APPENDIX PART D: CURRENT AND FUTURE POLICIES AND REGULATORY FRAMEWORK

Chapter 3: The national policy framework in Germany

3.2.1a Parts of the 13th Ordinance of the Federal Immission Control Act, 22.6.1983 (Ordinance for large firing plants (capacity: ≥ 50 Megawatt))

Firing plants for solid fuel

- threshold value for dust emissions (mg/m^3)	50
- threshold value for arsenic, lead, cadmium, chromium, cobalt and nickel in dust emissions (mg/m^3), except for coal and wood	0.5

Firing plants for liquid fuel

- threshold value for dust emissions (mg/m^3)	50
- threshold value for arsenic, lead, cadmium, chromium, cobalt and nickel in dust emissions (mg/m^3)	2

Firing plants for gaseous fuel

- threshold value for dust emissions (mg/m^3)	5
- threshold value for dust emissions using gas of blast furnace (mg/m^3)	10

Old firing plants for solid fuel

- threshold value for dust emissions, firing lignite (mg/m^3)	80
- threshold value for dust emissions, except firing lignite (mg/m^3)	125

The threshold values for old firing plants have to be fulfilled within five years.
The regulation entered into force 1.07.1983 (Jarass, 1999).

3.2.1b 17th Ordinance of the Federal Immission Control Act, 23.11.1990 (Ordinance for waste firing plants)

Threshold values for mean emissions per day (mg/m^3):

- dust emissions	10
- organic substances	10
- anorganic fluoro compounds	1
- sum of sulfur di- and trioxide	50
- sum of nitrogen mono- and dioxide	200

Threshold values for mean emissions per sample (mg/m^3):

- sum of cadmium and thallium	0.05
- mercury	0.05
- sum of arsenic, antimony, lead, chrome, cobalt, copper, manganese, nickel, vanadium and tin	0.5
- sum of dioxins and furans	0.1 ng/m^3 TEQ

The threshold values for old waste firing plants have to be fulfilled until 1.03.1994.
The regulation entered into force the 1.12.1990 (Jarass, 1999).

3.2.1c 22th Ordinance of the Federal Immission Control Act, 27.5.1994 (definition of immission limits)

Threshold values for immissions per year (mg/m^3):

-	dust (arithmetic mean per day)	150
-	sulfur dioxide (median per day)	80
-	lead (annual mean value)	2 µg/m^3
-	nitrogen dioxide (98 percentile)	0.2

The regulation entered into force the 1.11.1993 (Jarass, 1999).

3.2.1d European Directives concerning air pollution

Council Directive 84/360/EEC (air pollution control of industrial plants), at last amended the 23.12.1991:

- emission thresholds for sulfur oxide and sulfur compounds, nitrogen oxides and nitrogen, carbon oxide, organic compounds, hydrocarbons, heavy metals and heavy metal compounds, dust, asbestos, fibre glass and fibre mineral (*Gesteinsfaser*), chloro- and fluoro compounds.

Council Directive 88/609/EEC (emission thresholds for large firing plants), last amended 1.01.1995:

- the European emission thresholds comply with the German Federal regulations from 22.06.1983.

Council Directive 89/369/EEC (emission thresholds for waste firing plants), 21.06.1989:

- the European emission thresholds exceed the German emission values several times.

Council Directive 94/67/EC (emission thresholds for hazardous waste firing plants), 16.12.1994:

- the European emission thresholds comply with the German Federal regulations from 23.11.1990.

Council Directive 96/61/EC (avoidance and reduction of environmental pollution), 24.09.1996:

- implementation of measures for avoiding or reducing emissions into air, water and soil;
- if there are transnational impacts, the states have to implement bilateral agreements;
- emission thresholds for water pollution should be defined for the following substances: halogen organic compounds and its precusors, phosphorous organic and tin organic compounds, substances with cancerogenic or mutagen potential, persistent hydrocarbons, bioaccumulatable toxicities, cyanides, metals and metal compounds, arsenic and arsenic compounds, biocide and plant protective agent, suspended matter, substances with eutrophisation effect, substances which sink the oxygen content.

Council Directive 96/62/EC (control of air quality), 27.09.1996:

- the Commission will present the Council proposals about threshold and alarm values for dust, lead, sulfur dioxide, nitrogen oxide until 1997, for benzene, carbon oxide until 1998 and for polycyclic aromatic hydrocarbons, cadmium, arsenic, nickel, mercury until 2000 (Jarass, 1999).

3.2.2a Ordinance of the Federal Soil Protection Act (BBodSchG), Annex 2

Test values (*Testwerte*) for soils are defined for playgrounds, housing areas, recreational constructions, and industrial areas. For analysing the impact of soil pollution on plants test values are defined for agricultural and gardening areas and finally for the effect on groundwater (Queitsch, 1999).

