution Control
EC	European Community
ECB	European Chemicals Bureau
EEC	European Economic Community
e.g.	exempli gratia / for example
EIA	Environmental Impact Assessment
EINECS	European Inventory of Existing Commercial Substances
EMAS	Eco-Management and Audit Scheme
EMEP	European Monitoring and Evaluation Programme
EPA	Environmental Protection Agency
EPER	European Pollutant Emission Register
Est	Estonia
EU	European Union
EuroChlor	European Chlor-Alkali Industry
FAO	Food and Agriculture Organisation
Fin	Finland
FRG	Federal Republic of Germany
g	gram
Ger	Germany

GDR	German Democratic Republic
HCB	Hexachlorobenzene
HCH	Hexachlorocyclohexane
HELCOM	Helsinki Commission (Baltic Marine Environment Protection Commission)
Hg	Mercury
HM	Heavy metals
i.e.	it est (that is)
IFCS	Intergovernmental Forum on Chemical Safety
info	information
IPCS	The International Programme on Chemical Safety
IPM	Integrated Pest Management
IPPC	Integrated Pollution Prevention and Control
IRPTC	International Register of Potentially Toxic Chemicals
I-TEQ	International Toxic Equivalent
IUCLID	International Uniform Chemical Information Database
KEMI	Swedish National Chemicals Inspectorate
kg	Kilogram
Lat	Latvia
LCCP	Long-Chained Chlorinated Paraffins
LD	List of Decision
Li-ion	Lithium ion
Lit	Lithuania
LOUS	List of Undesirable Substances
LRTAP	Long-range Transboundary Air Pollution
log K_{OW}	logarithm of octanol-water-partition coefficient
m	Metre
MCCP	Medium Chained Chlorinated Paraffins
MSW	municipal solid waste
n.a.	not available
NaPCP	Natrium Pentachlorophenol
NEAP	National Environmental Action Plan
NES	National Environmental Strategy
ng	Nanogram
NGO	Non-Governmental Organisation
Ni	Nickel
NiCd	Nickel-Cadmium
NiMH	Nickel-Metalhydrid
NIS	Newly Independent States
NP/NPE	Nonylphenol/Nonylphenolethoxylates
OECD	Organisation for Economic Cooperation and Development
OSPAR	Oslo-Paris Commission for the Protection of the Marine Environment of the North-East Atlantic
PA	Periodic Assessment
PAH	Polyaromatic Hydrocarbons
PARCOM	Paris Commission
Pb	Lead
PBB	polybrominated biphenyl
PBT	Persistent, bioaccumulativ, toxic

PCB	Polychlorinated Biphenyls
PCDD	Polychlorinated dibenzo-p-dioxins
PCDF	Polychlorinated dibenzofurans
PCP	Pentachlorophenol
PCPL	PCP`s ester Pentachlorophenol laurate
PCT	Polychlorinated Triphenyls
PIC	Prior Informed Consent
pg	Pikogram
PLC	Pollution Load Compilation
Pol	Poland
POP	Persistent Organic Pollutants
ppm	parts per million
PPP	Plant Protection Product
PVC	Polyvinyl Chloride
REACH	Registration, Evaluation and Authorization of Chemicals
Rec.	Recommendation
ROHS	restrictions on use of hazardous substances in electrical and electronic equipment
Rus	Russia
SCCP	Short Chained Chlorinated Paraffins
SEPA	Swedish Environment Protection Agency
SME	Small and Medium-Sized Enterprises
Swe	Sweden
t	Ton
TBT	Tributyltin
TC	Technological Committee
TCDD	Tetrachlorodibenzodioxin
TNO	Netherlands Organisation for Applied Scientific Research
ToR	Terms of Reference
TWI	tolerable weekly intake
UBA	Umweltbundesamt (German Federal Environmental Agency)
UK	United Kingdom
UN/ECE	United Nations Economic Commission for Europe
UNECE/LRTAP	Convention on Long-range Transboundary Air Pollution
UNEP	United Nations Environment Programme
US EPA	United States Environmental Protection Agency
USSR	United Soviet Socialist Republics
WEEE	waste electrical and electronic equipment
WFD	Water Framework Directive
WGS	Working Group on Criteria and Standards
WHO	World Health Organisation
WWF	World Wide Fund for Nature
WWTP	Waste Water Treatment Plant
y	year
2,4-D	2,4-dichlorophenoxyacetic acid
2,4,5-T	2,4,5-trichlorophenoxyacetic acid

HELSINKI COMMISSION
Baltic Marine Environment Protection Commission

Implementation of the HELCOM Objective with Regard to Hazardous Substances

Annex

to the Final Project Report

October 2002

Table of content

Annex I: HELCOM Recommendation 19/5

HELCOM Recommendation 19/5; adopted 26 March 1998, having regard to Article 13, Paragraph b) of the Helsinki Convention

HELCOM OBJECTIVE WITH REGARD TO HAZARDOUS SUBSTANCES

THE COMMISSION,

RECALLING Article 3, Paragraph 1 of the Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1992 (Helsinki Convention), in which the Contracting Parties undertake individually or jointly to take all appropriate legislative, administrative or other relevant measures to prevent and eliminate pollution in order to promote the ecological restoration of the Baltic Sea Area and the preservation of its ecological balance,

RECALLING ALSO Article 5 of the Helsinki Convention, 1992, in which the Contracting Parties undertake to prevent and eliminate pollution of the marine environment of the Baltic Sea Area caused by harmful substances from all sources,

RECALLING ALSO that the Baltic Sea Environmental Declaration, 1992 approved the strategic approach and principles reflected in the Baltic Sea Joint Comprehensive Environmental Action Programme,

RECALLING ALSO that the Kalmar Communique of the Council of the Baltic Sea States (CBSS), 1996 stated that the uncontrolled use and handling of chemicals, including pesticides, require special attention, and called for the development by the Helsinki Commission of an Action Programme to ensure that discharges, emissions and losses of hazardous substances will be continuously reduced, towards the target of their cessation within one generation (25 years), with the ultimate aim of achieving concentrations in the environment near background values for naturally occurring substances and close to zero concentrations for man-made synthetic substances,

RECALLING FURTHER that the Kalmar Communique of the CBSS, 1996 noted that to achieve this goal the European Union directives on chemicals, including pesticides, should be implemented as soon as possible by all countries in the Region with European Agreements according to these agreements and to pre-accession efforts, and other States in the Region will implement provisions representing a comparable standard,

RECALLING FURTHER that the 1988 HELCOM Ministerial Declaration called for a considerable reduction of land- based pollution,

BEING AWARE both of the progress made in this respect and of the difficulties encountered as well as the deficiencies in implementing the reduction goal, and

DESIRING to attain and implement the target set by the Kalmar Communique of the CBSS, 1996 with regard to hazardous substances,

BEING MINDFUL of the need for harmonization of principal approaches applied within HELCOM and OSPAR with regard to hazardous substances,

DECIDES that the Objective of the Commission with regard to hazardous substances is to prevent pollution of the Convention Area by continuously reducing discharges, emissions and losses of hazardous substances, with the ultimate aim of concentrations in the environment near background values for naturally occurring substances and close to zero for man-made synthetic substances,

RECOMMENDS that the Governments of the Contracting Parties continue the efforts to reduce discharges, emissions and losses of hazardous substances likely to reach the marine environment, to levels that are not harmful to man or nature as soon as possible and in a stepwise process and time-frame,

RECOMMENDS ALSO that the Governments of the Contracting Parties apply the Strategy to implement the HELCOM Objective with regard to hazardous substances as appears in the Attachment, and make every endeavour to move towards the target of the cessation of discharges, emissions and losses of hazardous substances, set up by the Kalmar Communique of the CBSS, 1996, by the year 2020,

DECIDES that the Strategy to implement the HELCOM Objective with regard to hazardous substances should be reviewed by the Technological Committee when needed, but not later that in the year 2004, and updated if appropriate, *inter alia,* in line with the relevant strategy applied within OSPAR,

RECOMMENDS that the Contracting Parties report to the Commission via the Technological Committee every three years starting in 2003.

HELCOM Recommendation 19/5
ATTACHMENT

STRATEGY TO IMPLEMENT HELCOM OBJECTIVE WITH REGARD TO HAZARDOUS SUBSTANCES

1. Guiding Principles

Assessments made, and programmes and measures adopted to implement the Strategy to achieve the HELCOM Objective with regard to hazardous substances will be in accordance with the general obligations as set out in Articles 3 and 5 of the Helsinki Convention 1992, and consequently will involve the application of:

(i) the precautionary principle;
(ii) the polluter pays principle;
(iii) best available technology and best environmental practice.

In addition, substitution of the use of hazardous substances by less hazardous substances or preferably non-hazardous substances where such alternatives are available as a means to reach this objective. Using the principles of the EU legislation concerning the marketing and use of dangerous substances and similar legislation in Contracting Parties not members of the EU, emissions, discharges and losses of new hazardous substances shall be avoided except where these are justified for intermediate use by the application of the principle of substitution.

In the work to achieve this objective, the assessment of risks is a tool for setting priorities and developing action programmes.

2. Definitions

2.1. For the purpose of this Strategy:

a) "hazardous" substances are substances, which fall into one of the following categories:

(i) substances or groups of substances that are toxic, persistent and liable to bioaccumulate; (ii) other substances or groups of substances which are agreed by the Commission as requiring a similar approach as the substances referred to in (i) even if they do not meet all the criteria for toxicity, persistence and bioaccumulation, but which also give grounds for concern; this second category will include both substances which work synergistically with other substances to generate such concern and also substances which do not themselves justify inclusion but which degrade or transform into substances referred to in (i) or (ii). The Commission will identify, and assess such other substances or groups of substances using available information and internationally accepted methods and criteria.

b) "Substance" means a chemical element or compound in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the product and any impurity deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition.

c) "Group of substances" means a number of substances:

(i) where the substances have been shown to present a similar level of hazard, using internationally accepted criteria; and
(ii) which are sufficiently related both in terms of their physicochemical properties and their field of application to be jointly managed and which require common preventive action because of the comparable level of concern which they pose to the environment or man estimated by extrapolation of the assessment of an appropriate sample of the group.

2.2. The Commission will stimulate the further development of the criteria for hazardous substances namely toxicity, persistency and liability to bioaccumulate with respect to the marine environment and improve their operation as part of the work to implement this Strategy.

