

Decision IG.25/5**Amendments to Annexes I, II, and IV to the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities**

The Contracting Parties to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention) and its Protocols at their 22nd Meeting,

Recalling United Nations General Assembly resolution 70/1 of 25 September 2015, entitled “Transforming our world: the 2030 Agenda for Sustainable Development”,

Recalling also the United Nations Environment Assembly resolution of 15 March 2019, UNEP/EA.4/Res. 21, entitled “Towards a pollution-free planet”,

Having regard to the Barcelona Convention, and in particular article 23 thereof, which establishes the amendment procedure for Annexes to the Barcelona Convention and to its Protocols,

Having also regard to the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities herein after referred to as “the LBS Protocol”, and in particular Article 14.2 (b) thereof, which provides that the function of the meetings of the Parties to the Protocol shall be, *inter alia*, to revise and amend any Annex to the Protocol, as appropriate,

Recalling Decision IG.24/10 on Main elements of the six Regional Plans to Reduce/Prevent marine pollution from Land-based Sources; Updating the Annexes to the LBS and Dumping Protocols of the Barcelona Convention, adopted by the Contracting Parties at their 21st Meeting (COP 21) (Naples, Italy, 2-5 December 2019),

Conscious of the need to update the Annexes to the LBS Protocol to reflect the regulatory, scientific and technical developments related to land-based sources activities that have been achieved at both global and regional levels, including relevant developments under the Mediterranean Action Plan (MAP)-Barcelona Convention system, with particular focus on those developments related to the implementation of the ecosystem approach for achieving good environmental status (GES) of the Mediterranean Sea and coast, and to the enhanced integration of the sustainable consumption and production and circular economy approaches,

Appreciating the work delivered by the Working Group of Experts (Videoconference, 10 December 2020), which was mandated to update the Annexes to the LBS Protocol,

Having considered the report of the MED POL Focal Points Meeting (Videoconference, 27-28 May 2021),

1. *Adopt* the amendments to the Annexes I, II and IV to the LBS Protocol, set out in the Annex to this Decision;
2. *Agree*, in accordance with Article 23 (2) (iv), to determine a period of 60 days since the adoption of this Decision, within which, any Contracting Party that is unable to approve the amendments to so notify the Depositary in writing;
3. *Request* the Depositary to communicate without delay to all Contracting Parties the adopted amendments, pursuant to article 23 (2) (iii) of the Barcelona Convention.



Annex I

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ANNEX I

ELEMENTS TO BE TAKEN INTO ACCOUNT IN THE PREPARATION OF ACTION PLANS, PROGRAMMES AND MEASURES FOR THE ELIMINATION OF POLLUTION FROM LAND-BASED SOURCES AND ACTIVITIES

This annex contains elements which will be taken into account in the preparation of action plans, programmes and measures for the elimination of pollution from land-based sources and activities referred to in articles 5, 7 and 15 of this Protocol.

Such action plans, programmes and measures will aim to cover the sectors of activity listed in section A and also cover the groups of substances enumerated in section C, selected on the basis of the characteristics listed in section B of the present annex.

Priorities for action should be established by the Parties, on the basis of the relative importance of their impact on public health, the environment and socio-economic and cultural conditions. Such programmes should cover point sources, diffuse sources and atmospheric deposition.

In preparing action plans, programmes and measures, the Parties, in conformity with the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities, adopted in Washington, D.C. in 1995, will give priority to substances that are toxic, persistent and liable to bioaccumulate, in particular to persistent organic pollutants (POPs), as well as to wastewater treatment and management.

A. SECTORS OF ACTIVITY

The following sectors of activity (not listed in order of priority) will be primarily considered when setting priorities for the preparation of action plans, programmes and measures for the elimination of the pollution from land-based sources and activities:

1. Energy production;
2. Fertilizer production;
3. Production and formulation of biocides;
4. The pharmaceutical industry;
5. Petroleum refining;
6. The paper, paper-pulp and wood production and processing industry;
7. Cement production;
8. The tanning and dressing industry including leather dyeing and finishing;
9. The metal industry including thermal processes in the metallurgical industry;
10. Mining and quarrying;
11. The shipbuilding and repairing industry;
12. Harbour operations;
13. The textile industry including textile pre-treatment, dyeing and finishing;
14. The electronic industry;
15. The recycling industry;

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16. Other sectors of the organic chemical industry;
17. Other sectors of the inorganic chemical industry;
18. Tourism and leisure activities and infrastructure, including cruise shipping and leisure craft;
19. Agriculture;
20. Animal husbandry including animal slaughterhouses and animal by-products industries;
21. Food processing;
22. Aquaculture and fishing;
23. Treatment and disposal of hazardous wastes;
24. Treatment and disposal of urban wastewater;
25. Management, including treatment and disposal, of urban solid waste;
26. Disposal of sewage sludge;
27. The waste management industry;
28. Incineration of waste and management of its residues;
29. Works which cause physical alteration of the natural state of the coastline including physical restructuring of rivers, coastline or seabed (water management), and dredging;
30. Transport;
31. Construction;
32. Water collection and supply including desalination of seawater.
33. Mixed industrial zones including at least one of the above sectors.