Precaution values (Vorsorgewerte) for soils (in mg/kg dry substance, disgestion with aqua regia (Königswasser)) (Queitsch, 1999)

soil texture	cadmium	lead	chromium	copper	mercury	nickel	zinc
clay	1.5	100	100	60	1	70	200
loam/silt	1	70	60	40	0.5	50	150
sand	0.4	40	30	20	0.1	15	60

Precaution values (Vorsorgewerte) for organic soils (in mg/kg dry substance) (Queitsch, 1999)

soil	sum 6 PCBs	benzo(a)pyrene	sum 16 PAHs
humus content >8%	0.1	1	10
humus content ≤8%	0.05	0.3	3

Permitted total loads of pollutants per year (in g/ha) (Queitsch, 1999)

element	total load (g/ha/yr)
lead	400
cadmium	6
chromium	300
copper	360
nickel	100
mercury	1.5
zinc	1200

3.2.2b Ordinance of the Federal Soil Protection Act (BBodSchG), Annex 1

Methods of analysis of soil, eluate and seepage water samples are defined for the following pollutants.

Anorganic pollutants: Cadmium, chromium, cobalt, copper, nickel, lead, antimony, selenium, molybdenum, thallium, zinc, arsenic, mercury, cyanides, fluorides.

Organic pollutants in the soil: 16 polycyclic aromatic hydrocarbons (Federal Environmental Agency)[1]; hexachlorobenzene, pentachlorophenol, aldrin, DDT, lindan, 6 polychlorinated biphenyls[2], polychlorinated dibenzodioxins and dibenzofurans.

Organic pollutants in eluates and seepage water: Benzene, BTEX, volatilehalogenated hydrocarbon, aldrin, DDT, phenol, chlorophenol, chlorobenzene, PCB, PAH, mineral oil hydrocarbons (Queitsch, 1999).

[1] Naphthalene, acenaphthene, fluorene, phenanthrene, anthracene, fluoroanthene, pyrene, benz(a)anthracene, chrysena, benzo(b)fluoroanthene, benzo(k)fluoroanthene, benzo(a)pyrene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, benzo(g,h,i)perylene (Queitsch, 1999).

[2] 2,4,4 trichlorobiphenyl, 2,2,5,5 tetrachlorobiphenyl, 2,2,4,5,5 pentachlorobiphenyl, 2,2,3,4,4,5 hexachlorobiphenyl, 2,2,3,4,4,5,5 heptachlorobiphenyl (Queitsch, 1999).

Chapter 4: The European and international policy framework

4.1.1a Parts of Annex II of the final proposal of the European Water Framework Directive (EU-WFD)

II.1.4. Identification of pressures of surface waters:

- estimation and identification of significant point source pollution from urban, industrial, agricultural and other installations and activities;
- estimation and identification of significant diffuse source pollution;
- estimation and identification of significant water abstraction;
- estimation and identification of the impact of significant water flow regulation;
- identification of significant morphological alterations to water bodies;
- estimation and identification of other significant anthropogenic impacts on the status of surface waters (Council of the EC, 1999).

II.1.5 Assessment of impact:

- member states shall carry out an assessment of the susceptibility of the surface water status of bodies to the pressures identified in II.1.4.

II.1.6 Designation of artificial and heavily modified bodies:

Member states may designate a body of surface water as artificial or heavily modified where making changes to artificial or modified characteristics of that body would affect:

- the wider environment;
- navigation or recreation;
- activities for the purposes of which water is stored (power generation, drinking-water supply etc.);
- water regulation, flood protection, irrigation or land drainage;
- human development (Council of the EC, 1999).

4.1.1b Annex IX of the final proposal of the EU-WFD

The limit values and quality objectives established under the Directive 76/464/EEC shall be considered emission limit values and environmental quality standards of this Directive. They are defined for mercury, cadmium, hexachlorocyclohexane and some other dangerous substances (Council of the EC, 1999).

4.1.1c Annex X of the final proposal of the EU-WFD

A list of priority substances determined by the European Parlament and the Council the 18.02.2000 in Brussels contains of 32 substances:

alachlor, anthracene, atrazin, benzene, brominated diphenyl ether, cadmium and its compounds, C_{10-13}-chloroalkanes, chlorfenvinphos, chlorpyrifos, dichloro methane, 1,2-dichloroethane, bis(2-ethylhexyl)-phthalate (DEHP), diuron, endosulfan, hexachlorobenzen, hexachlorobutadiene, hexachlorocyclohexane, isoproturon, lead and its compounds, mercury and its compounds, naphthalene, nickel and its compounds, nonylphenol, octylphenol, polyaromatic hydrogencarbons, pentachlorobenzene, simazin, pentachlorophenol, tributyltin compounds, trichlorobenzene, trichloromethane, trifluralin (Commission of EU, 2000).

4.1.1d Parts of Annex V of the final proposal of the EU-WFD (Council of the EC, 1999)

Quality elements for the classification of ecological status of surface water

a. Rivers

Biological elements:

- composition and abundance of aquatic flora, of benthic invertebrate fauna and of fish fauna (fish age structure included).