2.3. In addition to this, a number of other technical terms used in the Strategy and described in the Glossary (Appendix 1) will also be further developed.

3. Strategy of HELCOM with regard to Hazardous Substances

Using the guiding principles, in particular the precautionary principle, the Commission will identify, prioritise and monitor and require the Contracting Parties to control (i.e. to prevent, reduce and, to the extent possible, eliminate) the emissions, discharges and losses of hazardous substances, which reach, or could reach, the marine environment.

3.1 Criteria for selection and priority setting of substances

The Commission will, considering the work undertaken in other fora:

(i) participate in the development of dynamic selection and prioritisation mechanisms to select the hazardous substances to be given priority in its work, and in doing so take the specific conditions in the Baltic Sea into consideration;
(ii) apply these selection and prioritisation mechanisms to substances of concern including those substances and groups of substances set out in the Appendix 2 according to the following criteria in order to produce a HELCOM List of Chemicals for Priority Action ranked in order of priority.

The criteria used in these and prioritisation mechanisms may include that the substances or groups of substances:

a) are a general threat to the aquatic environment due to their hazardous properties;

b) show indications of risks for the marine environment or may endanger human health via consumption of food directly or indirectly from the marine environment;

c) have been found in one or more compartments of the Convention Area;

d) reach, or are likely to reach the marine environment, for instance from a diversity of sources through various pathways.

The application of these criteria should both reflect the hazardous characteristics of substances and groups of substances and give priority to their actual or potential occurrence and effects in the Convention Area.

In developing the mechanisms of selecting and prioritising substances and groups of substances, special reference should be paid to endocrine disrupters. Noting the growing international research effort especially in OSPAR, EU and OECD, HELCOM will take the results of such investigations into account. Once suitable monitoring and testing techniques are available, HELCOM will conduct surveys of the Convention Area to gauge the spatial extent of their occurrence and distribution and of any adverse effects.

HELCOM will keep the selection and prioritisation mechanisms under review to ensure that it remains effective to identify all aspects of hazard and risk, which should give rise to reasonable grounds of concern about substances taking account of developments in OSPAR, the International Forum on Chemical Safety and LRTAP.

3.2 Assessment Methodologies

Noting the limited experiences with the assessment of the risk of hazardous substances in the marine environment particularly as regards the consequences of low degradation rates, long-term exposure on the marine organisms and large dilution, the Commission will, considering the specific conditions in the Baltic Sea and taking into consideration the work undertaken in other fora, address the following issues as a matter of urgency:

a) development of relevant tools for assessing risks of hazardous substances in the marine environment

b) the extent to which methodologies and results of a freshwater risk assessment or any other relevant risk assessment can be translated to and used for the assessment of the risk that a substance poses to the marine environment

c) criteria and methods which could be used for identification and development of less hazardous, or preferable non-hazardous substances which could be used as substitutes for hazardous substances.

The HELCOM will seek co-operation with OSPAR and other relevant organizations and the EU process for improving such tools, *inter alia* drawing upon the relevant elements in the existing EU Technical Guidance in Support of Directive 93/67/EEC on Risk Assessment of New Notified Substances and Regulation EC 1488/94 on Risk Assessment for Existing Substances, and future expansions of that guidance.

The classification criteria for "Dangerous Substances" as specified in Annex VI of EC Directive 67/548, could form a basis for the development of a general screening tool for identifying hazardous substances of concern in the marine environment and to give guidance for developing less hazardous or preferably non-hazardous substitutes. Section 5.2 of Annex VI (Criteria for classification, indication of danger, choice of risk phrases)

and in particular section 5.2.1 dealing with the aquatic environment and section 4 with specific effects on human health offer a good starting point for the development of such a screening tool.

In the assessment of monitoring data concerning the presence of hazardous substances in the marine environment, HELCOM has at its disposal some, but insufficient, background/reference concentration values as presented in the Periodic Assessments of the State of the Baltic Sea. Given that it can be difficult to establish whether there are reasonable grounds for concern when there is a lack of relevant background/reference values, monitoring data or risk assessments the Commission should initiate programmes to address these shortcomings. However, the existence of background values is not a pre-requisite for selection and prioritization of substances in question.

3.3 Criteria for the selection and implementation of measures

In accordance with the Precautionary Principle, effective actions are to be taken when there are reasonable grounds for concern that hazardous substances, present in the marine environment or which reach or could reach the marine environment, may bring about hazards to human health, harm living resources and marine ecosystems, damage amenities or interfere with other legitimate uses of the sea, even when there is no conclusive evidence of a causal relationship between the inputs and the effects.

The most cost effective measures should have the highest priority for implementation and should be selected by taking into account:

a) the sustainability of the marine ecosystem;

b) the polluter-pays principle by virtue of which the 0costs of pollution, prevention, control and reduction measures are to be borne by the polluter;

c) the advantages and disadvantages of proposed measures.

Measures should be developed and/or applied in the light of the requirements laid down in the definitions of BAT and BEP in the Helsinki Convention, taking the minimization of use of hazardous substances fully into account. If in this process hazardous substances are to be substituted by other available substances, it has to be ensured that they are less hazardous or non-hazardous.

Recognizing the extended producer responsibility, the improvement of industry practices aiming at the substitution of substances, products and processes by more environmentally sound solutions, could help to achieve the objective of moving towards the cessation of discharges, emissions and losses of hazardous substances, in particular:

a) the development and use of environmentally sound products and the development of less hazardous or preferably non-hazardous substances or more environmentally sound technologies;

b) the principle of substitution - wherever possible, in line with other environmental goals - of products and processes causing the release of hazardous substances to the environment by ones that do not. This includes the substitution of hazardous substances by changes processes to ones not involving these substances. In doing so, the whole life cycle of the product should be considered;

c) waste handling and waste management, as well as development and use of treatment technology that avoid losses of hazardous substances to the environment.

3.4 Measures and Actions

A stepwise approach will be developed, e.g. by setting intermediate targets and time- frames.

With regard to hazardous substances identified by the Commission for action, such action generally includes:

a) identifying the sources of hazardous substances and their pathways to the marine environment, using, *inter alia*, information derived from monitoring, research, specific surveys and assessment activities;

b) establishing with the help of an appropriate combination of monitoring, modelling, suitable methodologies for assessing risks whether these sources represent either a widespread problem or a problem restricted to regional or local environments within the maritime area;
and, as a result,

c) the identification of relevant measures to deal with the problem, including the adoption of measures to reduce discharges, emissions and losses of hazardous substances and taking into account the sources and pathways of hazardous substances.

Considering also the programmes of work on point and diffuse sources, which need to be developed by HELCOM and integrated with this strategy, HELCOM should in particular address the following issues:
-actions at the appropriate geographical and administrative level;
-improvement of policy instruments;

-effectiveness of economic instruments;
-co-operation with all relevant authorities and target groups.

BAT/BEP Recommendations should be adopted for those sectors and activities identified for action. BEPs should be established for diffuse sources of concern, including products.

The Commission will require the Contracting Parties to continue the work on those substances for which a 50 % reduction goal was set up by the Commission (HELCOM 12/18, Annex 6, and HELCOM 14/18, Paragraph 6.40), as included in list 1, Appendix 2.

The Commission will initiate a process to develop a comprehensive information basis and reporting system on the production and use of selected hazardous substances under the jurisdiction of the Contracting Parties.

Notwithstanding the process outlined in sections 3.1 and 3.2, the Commission will continue to work on those substances which have already been selected by HELCOM for a phase out (Helsinki Convention, 1992, Annex I, Parts 2 and 3), and include those hazardous substances or groups of substances in its work which are listed by UN-ECE for priority action under the draft protocol (POPs and HMs) to the Convention of Long-Range Transboundary Air Pollution and selected substances which are in OSPAR Action Programme and which were agreed as priority substances at the Third and Fourth North Sea Conferences. The selected substances for immediate priority action are listed in Appendix 3.

As a starting point, the appropriate HELCOM Committees will:
-generate information on the import, production, stockpiling, use and export of substances as selected in Appendix 3, including contaminants;
-generate information on discharges, emissions and losses of those selected substances, which do not arise from production, or use of trading product;
-establish an appropriate reporting system taking into account the experiences made during this process;
-assess the obtained information in order to identify priorities for action.

The initial selection of substances is made on an interim basis and will be, as soon as possible but not later than the year 2000, updated with those substances selected for priority action in accordance with section 3.1.

3.5 Co-operation and Dialogue

The Commission and Contracting Parties, individually or jointly, will endeavour to maintain and develop further a constructive dialogue on the reduction of hazardous substances with all parties concerned, including producers, manufacturers, user groups, authorities and environmental NGOs to ensure that all relevant information is available for the work of the Commission in connection with this strategy.

The Commission and the Contracting Parties will invite and encourage industry to co-operate in fulfilling the Objective of HELCOM with regard to hazardous substances, *inter alia* :

a) to incorporate the Strategy in the implementation of BAT and/or BEP;

b) to provide reliable data on production volumes, use patterns, emission scenarios, exposure concentrations and properties of substances.

In order to achieve internationally harmonized approaches and to avoid duplication of work, on hazardous substances, the Commission will ensure that measures and information which have already been agreed or which are being negotiated by Contracting Parties in other fora are considered by the Commission as appropriate in the development of measures and initiative to control hazardous substances within HELCOM. Contracting Parties shall bring these measures and this information to the attention of the Commission. When significant common ground has been identified in measures and initiatives proposed by HELCOM and those other fora, the Commission will initiate appropriate discussions to determine the level of cooperation and liaison necessary.

4. Implementation

The Commission will initiate and promote implementation-programmes to fulfil the Objective's goal of the year 2020, especially for the countries in transition, within its Committees and PITF and facilitate an adequate transfer of technology, management systems, public administration systems and information.

4.1 Work plans of HELCOM subsidiary bodies

The Strategy on hazardous substances will be included and further developed in the work plans of the Technological Committee (TC), the Environment Committee (EC), the Maritime Committee (MC) and the Programme Implementation Task Force (PITF) which will establish priorities, assign tasks and set appropriate deadlines and targets.

The appropriate HELCOM bodies will consider the following:

-programmes within PITF and TC to provide suitable information on, *inter alia*, the selected hazardous substances exposed to the environment, e.g. pollution load data, surveys on the use and flow of hazardous substances in the catchment area (mass balance analysis) for point and diffuse sources;

-programmes within MC to provide suitable information on hazardous antifouling compounds and less harmful substitutes or alternative actions to avoid the use of antifoulings;

-programmes within EC to provide suitable monitoring data, e.g. surveys on those selected hazardous substances and their effects in the marine environment;

-the revision of monitored parameters to cohere with the requirements of this Strategy.
The Commission will review the TC, EC and MC work plans on a regular basis.

4.2 Progress Report

The Technological Committee will develop appropriate procedures by the end of 1998 to enable a review of progress achieved through this Strategy to be prepared every three years. Based upon this review the Commission will, if necessary, revise the Strategy. Such a review should take into account:
a) assessment of the implementation and effectiveness of measures;
b) the experiences gained with this Strategy;
c) the findings of the quality assessment reports of the Convention Area;
d) progress achieved with the development and use of a selection scheme for hazardous substances;
e) any further new information.

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Appendix 1

GLOSSARY TO THE STRATEGY TO IMPLEMENT HELCOM OBJECTIVE WITH REGARD TO HAZARDOUS SUBSTANCES

The following working definitions are proposed for the purpose of this Strategy and will be reviewed from time to time:

1. "Toxicity" is defined as the capacity of a substance to cause toxic effects, to organisms or their progeny such as:
-reduction in survival, growth and reproduction;
-carcinogenicity, mutagenicity or teratogenicity;
-adverse effects as result of endocrine disruption.

Depending on the exposure time and life cycle of the target organism, toxicity can be classified as:

-acute toxicity: lethal and/or sublethal toxicity resulting from intermittent or continuous exposure to a substance or mixture of substances for a period substantially shorter than the life cycle of the organism in question (e.g. 96 h LC_{50} for a fish with a life cycle measured in months or years;
-subchronic toxicity: sublethal (and possibly also lethal) toxicity resulting from intermittent or continuous exposure to a substance or mixture of substances for a period which is a substantial proportion of the life cycle of the organism in question (e.g. 21 day reproductive NOEC for a crustacean with a life cycle measured in weeks or months);
-chronic toxicity: sublethal toxicity resulting from intermittent or continuous exposure to a substance or mixture of substances for a period not less than the life cycle of the organism in question (e.g. lifecycle reproductive NOEC for a fish which includes measurements of the F1 generation).

For reasons of precaution, particularly persistent substances that are found in or are likely to reach the marine environment and that due to their intrinsic properties are likely to cause chronic or subchronic toxic effects should be treated as if belonging into that category until evidence to the contrary has been established.

2. A substance is defined to be "persistent" if its conversion or the conversion of its degradation products is slow enough to permit long-term occurrence and widespread distribution in the marine environment.

3. "Bioaccumulation" is defined as the enrichment of a substance in an organism and includes "bioconcentration" from environmental concentrations and additional uptake via the food chain; bioaccumulation includes all routes, i.e. via the air, water, soil and food.

4. "Bioconcentration" is defined as the net result of uptake, distribution and elimination of a substance in an organism.

5. "Risk assessment" is the determination of the relationship between the predicted exposure and adverse effects in four major steps: hazard identification, dose-response assessment, exposure assessment and risk characterization.

6. "Exposure assessment" is the determination of the emissions, pathways and rates of movement of a substance and its transformation or degradation in order to estimate the concentration/doses to which human populations or environmental compartments are or may be exposed.

7. "Hazard identification" is the identification of the adverse effects, which a substance has an inherent capacity to cause.

8. "Dose (concentration) - response (effect) assessment" is the estimation of the relationship between dose, or level of exposure to a substance, and the incidence and severity of an effect.

9. "Risk characterization" is the estimation of the incidence and severity of the adverse effects likely to occur in a human population or environmental compartment due to actual or predicted exposure to a substance, and may include "risk estimation", i.e., the quantification of that likelihood.

10. In accordance with the OECD Weybridge Workshop, an "endocrine disrupter" is an exogenous substance that causes adverse health effects in an intact organism, or its progeny, consequent to changes in endocrine function. In applying this definition to the marine environment it will be required to consider substances that are likely to affect directly or indirectly the hormonal regulation in the whole organisms by the mimicking of hormones or by affecting enzyme systems responsible for hormone equilibria.

11. "Losses" are transfers of substances, other than as discharges, emissions or the result of accidents, directly or indirectly to the marine environment, which have:
a) leached, eroded or become detached from a manufactured product, waste or structure;
b) leached or run off from land on which it has been spread or deposited;
c) leaked or escaped from container in which it has been kept.

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Appendix 2

List of potential Substances of Concern to be considered by HELCOM

List of substances, which are candidates for selection, assessment and prioritisation according to paragraph 3.1 of the Strategy to Implement HELCOM Objective with Regard to Hazardous Substances

Key to Lists 1-9

1: List of substances identified as of concern by HELCOM (HELCOM 12/18, Annex 6, as amended by HELCOM 14; HELCOM Convention 1992, Part 2, Banned substances, and Part 3, Pesticides)

2: List of Substances for international Action within the UNECE POP- and Heavy Metal-protocols (under negotiation)

3: List of Substances for international Action, including a global legally binding instrument (UNEP POP-Programme)

4: List of substances identified as of concern by OSPAR in the period 1991-1996, which are part of the OSPAR Work-Programme

5: List of priority substances agreed by the Third North Sea Conference (Annex 1A, The Hague Declaration)

6: Reference List of Substances agreed by the Third and Fourth North Sea Conference (e.g. Annex 1D to The Hague Declaration), for further selection of priority substances

7: Pesticides referred to in paragraph 27 of the Esbjerg Declaration (Annex 2, Appendix 1 of the Esbjerg Declaration), for priority review within the framework of EU Council Directive 91/414

8: OSPAR List of Potential Endocrine Disruptors - Part A, which have been reported in the scientific literature to induce changes to the endocrine system of varying severity in the course of in vivo tests

9: OSPAR List of Potential Endocrine Disruptors - Part B, which have been reported in the scientific literature to induce changes to the endocrine system of varying severity in the course of in vitro tests

[Alkanes] [Anilines] [Benzenes] [Hormones] [Inorganic compounds] [Metallic compounds] [Organic nitrogen compounds] [Organic oxygen compounds] [Organic phosphorous compounds] [Organic compounds] [Organometallic compounds] [Pesticides/Biocides] [Phenols] [Polycyclic halogenated aromatic compounds] [Polycyclic aromatic hydrocarbons] [Products] [Toluenes and xylenes]

LISTS

Casn	Name	1	2	3	4	5	6	7	8	9
	Alkanes									
79345	1,1,2,2-Tetrachloroethane						X			
79005	1,1,2-Trichloroethane						X			
76131	1,1,2-Trichlorotrifluoroethane						X			
75343	1,1-Dichloroethane						X			
78875	1,2-Dichloropropane						X	X		
2163000	1,6-Dichlorohexane						X			
544105	1-Chlorohexane						X			
56235	Carbontetrachloride	X				X				
85535848	**Chlorinated paraffins, short chained**		**X**		**X**					
n.a.	Chlorinated paraffins, medium and long chained				X					
67663	**Chloroform**	**X**				**X**				
110827	Cyclohexane						X			
107062	Dichloroethane 1,2-	X				X				
75092	Dichloromethane (methylenechloride)						X			
101815	Diphenylmethane						X			
67721	Hexachloroethane						X			
108872	Methylcyclohexane						X			
111659	Octane						X			
76017	Pentachloroethane						X			
109660	Pentane						X			
558134	Tetabromomethane						X			
71556	Trichloroethane, 1,1,1-	X				X				
	Alkenes (Olefins)									
75354	1,1-Dichloroethene						X			
540590	1,2-Dichloroethene						X			
542756	1,3-Dichloropropene						X	X		
78886	2,3-Dichloropropene						X			
126998	2-Chloro-1,3-butadiene (chloroprene)						X			
107051	3-Chloropropene (allylchloride)						X			
75014	Chloroethene (vinylchloride)						X			
n.a.	Halogenated solvents				X					
127184	Tetrachloroethylene	X				X				
79016	Trichloroethylene	X				X				
	Anilines									
14861177	2,4-Dichlorophenoxy-4-aniline						X			
95512	2-Chloroaniline						X			
95761	3,4-Dichloroaniline								X	
108429	3-Chloroaniline						X			

106478	4-Aniline						X			
121879	4-Chloro-2-nitroaniline						X			
27134276	Dichloroaniline (all isomers)						X			
	Benzenes									
95943	1,2,4,5-Tetrachlorobenzene						X			
95501	1,2-Dichlorobenzene						X			
541731	1,3-Dichlorobenzene						X			
99650	1,3-Dinitrobenzene						X			
106467	1,4-Dichlorobenzene						X			
97007	1-Chloro-2,4-dinitrobenzene						X			
1544689	1-Fluoro-4-isocyanatobenzene						X			
89214	2-Chloronitrobenzene						X			
88733	3-Chloronitrobenzene						X			
121733	4-Chloronitrobenzene						X			
1817476	4-Nitro-1-isopropylbenzene						X			
71432	Benzene						X			
108907	Chlorobenzene						X			
25567673	Chlorodinitrobenzene (mixed isomers)						X			
27900750	Dichloronitrobenzene (all isomers)						X			
100414	Ethylbenzene						X			
98828	Isopropylbenzene (cumene)						X			
98953	Nitrobenzene						X			
608935	Pentachlorobenzene						X			
12002481	Trichlorobenzene	X			X	X				
	Hormones									
57636	17-Ethynylestradiol								X	
56531	Diethylstilbestrol								X	
72333	Mestranol								X	
50282	Oestradiol								X	
53167	Oestron								X	
	Inorganic compounds									
7681529	Hypochlorite, sodium-				X					
	Metallic compounds									
7440382	Arsenic	X				X				
7440439	**Cadmium**	**X**	**X**			**X**				
7440473	Chromium	X				X				
7440508	Copper	X			X	X				
7439921	**Lead**	**X**	**X**			**X**				
7439976	**Mercury**	**X**	**X**		**X**	**X**				
7440020	Nickel	X				X				
7782492	**Selenium**	**X**								
7440666	Zinc	X			X	X				
	Organic nitrogen compounds									
33855479	1,2-Ethanediamine						X			