Hydromorphological elements supporting the biological elements:

- hydrological regime: quantity and dynamics of water flow; connection to ground water bodies;
- river continuity;
- morphological conditions: river depth and width variation; structure and substrate of the river bed; structure of the riparian zone.

Chemical and physio-chemical elements supporting the biological elements:

- general: thermal conditions, oxygenation conditions, salinity, acidification status, nutrient conditions;
- specific pollutants: pollution by all priority substances identified as being discharged into the body of water; pollution by other substances identified as being discharged in significant quantities into the body of water.

b. Coastal waters

Biological elements:

- composition, abundance of phytoplankton (biomass included), other aquatic flora and of benthic invertebrate fauna.

Hydromorphological elements supporting the biological elements:

- morphological conditions: depth variation, structure and substrate of the coastal bed, structure of the inter-tidal zone;
- tidal regime: direction of dominant currents, wave exposure.

Chemical and physico-chemical elements supporting the biological elements:

- general: transparency, thermal conditions, oxygenation conditions, salinity, nutrient conditions;
- specific pollutants: pollution by all priority substances identified as being discharged into the body of water; pollution by other substances identified as being discharged in significant quantities into the body of water.

c. Artificial and heavily modified surface water bodies

The quality elements applicable to artificial and heavily modified surface water bodies shall be those applicable to whichever of the four natural surface water categories above most closely resembles the heavily modified or artificial water body concerned.

Parts of the definition for high, good and moderate ecological status in rivers, coastal waters and the ecological potential for heavily modified or artificial water bodies:

Physico-chemical quality elements

status	specific synthetic pollutants	specific non-synthetic pollutants
high	concentrations close to zero and below the limits of detection of advanced analytical techniques	concentrations remain within the range of the background value
good	concentrations not in excess of the standards of this Directive without prejudice of directive 91/414/EEC and 98/8/EC	concentrations not in excess of the standards of this Directive without prejudice of directive 91/414/EEC and 98/8/EC
moderate	conditions consistent with the achievement of the values for the biological quality elements	conditions consistent with the achievement of the values for the biological quality elements

4.2.1.2a Annex I of the London Convention (including the 1978 and 1980 amendments)

Annex I substances are those which, as a result of being disposed, will or may contribute significantly to environmental exposure on a wide scale, extending far beyond the original location and time of disposal. They will also result in significant adverse environmental effects. Such substances will have in common a high degree of persistence coupled with at least one of the following properties:

- the ability to accumulate to levels significant in terms of toxicity to marine organisms, to domestic animals or to man;
- carcinogenic or mutagenic properties to domestic animals or man;
- the ability to cause a high degree of interference with fisheries, amenities, or other legitimate uses of the sea.

The Scientific Group on disposal has a standing request to prepare and maintain a list of hazardous substances or groups of substances to which particular attention should be paid. The procedure and method of approach for preparing and maintaining this list are defined in Annex IV.

The following matters are prohibited to be disposed:

- organohalogen compounds, mercury and its compounds, cadmium and its compounds, persistent plastics and other persistent synthetic materials, crude oil and its waste, petroleum products, distillate residues, high-level radioactive wastes and materials produced for biological and chemical warfare.

Wastes or other material, e.g. dredged material, containing these matters above as trace contaminants are subject of Annex II and III. Trace contaminants are defined to be the amount of substances which is too little to cause acute or chronic effects on marine organisms and humans. Besides it must be impossible to reduce their concentration further by technical means.

Substances which are rapidly rendered harmless by physical, chemical or biological processes in the sea are allowed to be disposed. The disposal of dredged material is excluded from this permission. Rapidly rendered harmless means that the substances which are disposed do not cause acute or chronic effects or bioaccumulation in sensitive marine organisms (IMO, 1991).

4.2.1.2b Annex II of the London Convention (including the 1978 and 1980 amendments)

The following substances require special care:

- wastes containing significant amount of arsenic, lead, copper, zinc and their compounds; significant amount means lead compounds ≥ 0.05%, all other substances ≥ 0.1% by weight of the waste;
- wastes containing organosilicon compounds, cyanides, fluorides, pesticides and their by-products (not mentioned in Annex I); significant amount means pesticides and their by-products ≥ 0.05%, all other substances ≥ 0.1% by weight of the waste;
- low-level radioactive wastes;
- substances which are not toxic but may become harmful due to the quantities in which they are disposed.

In the issues of permits for the disposal of large quantities of acids and alkalis, not only the above mentioned substances should be regarded but also:

- beryllium, chromium, nickel, vanadium and their compounds (IMO, 1991).