108770	2,4,6-Trichloro-1,3,5-triazin (cyanuric chloride)						X			
92875	4,4'-diaminodiphenyl (benzidine)						X			
14678058	5-Isoxazolamine						X			
461585	Cyanoguanidine						X			
108918	Cyclohexylamine						X			
1331471	Dichlorodiaminodiphenyl (dichlorobenzidine) (all isomers)						X			
109897	Diethylamine						X			
124403	Dimethylamine						X			
122394	N,N-Diphenylamine						X			
	Organic oxygen compounds									
96231	1,3-Dichloro-2-propanol						X			
75990	2,2-Dichloropropionic acid						X			
107073	2-Chloroethanol						X			
104767	2-Ethyl-1-hexanol						X			
3452979	3,5,5-Trimethyl-1-hexanol						X			
108601	bis(2-Chloroisopropyl)ether						X			
85687	Butylbenzylphthalate						X		X	
79118	Chloroacetic acid						X			
112301	Decanol						X			
117840	Di-n-octylphthalate						X			
84742	**Dibutylphthalate**						**X**		**X**	
117817	**Diethylhexylphthalate**									**X**
84662	Diethylphthalate						X			
102090	Diphenoxymethanal (carbonic acid, diphenyl ester)						X			
101848	Diphenylether						X			
106898	Epichlorhydrine						X			
25339177	Isodecanol						X			
27258942	Isononanol						X			
90193763	o-Phthalic acid						X			
111875	Octanol						X			
n.a.	Phthalates, other									X
76039	Trichloroacetic acid						X			
302170	Trichloroethanal (chloral)						X			
	Organic phosphorous compounds									
26444495	Cresyldiphenylphosphate						X			
126727	Tris(2,3-dibromo-1-propyl)phosphate						X			
126738	Tributylphosphate						X			
1330785	Tricresylphosphate						X			
78422	Trioctylphosphate						X			
115866	Triphenylphosphate						X			
25155231	Trixylenylphosphate						X			
	Organic compounds									
107642	Dimethyldistearylammoniumchloride				X					

61789808	Dimethylbis(hydrogenated tallowalkyl)ammoniumchloride				X					
68783788	Dimethyl ditallowalkylammoniumchloride				X					
n.a.	Organohalogens (toxic, persistent and liable to bioaccumulate)				X					
n.a.	Halogenated organic substances (measured as AOX)	X								
n.a.	Substances suspected to have endocrine or hormone-like effects				X					
	Organometallic compounds									
77587	Dibutylbis(oxylauroyl)tin						X			
818086	Dibutyltinoxide						X			
712481	Diphenylchloro arsine						X			
598141	Ethyldichloro arsine						X			
1461252	Tetrabutyltin						X			
13463393	Tetracarbonyl nickel						X			
78002	Tetraethyl lead						X			
	Pesticides/Biocides									
106934	**1,2-Dibromoethane**	**X**								
94757	2,4-Dichlorophenoxyacetic acid (2,4-D)						X			
120365	2,4-Dichlorophenoxypropanoic acid (dichlorprop)						X			
1194656	2,6-Dichlorobenzonitrile						X			
93765	**2,4,5-T**	**X**								
94746	2-Methyl-4-chlorophenoxyacetic acid (MCPA)						X			
93652	2-Methyl-4-chlorophenoxypropanoic acid (MCPP)						X			
107131	**Acrylonitrile**	**X**								
116063	Aldicarb						X			
309002	**Aldrin**	**X**	**X**	**X**						
61825	Amitrol						X			
140578	**Aramite**	**X**								
1912249	Atrazine	X				X				X
2642719	Azinphos-ethyl	X				X				
86500	Azinphos-methyl	X				X				
25057890	Bentazone						X			
319857	**beta-HCH**	**X**	**X**						**X**	
86748	Carbazole						X			
1563662	Carbofuran						X			
57749	**Chlordane**	**X**	**X**	**X**						**X**
143500	**Chlordecone (Kepone)**	**X**	**X**						**X**	
6164983	**Chlordimeform**	**X**								
76062	Chlorpicrin	X								
56724	Cumafos						X			
21725462	Cyanazine							X		
50293	**DDT**	**X**	**X**	**X**		**X**			**X**	
57749	Demeton						X			
n.a.	Dibutyltin salt (all)						X	X		
62737	Dichlorvos	X				X		X		

115322	Dicofol						X			X
60571	**Dieldrin**	**X**	**X**	**X**		**X**				**X**
13464807	Dihydrazinesulphate						X			
60515	Dimethoate						X	X		
88857	Dinoseb						X			
298044	Disulfoton						X	X		
148185	Dithiocarbamates						X			
330541	Diuoron							X		
n.a.	**Drins**		**X**	**X**		**X**				
115297	Endosulfan	X				X				X
72208	**Endrin**	**X**	**X**	**X**						
122145	Fenitrothion	X				X				
55389	Fenthion	X				X				
7664393	**Fluoroacetic acid and derivatives**	**X**								
14816183	Foxim						X			
608731	**HCH**	**X**	**X**			**X**				
76448	**Heptachlor**	**X**	**X**	**X**						
118741	**Hexachlorobenzene**	**X**	**X**	**X**		**X**				**X**
87683	Hexachlorobutadiene	X				X				
51235042	Hexazinone							X		
34123596	Isoproturon							X		
297789	**Isobenzane**	**X**								
465736	**Isodrin**	**X**								
4234791	**Kelevan**	**X**								
115322	Kelthane									X
143500	**Kepon (Chlordecone)**	**X**	**X**						**X**	
58899	**Lindane**	**X**	**X**		**X**				**X**	
330552	Linuron						X			
121755	Malathion	X				X				
1929880	Metabenzthiazuron							X		
67129082	Metazachlor							X		
51218452	Methalachlor							X		
10265926	Methamidophos						X			
72435	Methoxychlor									X
19937596	Metoxuron							X		
7786347	Mevinphos						X	X		
2385855	**Mirex**		**X**	**X**						
1746812	Monolinuron						X			
4636833	**Morfamquat**	**X**								
1836755	**Nitrophen**	**X**								
1113026	Omethoate						X			
301122	Oxydemeton-methyl						X			
2074502	Paraquat						X			
56382	Parathion	X				X		X		

298000	Parathion-methyl	X				X				
87865	**Pentachlorophenol**	**X**	**X**			**X**				
n.a.	Pesticides (agriculture, horticulture and forestry)				X					
1918167	Propachlor							X		
709988	Propanil						X			
1698608	Pyrazone (chloridazon)						X	X		
n.a.	Pyrethroids, synthetic									X
82688	**Quintozene**	**X**								
122349	Simazine	X				X				
148798	Thiabendazole							X		
8001352	**Toxaphene**	**X**	**X**	**X**						**X**
n.a.	Triazines (e.g. atrazine)									X
24017478	Triazophos						X			
n.a.	Tributyltin compounds	X				X		X	X	
52686	Trichlorfon						X			
1582098	Trifluralin	X				X				
n.a.	Triphenyltin compounds	X				X		X		
50471448	Vinclozolin								X	
	Phenols									
140669	1,1,3,3-Tetramethyl-4-butylphenol						X			
576249	2,3-Dichlorophenol						X			
120832	2,4-Dichlorophenol						X			
95852	2-Amino-4-chlorophenol						X			
120321	2-Benzyl-4-chlorophenol						X			
95578	2-Chlorophenol						X			
97541	2-Methoxy-4-propenylphenol						X			
95487	2-Methylphenol						X			
108430	3-Chlorophenol						X			
80057	4,4'-Methylethylidenebisphenol						X		X	
59507	4-Chloro-3-methylphenol						X			
106489	4-Chlorophenol						X			
25013165	Butylhydroxyanisol									X
98544	Butylphenol									X
1335859	Dinitro-2-methylphenol (dinitro-o-cresol, DNOC)						X			
27193868	Dodecylphenol (mixed isomers)						X			
104405	**Nonylphenol, 4-**				**X**		**X**		**X**	
9016459	**Nonylphenolethoxylate**	**X**			**X**					**X**
n.a.	Nonylphenolethoxylate carboxylic acid									X
140669	Octylphenol				X				X	
9036195	Octylphenolethoxylate									
95954	Trichlorophenol (all isomers)						X			
	Polycyclic halogenated aromatic compounds									
n.a.	Brominated flame retardants				X					X
36355018	**Hexabromobiphenyl**		**X**							

1336363	**PCB**	**X**	**X**	**X**	**X**				**X**	
n.a.	PCB hydroxy metabolites								X	
617883388	**PCT (mixtures)**	**X**								**X**
1335871	Polyhalogenated naphthalenes (hexachloro-)				X					
1746016	**TCDD, PCDD, PCDF**	**X**	**X**	**X**		**X**			**X**	
	Polycyclic aromatic hydrocarbons									
3389717	1,2,3,4,7,7-Hexachloronorbornadiene						X			
131099	2-Chloroantraquinone						X			
83329	Acenaphthene						X			
120127	Anthracene						X			
92524	Biphenyl						X			
25586430	Chloronaphthalene (all isomers)						X			
206440	Fluoranthene						X			
1335871	Hexachloronaphthalene						X			
91203	Naphthalene						X			
50328	**PAH**	**X**	**X**		**X**					**X**
85018	Phenantrene						X			
	Products									
8012951	Mineral oil						X			
	Toluenes and xylenes									
95476	1,2-xylene (o-xylene)	X					X			
108383	1,3-xylene (m-xylene)	X					X			
106423	1,4-xylene (p-xylene)	X					X			
602017	2,3-Dinitrotoluene						X			
121142	2,4-Dintrotoluene						X			
95498	2-Chlorotoluene						X			
108418	3-Chlorotoluene						X			
106434	4-Chlorotoluene						X			
98511	4-tert-Butyltoluene						X			
384225	alpha,alpha,alpha-Trifluoro-2- nitrotoluene						X			
98464	alpha,alpha,alpha-Trifluoro-3- nitrotoluene						X			
402540	alpha,alpha,alpha-Trifluoro-3-nitro-4-chlorotoluene						X			
402540	alpha,alpha,alpha-Trifluoro-4- nitrotoluene						X			
98873	alpha,alpha-Dichlorotoluene (benzylidenechloride)						X			
100447	alpha-Chlorotoluene (benzylchloride)						X			
1715408	Bromocylene				X					
n.a.	Chloroaminotoluene (chlorotoluidine, all isomers)						X			
25567684	Chloronitrotoluene (all isomers)						X			
25550145	Ethyltoluene (mixed isomers)						X			
81152	**Musk xylene**				**X**					
108883	Toluene						X			