4.2.1.2c Annex III of the London Convention (including the 1989 amendments)

All substances or materials not mentioned in Annexes I and II of the convention need a 'prior general permit' if disposed at sea. Criteria for permits for the disposal of matter at sea:

- characteristics and composition of the matter, e.g. total amount, toxicity, persistence;
- characteristics of disposal site and method of relocation, e.g. location in relation to other areas, dispersal and water characteristics;
- general considerations and conditions, e.g. possible effects on amenities, marine life, alternative land-based methods of treatment (IMO, 1991).

4.2.1.2d List of European Parties and Signatories to the 1996 Protocol to the London Convention 1972 (status 25.4 2000)

state	party to London Convention 1972	date of ratification (r), accession (a) or succession (s)
Denmark	yes	r: 17.04.1997
Sweden	yes	r: 09.09.1997
Germany	yes	r: 11.09.1997
United Kingdom	yes	r: 22.09.1997
Netherlands	yes	r: 27.03.1998
Belgium	yes	r: 27.03.1998
Switzerland	yes	r: 30.03.1998
Norway	yes	r: 30.03.1998
Spain	yes	ad referendum: 30.03.1998
Finland	yes	r: 31.03.1998
Iceland	yes	r: 31.03.1998

Article 25 of the 1996 Protocol states that this Protocol shall enter into force on the 30th day following the date on which 26 States have ratified it, among which have to be at least 15 Contracting Parties to the London Convention 1972.

4.2.1.3a Organisations with observer status to OSPAR (OSPARCOM,1999b)

Governmental Organisations with observer status to OSPAR:

- Agreement on the Conservation of Small Cetaceans of the Baltic and the North Seas (ASCOBANS) (ASMO and IMPACT only);
- Arctic Monitoring and Assessment Programme (AMAP) (ASMO only);
- Baltic Marine Environment Protection Commission (Helsinki Commission);
- Convention for the Protection of the Mediterranean Sea against Pollution (Barcelona Convention);
- Common Wadden Sea Secretariat (CWSS) (ASMO only);
- Cooperative Programme for Monitoring and Evaluation of Long-Range Transmission of Air Pollutants in Europe (EMEP);
- European Environment Agency (EEA) (ASMO only);
- Intergovernmental Oceanographic Commission (IOC);
- International Commission for the Protection of the Rhine against Pollution (ICPR);
- International Council for the Exploration of the Sea (ICES);
- International Maritime Organisation (IMO);
- Irish Sea Science Coordination Group (ISSCG) (ASMO only);
- Organisation for Economic Cooperation and Development (OECD);
- Secretariat of the Fifth International Conference on the protection of the North Sea (5NSC);
- United Nations Environment Programme (UNEP);

The following non-governmental organisations (NGOs) have observer status to OSPAR:

General observers:

- Bird Life International, Friends of the Earth (FOE), Greenpeace International, Seas at Risk, World Wide Fund for Nature (WWF), Conseil Européen des Fédérations de l'Industrie Chimique (CEFIC), Exploration and Production Forum (E&P Forum), combined with Oil Companies' European Organisation for Environmental and Health Protection (CONCAWE), Union of Industrial and Employers' Confederations of Europe (UNICE), Kommunenes Internasjonale Miljøorganisasjon (the local authorities international environmental organisation) (KIMO).

Specialised observers:

- Advisory Committee on the Protection of the Sea (ACOPS), Central Dredging Association (CEDA), Confederation of European Paper Industries (CEPI), EURO CHLOR Federation, European Apparel and Textile Organisation (EURATEX), European Federation of Pharmaceutical Industries Association (EFPIA), European Fertiliser Manufacturers Association (EFMA), European Oilfield Speciality Chemicals Association (EOSCA), European Soap and Detergent Industry (AISE), EUROPECHE, Association of National Fisheries Organisations, Permanent International Association of Navigation Congresses (PIANC), International Association of Ports and Harbours (IAPH), Uranium Institute, International Union of Producers and Distributors of Electrical Energy (UNIPEDE), European Union of National Associations of Water Suppliers and Waste Water Services (EUREAU).

4.2.1.3b Human activities to be assessed with regard to their impact on the marine environment, its species, habitats and biological diversity (OSPARCOM, 2000d)

human activity	lead country
sand and gravel extraction	Denmark
dredging for navigational purposes, other than within harbours	The Netherlands
placement of structures for the exploitation of oil and gas	Norway
construction or placement of artificial islands	
construction or placement of artificial reefs	Germany, Spain and the United Kingdom
installations and structures (offshore windmill parks)	Denmark
land reclamation	
tourism	Spain

Activities for assessment on a later date:

- exploration for oil, gas and solid minerals;
- placement of cables and pipelines (an assessment of this activity will include an assessment of the scope for action under other international law);
- recreational activities (these activities will be examined with the aim of identifying whether specific activities within this group would require a further assessment);
- introduction of alien or genetically modified species, whether deliberately or unintentionally;
- coastal defence.

4.2.1.3c OSPAR List of Chemicals for Priority Action (update 2000; OSPARCOM, 2000d)

substance/group of substances	lead country
polychlorinated dibenzodioxins (PCDD)	Denmark, Belgium
polychlorinated dibenzofurans (PCDF)	Denmark, Belgium
polychlorinated biphenyls (PCB)	Germany, Belgium
polyaromatic hydrocarbons (PAH)	Norway
pentachlorophenol (PCP)	Finland
short chained chlorinated paraffins (SCCP)	Sweden
hexachlorocyclohexane isomers (HCH)	Germany
4-tert-butyltoluene	**
dodecylphenol	**
dicofol	**
endosulfan	Germany
HMDS	France
methoxychlor	**
octylphenol	United Kingdom
TBBA	Untied Kingdom
trichlorobenzene	Belgium (if another country joins)
mercury and organic mercury compounds	United Kingdom
cadmium	**
lead and organic lead compounds	Norway
organic tin compounds	The Netherlands
nonylphenol/ethoxylates (NP/NPE) and related substances	Sweden
musk xylene	Switzerland
certain phthalates – dibutylphthalate and diethylhexylphthalate	Denmark, France
brominated flame retardants	Sweden

** no lead country existing

4.2.1.3d DYNAMEC recommendations when revising the OSPAR List of Chemicals for Priority Action, OSPAR 2000 (Group I and Group II)

Group I – Substances of very high concern (i.e. POP-like substances or substances with PTB profile, selection I) and indication of production, use or occurrence in the environment

CAS No	Name	IUPAC name	Remarks
732-26-3	dodecyl phenol	phenol, 2,4,6-tris(1,1-dimethylethyl)-	
115-32-2	dicofol	benzenemethanol, 4-choro-.alpha.-(4-chlorophenyl)-.alpha.-(trichloromethyl)-	EU Dir 91/414 but not on a priority list
115-29-7	endosulphan	6,9-methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-,3-oxide	EU Dir 91/414 first list and draft EU Water Framework Dir first priority list
72-43-5	methoxychlor	benzene,1,1'-(2,2,2-trichloroethylidene)bis(4-methoxy	EU Dir 91/414 second list
140-66-9	octylphenol	phenol, 4-(1,1,3,3,tetramethylbutyl)-	draft EU Water Framework Dir first priority list

Group II – Other initially selected substances (with less severe PTB profile) and indication of use or exposure

CAS No	Name	IUPAC name	Remarks
107-46-0	(D6)	disiloxane, hexamethyl-	
77-47-4		1,3-cyclopentadiene, 1,2,3,4,5,5-hexachloro-	EU Reg 793/93 4th priority list
79-94-7	TBBA	phenol, 4,4'-(1-methylethylidene)bis[2,6-dibromo-	EU Reg 793/93 4th priority list
120-82-1		benzene, 1,2,4-trichloro-	EU Reg 793/93 earlier priority list and Draft Water Framework Dir first priority list
87-61-6	trichlorobenzene	benzene, 1,2,3-trichoro-	EU Draft Water Framework Dir first priority list
108-70-3	1,3,5-trichlorobenzene	benzene, 1,3,5-trichloro-	EU Draft Water Framework Dir first priority list
98-51-1	4-tert-butyltoluene	benzene, 1-(1,1-dimethylethyl)-4-methyl-	OECD SIDS data gathering (Japan)

4.2.1.3e Annex 2 of the OSPAR Action Plan (OSPARCOM, 1999b)

The following table was updated by OSPAR 2000 (see appendix 4.2.1.3 c).

Annex 2: Hazardous Substances and groups of hazardous substances identified for the purpose of the development of programmes and measures[3]

	Substances and groups of substances [4]	Lead Country	Subsidiary body
1.	**PCB**	Belgium and Germany	all [5]
	PCB substitutes	Germany	DIFF
	PCB in small units	Belgium	DIFF
2.	**PAH**	Norway	all
	Releases from domestic combustion appliances	Norway	DIFF
	Releases from creosote treated timber	Norway	DIFF
3.	**Pentachlorophenol (PCP)**	Finland	all
4.	**Short chained chlorinated Paraffins**	Sweden	all
5.	**Mercury and organic mercury compounds**	UK	all
6.	**Organic tin compounds**	The Netherlands	all
7.	**Nonylphenols/ethoxylates (NP/NPE) and related substances**	Sweden	all
8.	**Musk xylene**	Switzerland	all
9.	**Brominated flame retardants**	Sweden	all
10.	**Certain phthalates – Dibuthylphthalate and Diethylhexylphthalate**	Denmark and France	all
11.	**Lead and organic lead compounds**	Norway [and UK]*	all
12.	**Polychlorinated dibenzodioxins (PCDD)** and **Polychlorinated dibenzofurans (PCDF)**		
13.	**Hexachlorocyclohexane isomers (HCH)**		
14.	**Cadmium**		
15.	Pesticides		
	Agricultural	UK	DIFF
	Non agricultural	UK	DIFF
16.	Substances suspected to have endocrine or hormone like effects – e.g. other alkylphenols, certain phthalates and certain pesticides	Denmark	DIFF
17.	Medium and long-chained chlorinated paraffins	Germany	DIFF
18.	Offshore substances	Denmark	SEBA

[3] Further information about the work carried out under OSPAR with respect to these substances or group of substances is given in the work programmes of OSPAR's third tier working groups.