HELCOM Recommendation 19/5
ATTACHMENT
Appendix 3

SELECTED SUBSTANCES FOR IMMEDIATE PRIORITY ACTION

Casn	Name
	Alkanes
85535848	Chlorinated paraffins, short chained
67663	Chloroform
	Phenols
9016459	Nonylphenolethoxylate and the degradation/transformation products
104405	Nonylphenol, 4-
	Xylenes
81152	Musk xylene
	Organic oxygen compounds
117817	Diethylhexylphthalate
84742	Dibutylphthalate
	Metallic compounds
7440439	Cadmium
7439921	Lead
7439976	Mercury
7782492	Selenium
	Pesticides/Biocides
106934	1,2-Dibromoethane
93765	2,4,5-T
107131	Acrylonitrile
309002	Aldrin
140578	Aramite
319857	beta-HCH
57749	Chlordane
143500	Chlordecone (Kepone)
6164983	Chlordimeform
50293	DDT
60571	Dieldrin
n.a.	Drins
72208	Endrin
7664393	Fluoroacetic acid and derivatives
608731	HCH
76448	Heptachlor
118741	Hexachlorobenzene
297789	Isobenzane
465736	Isodrin
4234791	Kelevan
143500	Kepon (Chlordecone)

58899	Lindane
2385855	Mirex
4636833	Morfamquat
1836755	Nitrophen
87865	Pentachlorophenol
82688	Quintozene
8001352	Toxaphene
n.a.	Organotin Compounds
	Polycyclic halogenated aromatic compounds
36355018	Hexabromobiphenyl
1336363	PCB
617883388	PCT (mixtures)
1746016	TCDD, PCDD, PCDF
	Polycyclic aromatic hydrocarbons
50328	PAH

These substances are highlighted in Appendix 2

Annex II: Terms of Reference

Terms of Reference for the Project on the Strategy to Implement the HELCOM Objective with regard to Hazardous Substances (endorsed by the Joint Meeting of the Chairmen and the Secretariat of the Helsinki Commission and Heads of Delegations to HELCOM, 9 June 1998, Helsinki, Finland and contained in document CASH 26/98-HoDs 5/98, Attachment 2, Annex 3).

The Project shall promote the implementation of HELCOM Objective with regard to Hazardous Substances. In doing so, it will co-operate with appropriate HELCOM bodies and co-ordinate their efforts in the implementation process. The Project will elaborate a program of action and set intermediate targets to ensure the fulfilment of HELCOM Objective. The project may find it useful to establish sub-projects for certain issues.

The issues of the Project are:

I Identification of sources, pathways and fate of hazardous substances

The Project will initiate a process to develop a comprehensive information basis and reporting system, which includes, i.a.:

a) to generate information on the import, production, stockpiling, use and export of substances

b) to generate information on discharges, emissions and losses

c) to generate information on the existence of the substances in the marine environment (monitoring and modelling)

The work should start with selected substances as set in Appendix 3 of HELCOM Recommendation 19/5.

II Development of selection and prioritisation mechanism and its application to the substances of concern in order to produce an updated HELCOM List of Selected Substances for Priority Action

a) to participate in the development of dynamic selection and prioritisation mechanisms to select the hazardous substances to be given priority in this work

b) to apply the selection and prioritisation mechanism to substances of concern, including those substances set out in the Appendix 2 to HELCOM Recommendation 19/5, in order to update HELCOM List of Selected Substances for Immediate Priority Action

c) to keep the selection and prioritisation mechanism under review to ensure that it remains effective to identify all aspects of hazard and risk

In doing so, the Project will consider the work done in other fora, especially in OSPAR, and, where necessary, modify the mechanism to take into account the specific conditions in the Baltic Sea.

III Development and use of assessment methodologies

a) to consider the work done in other fora concerning the development of relevant tools for assessing risks of hazardous substances in the marine environment and, where necessary, to modify them to take into account the specific conditions in the Baltic Sea

b) to develop criteria and methods considering the work done in other fora which could be used for identification and development of less hazardous, or

preferable non-hazardous substances which could substitute hazardous substances

IV Identification and development of relevant measures to deal with the problems caused by hazardous substances

The project will initiate and promote the development of different policy instruments to take into account phasing out, substitution and/or minimised use and reduction of discharges of hazardous substances. The project will address, i.a., the following issues:

a) to increase effectiveness and use of economic and other proactive instruments, also with regard to the regulation process

b) to identify the appropriate geographical and administrative level of measures

c) to facilitate capacity building

d) to introduce substitution and minimization of hazardous substances into relevant recommendations and to identify the need for further recommendations in this field taking into account relevant documents on BAT/BEP developed in other fora

e) to encourage and facilitate the application of the substitution principle, the development and use of environmentally sound products and less hazardous, or preferably non-hazardous substances

V Co-operation and dialogue

a) to promote good co-operation between HELCOM bodies

b) to maintain a constructive dialogue with all parties concerned (different levels and sectors of administration, industry, trade, agriculture, environmental NGOs, consumer organisations)

c) to promote the exchange of information, which is relevant for the implementation of HELCOM Objective

d) to invite and encourage industry and other relevant sectors to co-operate in fulfilling the Objective of HELCOM, i.a., to incorporate the Strategy and to provide reliable data on production volumes, use patterns, emission scenarios, exposure concentrations and properties of substances

e) to promote public knowledge and to increase awareness on the chemical issues

VI Reporting procedure

a) to develop a reporting procedure to enable a review of progress

b) to report to the Technological Committee via the Working Group on Pollution Reduction (TC RED) on its activities and the use of resources and to submit its report to the other Committees of the Helsinki Commission for information and, as appropriate, for comments and appropriate actions

VII Revision of the Strategy

a) to make proposals for the revision of the Strategy when appropriate.

Annex III: List of participants

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Annex IV: Baltic Sea List of priority harmful substances other than nutrients for immediate action in order to reach the 50 % reduction goal by 1995 (HELCOM 12/18, Annex 6, 1991).

Cas-No.	Metals and their compounds
	Mercury
	Cadmium
	Copper
	Zinc
	Lead
	Arsenic
	Chromium
	Nickel
	Organic substances other than biocides
56235	Carbontetrachloride
67663	Chloroform
79016	Trichloroethylene
127184	Tetrachloroethylene
	Trichlorobenzene
107062	Dichloroethane 1,2
71556	Trichloroethane 1,1,1-
	Xylenes
118741	Hexachlorobenzene
87683	Hexachlorobutadiene
	Nonylphenolethoxylate
	Dioxins
	Halogenated organic substances measured as AOX *
	PAH
	Tributyltin-compounds
	Triphenyltin-compounds
87865	Pentachlorophenol
	Biocides
1582098	Trifluralin
115297	Endosulfan
122349	Simazine
1912249	Atrazine
	Tributyltin-compounds
	Triphenyltin-compounds
2642719	Azinphos-ethyl
86500	Azinphos-methyl
122145	Fenitrothion
55389	Fenthion
121755	Malathion
56382	Parathion
298000	Parathion-methyl
62737	Dichlorvos
	Copper-compounds
	Zinc-compounds
	Arsenic-compounds
56235	Carbontetrachloride
76062	Chlorpicrin
107062	1,2-Dichloroethane
118741	Hexachlorobenzene
	Lindane

Annex V: Substances of concern in different fora (October 2002)

CAS No	Name	SC-POP	LRTAP	OSPAR	HELCOM	WFD	76/464*	Exist List*
50293	DDT	X	X		X		X	
57749	Chlordane	X	X		X		X	
58899	Lindane		X		X		X	
60571	Dieldrin	X	X		X		X	
67663	Chloroform				X	X	X	
71432	Benzene					X	X	
72208	Endrin	X	X		X		X	
72435	Methoxychlor			X				
75092	Dichloromethane					X	X	
76448	Heptachlor	X	X		X		X	
77474	1,3-cyclopentadiene, 1,2,3,4,5,5-hexachloro-			X				X
79947	TBBA			X				X
82688	Quintozene				X			
85223	Benzene, pentabromoethyl			X				
87616	1,2,3-trichlorobenzene			X		X	X	
87683	Hexachlorobutadiene					X	X	
87865	Pentachlorophenol (PCP)			X	X	X	X	
91203	Naphthalene					X	X	
93765	2,4,5-T				X		X	
98511	4-tert-butyltoluene			X				
104405	4-Nonylphenol				X			
106934	1,2- Dibromoethane				X		X	
107062	1,2-Dichloroethane					X	X	
107131	Acrylonitrile				X			
107460	HMDS			X				
108703	1,3,5-trichlorobenzene			X			X	
115297	Endosulphan			X		X	X	
115322	Dicofol			X				
118741	Hexachlorobenzene	X	X		X	X	X	
120127	Anthracene					X	X	X
120821	1,2,4-trichlorobenzene			X			X	X
122349	Simazine					X	X	
140578	Aramite				X			
140669	Octylphenol			X		X		
143500	Chlordecone		X		X			
144490	Fluoroacetic acid & derivatives				X			
206440	Fluoranthene					X		
297789	Isobenzane				X			
309002	Aldrin	X	X		X		X	
319857	beta-HCH				X			
330541	Diuron					X		
465736	Isodrin			X	X			
470906	Chlorfenvinphos					X		
603350	Phosphine, triphenyl-			X				
608731	HCH		X	X	X	X	X	
608935	Pentachlorobenzene					X		
732263	2,4,6-tri-tert-butylphenol			X				