[4] Substance (or group of substances) given in bold were identified by OSPAR 1998 for priority action (cf. Annex 2 of the OSPAR Strategy with regard to Hazardous Substances). The lead countries identified for these priority substances are preparing comprehensive OSPAR background documents on the substance (or group of substance) concerned. Priority substances without lead country will be considered at a later date. DIFF 1999 will examine qualitative information from the Netherlands on diffuse sources for all priority substances.

[5] Work on this priority substance (or group of substances) will be coordinated by DIFF and involves all relevant OSPAR subsidiary bodies.

* The UK is investigating possibilities to support this work.

4.2.1.3f Annex 3 of the OSPAR Action Plan (OSPARCOM, 1999b)

Annex 3: Sectors and Activities identified for the purpose of the development of programmes and measures [6]

Sectors	Lead Country	Subsidiary body
1. Chlor-Alkali Industry	Spain	POINT
2. Primary & Secondary Iron and Steel Industry	Sweden and the Netherlands	POINT
3. Pulp and Paper	Sweden	POINT
4. Cement and lime production	Belgium with support from Germany	POINT
5. Primary Aluminium Industry	Norway	POINT
6. Primary Non-Ferrous Metal Industry	Spain	POINT
7. Large Combustion Plants (≥ 50 MWth)	France	POINT
8. Electroplating industry	Germany	POINT
9. Emulsion PVC	UK	POINT
10. Shipyards (under consideration)	The Netherlands	POINT
11. Cooling processes (horizontal issue)	France	POINT
12. Whole effluent assessment (horizontal issue)	Germany	POINT
13. Offshore Industry		
Disposal of Disused Offshore Installations		SEBA
Muds and Cuttings	UK	SEBA
Drilling fluids	UK	SEBA
Presence and removal of drill cutting piles	UK	SEBA
Re-injection and inter-field injection of muds and cuttings	Norway	SEBA
Produced water management	The Netherlands	SEBA
Analysis methods for oil in produced water	Norway	SEBA
Re-injection of produced water	The Netherlands	SEBA
Flaring and well testing	The Netherlands	SEBA
14. Nuclear Industry		
Guidelines for submitting information on, and assessment of, BAT in nuclear facilities		RAD
Review and assessment of the reprocessing and non-reprocessing options for spent fuel management		RAD
15. Non-Nuclear Industry with discharges, emissions or losses of radioactive substances		
Phosphate fertiliser industry	UK	RAD
Other non-nuclear sectors	UK	RAD
16. Agriculture		
Mineral surpluses	Belgium	NEUT
17. Aquaculture		
Fishfarming	Germany	NEUT

[6] Further information about the work carried out under OSPAR with respect to these sectors and activities is given in the work programmes of OSPAR's third tier working groups.

4.2.1.3g Sectors identified for the purpose of the development of programs and measures (OSPAR Commission, 1999)

Sectors	lead country	third tier working group
non-ferrous metal industry	Spain	POINT
energy production from fossil fuel	France	POINT
emulsion PVC industry	United Kingdom	POINT
offshore oil and gas industry		
organic-phase based drilling fluids	United Kingdom	SEBA
produced water	The Netherlands	SEBA
dredging activities resulting in dredged material for disposing	The Netherlands	SEBA

sector	lead country	comments
primary aluminium industry	Norway	a measuring and intercalibration programme on PAH releases from Soederberg plants will be carried out
pulp and paper industry	Sweden	POINT 1999 will assess whether further OSPAR work on this sector is required
organic chemical industry	The Netherlands	further OSPAR work on the organic chemical industry will follow from an assessment of the EC BREF on this sector
surface treatment of metals	Germany	further OSPAR work on this sector will depend on the outcome of the assessment of implementation reports on PARCOM Recommendation 92/4
chlor alkali industry	Spain	POINT 1999 will examine the outcome of an OSPAR workshop with respect to this sector with a view to determining the need and extent of future OSPAR work

Sectors to be considered for action by SEBA:

sector	lead country	comments
contaminated cuttings	United Kingdom	depending on the contributions from Contracting Parties, the UK will present a draft background document to SEBA 2000 with regard to the environmental impact of the presence and removal of drill cutting piles

4.2.1.3h Substances and groups of substances originating from diffuse sources and identified for the purpose of programs and measures (OSPAR Commission, 1999)

substances and groups of substances originating from diffuse sources	lead country	third tier working group
pesticides agricultural non agricultural	United Kingdom	DIFF
hypochlorite use in households	France, the Netherlands, Spain	DIFF
PAHs releases from domestic combustion or creosoted timber	Norway	DIFF
substances suspected to have endocrine or hormone-like effects – e.g. other alkylphenols, certain phthalates and certain pesticides	Denmark	DIFF
medium and long-chained chlorinated paraffins	Germany	DIFF

Diffuse sources and groups of substances to be considered for action by DIFF:

sector	lead country	comments
additives in plastics	Denmark, France	DIFF 1998 examined a report on these substances. The results of this work will be taken up when addressing individual substances (e.g. in the OSPAR background document on substances listed in Appendix 2)
musk compounds	Switzerland	an OSPAR background document on this group of priority substances is in preparation

4.2.1.4 Goverments and organisations that have an observer status at HELCON (HELCOM, 2000)

Governments:

Belarus and the Ukraine.

Intergovernmental Organisations:

Council of Europe, Development Bank, Agreement on the Conservation of Small Cetaceans of the baltic and North Seas (ASCOBANS), Intergovernmental Oceanographic Commission (IOC), International Atomic Energy Agency (IAEA), International Baltic Sea Fishery Commission (IBSFC), International Council for the Exploration of the Sea (ICES), International Maritime Organisation (IMO), OSPAR Commission (OSPAR), United Nations Economic Commission for Europe (ECE), United Nations Environment Programme (UNEP), World Health Organisation, Regional Office for Europe (WHO/EURO), World Meteorological Organisation (WMO).

Non-Governmental Organisations:

Baltic Farmers Forum on Environment, Baltic Ports Organisation (BPO), The Baltic and International Maritime Council (BIMCO), BirdLife International, Coalition Clean Baltic (CCB), The Oil Industry International Exploration & Production Forum (E&P Forum), European Chlor-Alkali Industry (EURO CHLOR), European Community Sea Ports Organisation (ESPO), European Dredging Association (EuDA), European Fertilizer Manufacturers Association (EFMA), European Union for Coastal Conservation (EUCC), International Council for Local Environmental Initiatives (ICLEI), International Network for Environment Management (INEM), Standing Conference of Rectors, Presidents and Vice-Chancellors of the European Universities (CRE), Council, Greenpeace International, Union of the Baltic Cities (UBC), World Wide Fund for Nature (WWF) International (HELCOM 2000).

4.3a Target Values defined by the International Commission for the Protection of the Rhine (Braun, 2000a)

substance	target value *	unit	medium **	critical factor
heavy metals and arsenic				
mercury	0.5	mg/kg	suspended matter	S
cadmium	1.0	mg/kg	suspended matter	S
chromium	100.0	mg/kg	suspended matter	S
copper	50.0	mg/kg	suspended matter	S
nickel	50.0	mg/kg	suspended matter	S
zinc	200.0	mg/kg	suspended matter	S
lead	100.0	mg/kg	suspended matter	S
arsenic	40.0	mg/kg	suspended matter	double back-ground value
pesticides				
atrazin	0.1	µg/l	water	D
azinphos-ethyl	0.1	µg/l	water	D
azinphos-methyl	0.001	µg/l	water	AQC
bentazone	0.1	µg/l	water	D
DDT	0.001	µg/l	water (1)	F
DDE	0.001	µg/l	water (1)	F
DDD	0.001	µg/l	water (1)	F
2.4-dichlorophenoxyacid	0.1	µg/l	water	D
dichlorvos	0.0007	µg/l	water	AQC
diuron	0.006	µg/l	water	AQC
drins				
aldrin	0.001	µg/l	water (1)	F
dieldrin	0.001	µg/l	water (1)	AQC + F
endrin	0.001	µg/l	water (1)	AQC + F
isodrin	0.001	µg/l	water (1)	AQC + F
endosulfan	0.001	µg/l	water	AQC
fenthion	0.007	µg/l	water	AQC
fenithrothion	0.001	µg/l	water	AQC
α-HCH	0.1	µg/l	water	F
β-HCH	0.1	µg/l	water	F
δ-HCH	0.1	µg/l	water	F
γ-HCH	0.002	µg/l	water	AQC
isoproturon	0.1	µg/l	water	D
malathion	0.2	µg/l	water	AQC
mecoprop-P	0.1	µg/l	water	D
parathion-ethyl	0.0002	µg/l	water	AQC
parathion-methyl	0.01	µg/l	water	AQC
pentachlorophenol	0.1	µg/l	water	D
simazin	0.06	µg/l	water	AQC
trifluralin	0.002	µg/l	water	AQC
dibutyl-tin compounds	0.8	µg/l	water	AQC
tributyl-tin compounds	0.001	µg/l	water	AQC
triphenyl-tin compounds	0.005	µg/l	water	AQC
tetrabutyl-tin compounds	0.001	µg/l	water	(3)
volatile hydrocarbons				
1.2-dichloroethane	1.0	µg/l	water	D
1.1.1-trichloroethane	1.0	µg/l	water	D
trichloroethene	1.0	µg/l	water	D
tetrachloroethene	1.0	µg/l	water	D
trichloromethane	0.6	µg/l	water	AQC
tetrachloromethane	1.0	µg/l	water	AQC + D