CAS No	Name	SC-POP	LRTAP	OSPAR	HELCOM	WFD	76/464*	Exist List*
793248	4-(dimethylbutylamino)diphenylamin 6PPD			X				
1321659	Naphthalene, trichloro-			X			X	
1335871	Naphthalene, hexachloro-			X			X	
1335882	Naphthalene, tetrachloro-			X			X	
1582098	Trifluralin			X		X	X	
1825214	Pentachloroanisole			X				
1836755	Nitrophen				X			
1912249	Atrazine					X		
2104645	EPN			X				
2227136	Tetrasul			X				
2234131	Naphthalene, octachloro-			X			X	
2385855	Mirex	X	X		X			
2921882	Chlorpyrifos					X		
4234791	Kelevan				X			
4636833	Morfamquat				X			
6164983	Chlordimeform				X			
7439921	Lead & organic lead compounds		X	X	X	X		
7439976	Mercury & organic mercury compounds		X	X	X	X	X	
7440020	Nickel and its compounds					X		
7440439	Cadmium		X	X	X	X	X	
7782492	Selenium				X			
8001352	Toxaphene	X	X		X			
15972608	Alachlor					X		
28680457	Heptachloronorbornene (2440-02-0)			X				
32241080	Naphthalene, heptachloro-			X			X	
34123596	Isoproturon					X		
36065302	Benzene, 1,3,5-tribromo-2-(2,3-dibromo-2-methylpropoxy)-			X				
36355018	Hexabromobiphenyl		X		X			
51000523	Neodecanoic acid, ethenyl ester			X				
55525547	Urea, N,N'-bis[(5-isocyanato-1,3,3-trimethylcyclohexyl)methyl]-			X				
70124775	Flucythrinate			X				
85535848	Short chained chlorinated paraffins (SCCP)			X	X	X		X
617883388	PCT (mixtures)				X			
23593751	Clotrimazole			X				
4904614	1,5,9-Cyclododecatriene			X				
294622	Cyclododecane			X				
1321648	Naphthalene, pentachloro-			X				
70776033	Naphthalene, chloro derivatives			X				
512049	Diosgenin			X				
n.a.	Brominated flame retardants			X		X		X
n.a.	Certain phthalates: dibutylphthalate & diethylhexylphthalate			X	X	X		X
n.a.	Musk xylene			X	X			
n.a.	Nonylphenol/ethoxylates (NP/NPEs) & related substances			X	X	X		X

CAS No	Name	SC-POP	LRTAP	OSPAR	HELCOM	WFD	76/464*	Exist List*
n.a.	Organic tin compounds			X	X	X	X	
n.a.	Polyaromatic hydrocarbons (PAHs)	X	X	X	X	X	X	
n.a.	Polychlorinated biphenyls (PCBs)	X	X	X	X		X	
n.a.	Polychlorinated dibenzodioxins (PCDDs)	X	X	X	X			
n.a.	Polychlorinated dibenzofurans (PCDFs)	X	X	X	X			

SC-POP	Stockholm Convention Persistent Organic Pollutants, 2001
LRTAP	Convention on Long-range Transboundary Air Pollution, POP-Heavy Metals Protocols, 1998
OSPAR	OSPAR Strategy with regard to Hazardous Substances, 1998
HELCOM	HELCOM Strategy with regard to Hazardous Substances, 1998 (Rec. 19/5)
WFD	Water Framework Directive 2000/60/EC - Prioritised substances, 2001
76/464	Directive 76/464/EEC - Discharge of dangerous substances into aquatic environment of the Community
ExistList	Council Regulation (EEC) No 793/93 on the evaluation and control of the risks of existing substances
*	Only substances in common in one or several of SC-POP, LRTAP, OSPAR, HELCOM, WFD

Annex VI: The Questionnaire

The Questionnaire was sent out to all Project Team Members via e-mail on 6 October 1999. It had earlier been agreed that the answers should be provided in an electronic form and Sweden agreed to provide a format. All CPs should return the filled questionnaire at the latest by the end of 1999.

For the selected priority substances for the pilot programme as contained in Attachment 1 questions are elaborated on two different levels below.

****

Your name and organisation {nameorg} [
]

Country {country} [

****

At this stage the Project Team is only asking for available information present.

The questionnaire is structured to cover the above need of information in such a way that all Contracting Parties are considered to be in a position to answer the first section of questions. The second section of questions is meant to go further into detail, if available.

Changes in the discharges, emissions and losses of these substances in the catchment area (source-oriented approach) should be mentioned:

- for the late 80's,
- for the present (late 90's),
- planned measures and activities for implementation.

The discharges, emissions and losses should be given as national figures. Recalling the decision of the Ministerial Meeting of Helsinki Commission in 1998 to reaffirm their commitment to achieve the strategic goals set up in the 1988 Ministerial Declaration before the year 2005, the present data (late 90's) are considered of special importance. If figures or estimates for the late 80's are not available, an indication of the trend should be given.

**********'

Casn Name

**********'**********

Section 1. Basic Questions

1.1 Legislation and other measures concerning chemical products

{ans1.1a} [
]

- ban of the production/use of the substance

{ans1.1b} [
]

- restricted use/import of the substance

{ans1.1c} [
]

- use of economic instruments, voluntary agreements etc.

{ans1.1d} [
]

- planned measures and activities for implementation

{ans1.1e} [
]

Please, indicate date of implementation of regulations and of other measures.
Please, indicate all known relevant existing uses. In case of no legislation and no uses, please indicate why (e.g. voluntary agreements or commitments).

1.2 Regulation of industrial installations (permits)

Please, indicate date of implementation of regulations.

{ans1.2a} [
]

1.3 Effectiveness of the implemented legislation/regulations
{ans1.3a} [
]
-also effectiveness of implementation of relevant HELCOM Recommendations
{ans1.3b} [
]

1.4 Information on production, industrial and consumer uses of these substances, including relevant modes of applications (see note:1)
{ans1.4a} [
]

1.5 Information on relevant discharges, emissions and losses from point sources and diffuse sources (see note:1)
{ans1.5a} [
]

note1) If possible, please indicate the annual substance flow or volume. It is intended that the Contracting Parties provide the available information on the amount of production, industrial and consumer uses of a substance. In addition, if available, the Contracting Parties are welcomed to provide information on a mass balance (production, import, export - applications - emissions, discharges and losses during the life cycle of the substance or products in which the substance is used).

Information on relevant other sources, e.g. impurities in products (e.g. fertilizers), raw materials etc. (see also question 2.5) (see note:1))

Section 2. Detailed questions

2.1 Amount of import/export, production per year
{ans2.1a} [
]

2.2 Amount of substances in imported chemical products, articles and goods
{ans2.2a} [
]

2.3 Amount of sales per year, specified for each use and mode of application
{ans2.3a} [
]

2.4 Amount of stockpiling and its treatment of substances banned or restricted in use
{ans2.4a} [
]

2.5 Information on the amount of discharges to water/emissions to air and losses (from production, use, storage, transport and waste treatment) within the catchment area of the Baltic Sea (cf. also footnote 1)
{ans2.5a} [
]

2.6 Information on illegal or unidentified uses (indication on such uses can be obtained e.g. from monitoring data)
{ans2.6a} [
]

2.7 Amount of administrative and financial resources needed for the implementation and supervision of measures described under question 1.1. It is intended to get at least some rough estimation on these costs.
{ans2.7a} [
]
Every information concerning pesticides should be given in kilogram of active substance.

Annex VII: Recommendations relevant to the Project on Hazardous Substances (others than 19/5).

No.	Title	substances	sectors
4/1	Amendment of Annex I of the Helsinki Convention	PCTs	
6/1	Elimination of the use of PCBs and PCTs	PCBs/PCTs	
6/4	Measures aimed at the reduction of mercury resulting from dentistry	mercury	
9/4	Reduction of emissions of lead from combustion of leaded gasoline	lead	
11/7	Measures aiming at the reduction of emissions to the atmosphere from the iron and steel industry	cadmium	Iron & steel industry
11/12	Reduction of air pollution from ships	sulfur, chlorine, heavy metals	
13/4	Atmospheric pollution related to the use of scrap materials in the iron and steel industry	cadmium, lead, mercury, dioxins	Iron & steel industry
14/3	Limitation of emissions to the atmosphere and discharges into water from glass industry	lead	glass industry
14/5	Reduction of diffuse emissions from used batteries containing heavy metals	mercury, cadmium, lead	
16/4	Reduction of emissions into the atmosphere from the pulp and paper industry	AOX, heavy metals, SCCP	Pulp & paper industry
16/7	Basic principles in waste water management in the leather industry	chlorinated organics (SCCP)	Leather industry
16/8	Limitation of emissions into atmosphere and discharges into water from incineration of household waste	heavy metals, dioxins	
17/1	Reduction of emissions from transport sector affecting the Baltic Sea	lead	
17/5	Restriction of discharges from the iron and steel industry	metal, oil and cyanide discharges	Iron & steel industry
17/6	Reduction of pollution from discharges into water, emissions into the atmosphere and phosphogypsum out of the production of fertilizers	cadmium, mercury	Fertilizer industry
17/8	Reduction of discharges from the kraft pulp industry	AOX, heavy metals, SCCP	Pulp & paper industry
17/9	Reduction of discharges from the sulphite industry	AOX, heavy metals, SCCP	Pulp & paper industry
18/2	Offshore activities	mercury, cadmium	
20/4	Antifouling paints containing organotin compounds	organotin compounds	
23/4	Measures aimed at the reduction of mercury pollution resulting from light sources and electrical equipment	mercury	
23/6	Reduction of emissions and discharges of mercury from chloralkali industry	mercury	Chlor-alkali industry
23/7	Reduction of discharges and emissions from the metal surface treatment	Cd, Hg, Cr, Cu, Pb, Ni, Ag, Zn, unbound cyanid, VOX, NPE, chlorinated organics; tri-/tetra-chloroethene, dichloromethane;	Metal surface treatment
23/9	Restriction of atmospheric emissions and waste water discharges from hard coal cokeries	PAH, Phenol, CN	Iron & steel industry
23/10	Reduction of discharges and emissions from production and formulation of pesticides	AOX, Cu, Cr, Zn, As	Production & formulation of pesticides
23/11	Requirements for discharging of waste water from the chemical industry	AOX, Hg, Cd, Cu, Ni, Pb, Cr, Zn	Chemical industry

No.	Title	substances	sectors
23/12	Reduction of discharges and emissions from production of textiles	active chlorine, AOX, Cr, Cu, Zn, Cr, PCB, PCP, As, Hg, trichlorobenzenes, APEOs, solvents, aromatic hydrocarbons	Textile industry

PBT-substances in general (persistent-bioaccumulative-toxic) are addressed in 11/7, 13/2, 13/4, 14/3, 17/5

Annex I of the Convention

In order to protect the Baltic Sea Area from hazardous substances, the Contracting Parties shall endeavour to minimize and, whenever possible, ban the use of the following substances as pesticides in the Baltic Sea Area and its catchment area:

Acrylonitrile, Aldrin, Aramite, Cadmium-compounds, Chlordane, Chlordecone, Chlordimeform, Chloroform, 1,2-Dibromoethane, DDT, Dieldrine, Endrin, Fluoroacetic acid and derivatives, Heptachlor, Isobenzane, Isodrin, Kelevan, Lead-compounds, Mercury-compounds, Morfamquat, Nitrophen, Pentachlorophenol, Polychlorinated terpenes, Quintozene, 2,4,5-T, Toxaphene.

Annex VIII: Meetings January 2000 – October 2002

The Co-ordinator of the Project Team of Hazardous Substances made the necessary preparations and acted as Secretary General of the following meetings:

- the Fourth Meeting of the Project Team on Hazardous Substances, Helsinki, Finland, 17-20 October 2000;
- the Fifth Meeting of the Project Team on Hazardous Substances, Helsinki, Finland, 6-7 March 2001;
- the Extraordinary Meeting of the Project Team on Hazardous Substances, Berlin, Germany, 17-18 May 2001;
- the Sixth Meeting of the Project Team on Hazardous Substances, Helsinki, Finland, 17-19 September 2001;
- Telephone conference for the preparation of a workshop to elaborate a common strategy on data collection, 28 November 2001, Helsinki, Finland;
- HELCOM Meeting with Baltic national industry associations of users of chemicals, Sigulda, Latvia, 6 February 2002;
- the Seventh Meeting of the Project Team on Hazardous Substances, Helsinki, Finland, 11-13 March 2002;
- the Eighth Meeting of the Project Team on Hazardous Substances, Helsinki, Finland, 23-25 September 2002.

Furthermore, the Co-ordinator of the Project Team of Hazardous Substances participated in the following meetings under the auspices of the Helsinki Commission:

- the Third Meeting of the Project Team on Hazardous Substances, Helsinki, Finland, 25-28 January 2000;
- the Ad hoc Working Group Meeting regarding strengthening HELCOM towards sustainable development and the future of HELCOM and Baltic 21, Helsinki, Finland, 14-15 February 2000;
- the Second Meeting of the Heads of Delegation (HELCOM HOD 2/2000), Helsinki, Finland, 7–8 March 2000;
- the First Meeting of the Land-based Pollution Group (HELCOM LAND), Helsinki, Finland, 3-6 April 2000;
- the First Meeting of the Monitoring and Assessment Group (HELCOM MONAS), Tallinn, Estonia, 8-12 May 2000;
- the Third Meeting of the Heads of Delegation (HELCOM HOD 3/2000), Hamburg, Germany, 21-22 August 2000;
- the Second Meeting of the Strategy Group (HELCOM STRATEGY 2/2000), Helsinki, Finland, 9-10 October 2000;
- the Second Meeting of the Land-based Pollution Group (HELCOM LAND), St.Petersburg, Russia, 27-29 November 2000;
- the Fourth Meeting of the Heads of Delegation (HELCOM HOD 4/2000), Helsinki, Finland, 11-12 December 2000;
- the Fifth Meeting of the Heads of Delegation (HELCOM HOD 5/2001), Stockholm, Sweden, 6-7 February 2001;
- the Third Meeting of the Land-based Pollution Group (HELCOM LAND), Berlin, Germany, 14-17 May 2001;
- the Sixth Meeting of the Heads of Delegation (HELCOM HOD 6/2001), Warsaw, Poland, 23-24 August 2001;
- the Third Meeting of the Monitoring and Assessment Group (HELCOM MONAS), Ispra, Italy, 15-16 October 2001;
- the Fourth Meeting of the Land-based Pollution Group (HELCOM LAND), Gdansk, Poland, 5-8 November 2001;

- the Seventh Meeting of the Heads of Delegation (HELCOM HOD 7/2002), Helsinki, Finland, 17-18 January 2002;
- the Twentythird Meeting of the Helsinki Commission (HELCOM 23/2000), Helsinki, Finland, 5-7 March 2002;
- the Fifth Meeting of the Land-based Pollution Group (HELCOM LAND), Copenhagen, Denmark, 27-30 May 2002;
- the Eighth Meeting of the Heads of Delegation (HELCOM HOD 8/2002), Helsinki, Finland, 28-28 June 2002;
- the Ninth Meeting of the Heads of Delegation (HELCOM HOD 9/2002), Riga, Latvia, 19-20 August 2002.

The Co-ordinator of the Project Team of Hazardous Substances represented the Commission at the following international meetings or made the following visits:

- an informal meeting with Mr. Bengt Bucht, Senior Counsellor of the Ministry of Social Affairs, Tallinn, Estonia, 10 May 2000;
- an informal meeting with Mr. Mikael Erikson, Consultant, Swedish Environmental Protection Agency, Stockholm, Sweden, 6 June 2000;
- a meeting with representatives of Environmental State Committees of St.Petersburg and Kaliningrad region, St.Petersburg, Russia, 15-16 June 2000;
- an informal meeting with Ms. Elina Karhu, Finnish Environment Institute, Helsinki, Finland, 27 June 2000;
- an informal meeting with Mr. Andreas Ahrens, WWF Germany, Hamburg, Germany, 20 August 2000;
- an informal meeting with Ms. Jana Simanovska, Baltic Environmental Forum, Helsinki, Finland, 27 August 2000;
- a workshop “How to reach the Esbjerg goal”, Stockholm, Sweden, 7-8 September 2000;
- Fifth SETAC Meeting, Hamburg, Germany, 11-12 September 2000;
- Baltic Dialogue, Journalists Seminar, Rügen, Germany, 20 September 2000;
- Baltic Environmental Forum/First Steering Group Meeting of the BACCON 2 Projects, Jurmala, Latvia, 2-3 November 2000;
- Baltic Environmental Forum/BACCON 2.3 Planning Meeting, Tallinn, Estonia, 22-23 January 2001;
- HELCOM/CEFIC Information Day, Brussels, Belgium, 14 February 2001;
- 6th International HCH and Pesticides Forum, Poznan, Poland, 20-22 March 2001;
- OSPAR Hazardous Substances Committee (HSC) Meeting, Stockholm, Sweden, 2-4 April, 2001;
- UNEP Expert Consultation on a Global Network on Monitoring of Chemicals, with an Initial Focus on Persistent Organic Pollutants (POPs), Geneva, Switzerland, 2-4 May, 2001;
- a meeting with representatives of the European Commission, Brussels, Belgium, 28-29 May 2001;
- a meeting with representatives of administration, industry and research institutes responsible for chemicals issues, Warsaw, Poland, 4 June 2001;
- Baltic Environmental Forum/Second Steering Group Meeting of the BACCON 2 Projects, Riga, Latvia, 7-8 June 2001;
- an informal meeting with Ms. Liucija Ramanauskiene, Ministry of Environment, Vilnius, Lithuania, 18 June 2001;
- Baltic Environmental Forum/1st Industry Workshop on Chemicals Risk Management in the Baltic States, Roosta, Estonia, 13-14 September 2001;
- a meeting with representatives of administration, industry and research institutes responsible for chemicals issues, Vilnius, Lithuania, 3 October 2001;
- OSPAR Meeting of the Working Group on Priority Substances (SPS), Arona, Italy, 17-19 October, 2001;
- a meeting with representatives of the Danish EPA, Copenhagen, Denmark, 9 November 2001;

- 1st Technical Workshop of UNEP/GEF Project “Regionally Based Assessment of Persistent Toxic Substances Project (RBA PTS)” Brussels, Belgium, 4-8 December, 2001;
- OSPAR Meeting of the Working Group on on Point and Diffuse Sources (PDS), Oslo, Norway, 18-20 December, 2001;
- BEF-Workshop on Risk Reduction Measures, Sigulda, Latvia, 4-5 February 2002;
- BEF-Baltic Experts’ Meeting on Targeted Data Collection Regarding Hazardous Chemicals, Sigulda, Latvia, 6-7 June 2002.

Annex IX: Agenda of the HELCOM Meeting with Baltic national industry associations of users of chemicals, Sigulda, 6 February 2002.

09.00–09.15 Mr. Armands Plate
Ministry of Environmental Protection and Regional Development of Latvia
- Welcome and introduction

09.15–09.45 Ms. Christine Füll
Coordinator of HELCOMs Hazardous Substances Project
- Who is HELCOM?
  - The Commission, the Convention, the aims.
- HELCOMs substances for priority action.
  - The Project on Hazardous Substances.
- What has HELCOM to do with EU Accession?
  - Synergies between EU work and HELCOM's work with regard to hazardous substances.

09.45-10.30 Mr. Graham Willmott
European Commission
- EU requirements regarding Hazardous Substances
  - Water Framework Directive and the new EU Policy on Chemicals (REACH system)
  - Marketing and Use Restrictions

10.30 -11.00 Mr. Andreas Ahrens
Member of the Project Team on Hazardous Substances
- The role of the user associations.
  - Industrie's proactiveness (informing their members, taking measures right in time) and the benefits of it.
  - The downstream user approach.

11.00–11.30 Coffee & Tea

11.30–12.00 Ms. Helgi Rõõs
ES Sadolin, Estonia
- Examples from the Baltic States on how the issue of hazardous substances is reflected in the work of the Federation of Estonian Chemical Industry and its Members.

Strategies to avoid hazardous substances in products and processes. Examples from the Nordic Countries.

12.00-12.30 Mr. Thorbjørn Sørensen
Head of Environment in the County of Fyn (Denmark)
- Communication, cooperation and information flow between environmental regulators and industry: How to solve problems with the most hazardous chemicals?

12.30-13.00 Mr. Pekka Kotilainen
Tikkurila Oy (Finland)
- Strategies to avoid hazardous substances in paint products.
- How do they promote and support the industry's development and the

professional skills of its members with regard to the use of hazardous substances?

13.00–14.00 Lunch

14.00-14.30 Mr. Bengt Bucht
Swedish National Chemicals Inspectorate – KEMI

- Chemicals Control: Enterprises and Governmental Institutions – Roles and Co-operation

14.30-15.00 Summary and closing of the meeting

Annex X: EC Directives with relevance for the HELCOM Hazardous Substances work.