substance	target value *	unit	medium **	critical factor
benzene	2.0	µg/l	water	AQC
non-volatile hydrocarbons				
2-chloroaniline	0.1	µg/l	water	D
3-chloroaniline	0.1	µg/l	water	D
4-chloroaniline	0.05	µg/l	water	AQC
3.4-chloroaniline	0.1	µg/l	water	D
1-chloro-2-nitrobenzene	1.0	µg/l	water	D
1-chloro-3-nitrobenzene	1.0	µg/l	water	D
1-chloro-4-nitrobenzene	1.0	µg/l	water	D
1.4-dichlorobenzene	0.02	µg/l	water	F
trichlorobenzenes	0.1 each	µg/l	water	D
2-chlorotoluen	1.0	µg/l	water	D
4-chlorotoluen	1.0	µg/l	water	D
hexachlorobenzene	0.001	µg/l	water (1)	F
Hexachlorobutadiene	0.5	µg/l	water	AQC
PAH (benzo(b)fluoranthene, benzo(k)-fluoranthene, benzo(ghi)perylen, inde-no(1.2.3-cd)pyrene)	0.1	µg/l	water (1)	D
benzo(a)pyrene	0.01	µg/l	water (1)	D
PCB 28, 52, 101, 118, 138, 153, 180	0.0001 each	µg/l	water (1)	AQC
dioxins (4)				
AOX	50	µg/l	water	D (2)
phosphate (total phosphorus as P)	0.15 ***	mg/l	water	AQC
ammonium (as N)	0.2	mg/l	water	AQC

*: 90 percentile values, except for phosphate; **: the values related to water as a medium apply to total content, including the fraction bound to suspended mater; ***: annual mean value; D: Critical factor: drinking water, according to EC Directives 75/778/EEC and 80/778/EEC; AQC: Critical factor: aquatic communities; F: Critical factor: fish consumption by humans; S: Critical factor: sediments; (1) the substance accumulates in suspended matter, which means that its concentration in water is very low (therefore, its concentration in suspended matter should be measured); (2) according to IAWR Memorandum 1986; (3) insufficient data are available for the derivation of a target value (because in nature tetrabutyl-tin is converted into tributyl-tin, the target value established for the latter is also used for the former); (4) so far, no target value has been established.

4.3b Priority List of Chemicals for the River Rhine (Braun, 2000a)

heavy metals	pesticides	non-volatile substances	polycyclic aromatic hydrocarbons
mercury	atrazin	4-chloroaniline	benzo(a)pyrene
cadmium	azinphosmethyl	3,4-dichloroaniline	Σ PAH (benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)-perylene, indeno(1,2,3-cd)pyrene)
chromium	dichlorvos	hexachlorobenzene	
copper	diuron	PCB	
nickel	endosulfan		
zinc	fenithrothion		
lead	fenthion		
arsenic	γ-HCH		
	isoproturon		
	malathion		
	parathionethyl		
	parathionmethyl		
	simazin		
	trifluralin		
	tinorganic compounds		

Chapter 5: Regulations and experiences from European harbours

5.3 Standardisation method for recalculation to 'standard soil' (Eisma, 2000)

Normalisation method for heavy metals and arsenic

The following formula must be used.

$$N^1 = N \cdot \frac{(a + b \cdot 25 + c \cdot 10)}{(a + b \cdot \%\ \text{lutite}^1 + c \cdot \%\ \text{organic matter})}$$

N^1 : standardised concentration

N : measured concentration

$(a + b \cdot 25 + c \cdot 10)$: factor for standard soil where lutite = 25 % and organic matter = 10 %

a, b, c : constants depending on the metal (see following table)

Constants for standardising the measured contents for metals:

metal	a	b	c
As	15	0.4	0.4
Cd	0.4	0.007	0.021
Cr	50	2	0
Cu	15	0.6	0.6
Hg	0.2	0.0034	0.0017
Pb	50	1	1
Ni	10	1	0
Zn	50	3	1.5
Ba	30	5	0
Co	2	0.28	0
Mo	1	0	0
Sn	1	0	0

Normalisation method for organic contaminants

$$N^1 = N \cdot \frac{10}{\%\ \text{organic matter}}$$

N^1 : standardised concentration

N : measured concentration

10 : correction factor for standard soil (organic matter = 10 %)

% organic matter: - if measured % organic matter is lower than 2 %, use 2 % in formula

- if measured % organic matter is higher than 30 %, use 30 % in formula

[1] lutite = clay particles or all particles smaller than 2 microns