- Council Regulation 793/93/EEC on the evaluation and control of the risks of existing substances. Risk assessments are carried out and risk reduction strategies are developed, possibly resulting in amendments under Council Directive 76/769/EEC (on the approximations of the laws, regulations, and administrative provisions of the Member States relating to restrictions on the marketing and use of certain dangerous substances and preparations) (e.g. TBT, PCBs). 4 priority lists (containing about 150 substances and identified Rapporteur Member States) have been established for carrying out the risk assessment work under regulation no 793/93 (2001).
- Council Directive 67/548/EEC concerning the classification and labelling of dangerous substances and preparations.
- Council Directive 91/414/EEC concerning the placing of plant protection products on the market.
- Council Directive 98/8/EC on placing on the market of biocides. After full implementation of this Directive, all active substances have to be assessed and approved on the Community level and all the biocidal products have to be authorised by the Member States. If the result of the assessment is that an active substance can be used in a biocidal product, it will be put on a positive list accompanied with the requirements on that use.
- Directive 2000/60/EC of the European Parliament and of the council establishing a framework for Community action in the field of water policy (Water Framework Directive). This Directive contains provisions on measures aimed at progressively reducing (for priority substances) and at ceasing or phasing out (for priority hazardous substances, within 20 years) discharges, emissions and losses as well as identification of these priority substances and hazardous priority substances.
- EC VOC-Directive 99/13/EC requires substitution or emission control measures with regard to the use of chemical products containing volatile organic substances.
- Council Directive 96/61/EC concerning integrated pollution prevention and control (IPPC) requires the assessment of chemicals used in certain production processes and the way in which they are used. Article 15 (3) of this Directive requires Member States to inventory and supply data on principal emissions and responsible sources, that is from all individual medium-sized and large facilities with one or more activities as mentioned in Annex I to this Directive. According to this Article 15 the Commission decided on the implementation of a European Pollutant Emission Register (EPER).
- Council Directive 79/117/EEC on restriction of use of certain pesticides.
- Council Directive 96/59/EC on the disposal of polychlorinated biphenyls and polychlorinated terphenyls (PCBs/PCTs), replacing Council Directive 76/403/EEC (ban of use of PCBs in EC in open applications, 1976).
- Council Regulation (EEC) No 2455/92 concerning the export and import of certain dangerous chemicals.
- Council Directive 91/173/EEC amending the ninth time Directive 76/769/EEC prohibits the marketing and use of pentachlorophenol and its salts and esters in concentration equal to or greater than 0,1 % by mass (1 000 ppm) in substances and preparations.
- According to Directive 1999/51/EC of adapting to technical progress for the fifth time Annex I to Council Directive 76/769/EEC on the approximation of the laws, regulations, and administrative provisions of the Member States relating to restrictions on marketing and use of certain dangerous substances and preparations (tin, PCP and cadmium) pentachlorophenol and its salts and esters shall not be used in a concentration equal to or greater than 0,1 % by mass in substances or preparations placed on the market. The use of PCP, NaPCP and PCPL will cease by the end of 2008 in all EU Member States.
- An amendment to Council Directive 76/769/EEC is proposed banning all marketing and use of pentaBDE (a brominated flame retardant) and should be adopted by the end of 2001.
- Within the European Commission, work is in progress on drafting directives concerning waste from electric and electronic equipment, WEEE, and restrictions on use of hazardous substances in electric and electronic equipment. The latter directive includes stipulations for substitution of the brominated flame retardants PBDE and PBB. The proposal has been discussed in the Council of EU. The WEEE directive includes systems for collecting electric and electronic waste as well as improved handling of waste.
- 2000/76/EEC on waste incineration.

- Directive 1999/31/EC on the landfill of waste provides that only treated waste can be landfilled.
- Council Directive 83/513/EEC on limit values and quality objectives for cadmium discharges.
- Council Directive 82/176/EEC on limit values and quality objectives for mercury discharges by the chlor-alkali electrolysis industry
- Council Directive 84/156/EEC on limit values and quality objectives for mercury discharges by sectors other than the chloralkali electrolysis industry.
- Council Decision 85/613/EEC concerning the adoption, on behalf of the Community, of programmes and measures relating to mercury and cadmium discharges under the convention for the prevention of marine pollution from land-based sources.
- Council Directive 91/157/EEC of 18 March 1991 on batteries and accumulators containing certain dangerous substances.
- Council Directive 86/280/EEC of 12 June 1986 on limit values and quality objectives for discharges of certain dangerous substances included in List I of the Annex to Directive 76/464/EEC (Council Directive 76/464/EEC of 4 May 1976 on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community).
- Council Directive 91/271/EEC concerning urban wastewater treatment, which imposes an obligation to purify wastewater from households and small businesses.
- Council Directive 98/83/EEC relating to the quality of water intended for human consumption (Drinking Water Directive), which lays down special requirements for water for human consumption, e.g. limit values for substances harmful to health (e.g. heavy metals, nitrates, organic compounds).

Annex XI: Example for an alternative questionnaire

No.	Cas-No.	Substance
1.		

Legislation & Measures

Is the substance registered/licensed for	No info avail.	No	Yes	Date of registration/ licensing/approval
plant protection use				
use as wood preservative				
use as desinfactant				
use in antifoulings				
other biocide uses				
use as industrial chemical				
any other use				

Is the substance legally banned for	No info avail.	No	Yes	Date of ban/ prohibition	Legal act	Exemptions
production						
import						
export						
marketing and use						

Is the substance in any way restricted for	No info avail.	No	Yes	Date of restriction	Description of restriction
production					
import					
export					
marketing and use					

The substance is subject to EEC ……	No info avail.	No	Yes	Legal act/national law
Directive implemented:				

The substance is subject to HELCOM Rec. No.…	No info avail.	No	Yes	Measures
Recommendation implemented:				

Is the substance subject to any other legal act?	No info avail.	No	Yes	Legal act

Are there any other measures (e.g. voluntary agreements, taxes etc.) for reduction/phasing out?	No info available	No	Yes	Measures/further explanations
Ideas				
Concrete measures				
Planned measures				

Production and uses

Is the substance	No info avail.	No	Yes	Amount of substance [t]		Amount [t] in products	
				in 19xy	in 1999	in 19xy	in 1999
produced							
imported							
exported							
sold and used							

Is the substance mainly used in	No info avail.	No	Yes	Amount [t]	
				in 19xy	in 1999
agriculture					
transport					
building materials					
household					
industry					
service trade					
other sectors					

The substance is mainly used for	Amount [t]	
	in 19xy	in 1999
batteries		
toys		
electronics		
paints		
cleaning agents		
……		
……		

Releases to the environment and stockpiling

Categories	No info av.	No	Yes	Emission/discharges/losses of the substance [t]			
				in 19xy			
				to air	to water	to soil	total
from point sources							
pulp & paper industry *textile industry* *……* *…….* *incineration* *production* processing							
from diffuse sources							
agriculture transport waste others							

Is the substance stockpiled …..?	No info available	No	Yes	Amount [t]	
				in 19xy	in 1999
as substance					
as product					
as waste					
as …..					

Is stockpiling a problem due to …..?	No info available	No	Yes	Further explanations
Disposal facilities				
Leakage				
Identification				
Large amounts				
Other reasons				

Annex XII: Press releases

Press release **24.8.2001**

Hazardous Substances on Decline in the Baltic Sea Area - Helsinki Commission reaches 50% Reduction Goal

The discharges, emissions, and losses of hazardous substances in the Baltic Sea area have been largely reduced since the late 1980ies according to a report presented by the Helsinki Commission today during a meeting of the Heads of Delegations in Warsaw, Poland. The report investigated 72 selected hazardous substances.

"We appreciate the achievements by our contracting parties.", states HELCOM Chairman Peter Ehlers, "But having reached the 50% reduction goal is only the first step in the right direction. We must reduce discharges, emissions, and losses of hazardous substances even further."

All substances in focus harm the environment. They are toxic, persistent or accumulate in living organisms. Among them are pesticides, biocides, and heavy metals as well as organic compounds, which include dioxins and antifouling agents such as TBT. The goal to reduce 47 of such hazardous substances by at least 50% was declared in 1988 by the Ministers responsible for the Environment of all countries bordering on the Baltic Sea.

Within the past 13 years, the emissions of certain hazardous substances have been mastered by legal means as well as new production processes and retention systems. The use of leaded gasoline, for instance, has significantly decreased or even phased out by now in all countries bordering on the Baltic Sea.

In other cases, deep socio-economic changes and stagnant industrial productions brought about the reduction of emissions. However, high concentrations of hazardous substances in the Baltic marine environment are still of concern, as expressed in the recent "Fourth Periodic Assessment of the State of the Marine Environment of the Baltic Sea Region".

Having met the 50% reduction goal, the Helsinki Commission now aims to phase out the discharges, emissions and losses of selected hazardous substances by 2020.

For further information please visit www.helcom.fi or contact:

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Press release **26.11.2001**

- **Toxic Relief** - HELCOM report reveals Baltic Sea countries stopped using 26 hazardous pesticides
- **Old Sins** - human health and environment still threatened by left-over pesticides in unsafe stores
- **Read More** - HELCOM Pesticide Report now available at www.helcom.fi/publications

26 Hazardous Pesticides no longer in Use

A HELCOM pesticide report reveals that 26 of the most hazardous pesticides, which were selected for immediate priority action, are no longer in use or even banned in all countries bordering on the Baltic Sea.

However, large volumes of left over, obsolete pesticides persist to seriously threaten human health and the environment, because they are likely to leak from improper and unsafe stores in several countries. Discussions on further steps to address this problem are currently ongoing within the relevant HELCOM bodies.

With the completion of the "Pesticide Report", which is available at www.helcom.fi, HELCOM has made an important step on its way to reach the generation goal. Its ambitious goal is to free the Baltic marine environment from hazardous substances by 2020, as spelled out in the 1998 HELCOM Recommendation 19/5.

The Pesticide Report is based on questionnaires sent out to all nine countries bordering the Baltic Sea. Among the 26 pesticides in focus are nine POP-pesticides, which have also been included in the Stockholm Convention on Persistent and Organic Pollutants.

Usually pesticides are used to gain control over unwanted pests like insects, mice, weeds, fungi, bacteria or viruses. However, the pesticides dealt with in the report also cause unintended harmful effects and threats to the environment due to their intrinsic properties like persistency, toxicity and tendency to bio-accumulate. Therefore, they were selected for immediate priority action.

For further information please visit www.helcom.fi or contact:

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