B. CHARACTERISTICS OF SUBSTANCES IN THE ENVIRONMENT

For the preparation of action plans, programmes and measures, the Parties should take into account the characteristics listed below:

1. Persistence;
2. Toxicity or other noxious properties (e.g. carcinogenicity, mutagenicity, teratogenicity);
3. Bioaccumulation;
4. Radioactivity;
5. The ratio between observed concentrations and no observed effect concentrations (NOEC);
6. The risk of eutrophication of anthropogenic origin;
7. The risk of acidification;
8. Health effects and risks;
9. Transboundary significance;
10. The risk of undesirable changes in the marine ecosystem and irreversibility or durability of effects, in particular:

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- a) adverse impacts on species composition and spatial and temporal variation per species/population, including distribution, abundance, and/or biomass, fecundity, survival and mortality/injury rates and behavior;
 - b) adverse impacts on habitats characteristics;
11. Interference with the sustainable exploitation of living resources or with other legitimate uses of the sea;
 12. Effects on the taste and/or smell of marine products for human consumption;
 13. Effects on the smell, colour, transparency or other characteristics of seawater;
 14. Distribution pattern (i.e. quantities involved, use patterns and probability of reaching the marine environment);
 15. Potential for long-range environmental transport and climate change.

C. CATEGORIES OF SUBSTANCES

The following categories of substances and sources of pollution will serve as guidance in the preparation of action plans, programmes and measures:

1. Organohalogen compounds and substances which may form such compounds in the marine environment. Priority will be given to Aldrin, Chlordane, DDT, Dieldrin, Dioxins and Furans, Endrin, Heptachlor, Hexachlorobenzene, Mirex, PCBs, Toxaphene; Polychlorinated Biphenyls (PCBs), Polychlorinated dibenzodioxins (PCDDs), Polychlorinated dibenzofurans (PCDFs), endosulfan and its related isomers, hexachlorocyclohexane, Diethylhexylphthalate (DEHP), Chlordecone, Hexabromobiphenyl, Hexabromodiphenyl ether and heptabromodiphenyl ether, Lindane, Pentachlorobenzene, Tetrabromodiphenyl ether and pentabromodiphenyl ether, Perfluorooctane sulfonic acid and its salts, and perfluorooctane sulfonyl fluoride, hexabromocyclododecane (HBCD), hexachlorobutadiene, pentachlorophenol and its salts and esters, and polychlorinated naphthalenes;
2. Suspended/Particulate Matter, total Volatile Organic Compounds (VOC), Nitrogen oxides, NH₃, sulfur oxide;
3. Organophosphorus compounds and silicon substances which may form such compounds in the marine environment;
4. Organotin compounds and substances which may form such compounds in the marine environment;
5. Polycyclic aromatic hydrocarbons;
6. Heavy metals and their compounds. Priority given to chromium, cadmium, lead, mercury, nickel, organic tin compounds, organic mercury compounds and organic lead compounds;
7. Used lubricating oils;
8. Radioactive substances, including their wastes, when their discharges do not comply with the principles of radiation protection as defined by the competent international organizations, taking into account the protection of the marine environment;
9. Biocides and their derivatives;
10. Pathogenic microorganisms;
11. Crude oils and hydrocarbons of petroleum origin;
12. Cyanides and fluorides;



13. Non-biodegradable detergents and other nonbiodegradable surface-active substances;
14. Compounds of nitrogen and phosphorus and other substances which may cause eutrophication, including biodegradable substances expressed as Biological Oxygen Demand (BOD) or Chemical Oxygen Demand (COD) or Total Organic Carbon (TOC), Total Nitrogen and Total Phosphorus;
15. Litter (any persistent manufactured or processed solid material which is discarded, disposed of, or abandoned in the marine and coastal environment) including plastics, microplastic and micro-sized litter;
16. Thermal discharges and input of other forms of energy;
17. Acid or alkaline compounds which may impair the quality of water;
18. Non-toxic substances that have an adverse effect on the oxygen content of the marine environment;
19. Non-toxic substances that may interfere with any legitimate use of the sea;
20. Non-toxic substances that may have adverse effects on the physical or chemical characteristics of seawater;
21. Brine;
22. Phenolic compounds, brominated flame retardants, polycyclic aromatic hydrocarbons and short chain chlorinated parafins;
23. Chemicals used for the preservation and/or treatment of wood, timber, wood pulp, cellulose, paper, hides and textiles.

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ANNEX II

ELEMENTS TO BE TAKEN INTO ACCOUNT IN THE ISSUE OF THE AUTHORIZATIONS FOR DISCHARGES OF WASTES

With a view to the issue of an authorization for the discharges of wastes containing substances referred to in article 6 to this Protocol, particular account will be taken, as the case may be, of the following factors:

A. CHARACTERISTICS AND COMPOSITION OF THE DISCHARGES

1. Type and size of point or diffuse source (e.g. industrial process).
2. Type of discharges (e.g. origin, average composition).
3. State of waste (e.g. solid, liquid, sludge, slurry).
4. Total amount (volume discharged, e.g. per year).
5. Discharge pattern (continuous, intermittent, seasonally variable, etc.).
6. Concentrations with respect to relevant constituents of substances listed in annex I and of other substances as appropriate.
7. Physical, chemical and biochemical properties of the waste discharges.

B. CHARACTERISTICS OF DISCHARGE CONSTITUENTS WITH RESPECT TO THEIR HARMFULNESS

1. Persistence (physical, chemical, biological) in the marine environment.
2. Toxicity and other harmful effects.
3. Accumulation in biological materials or sediments.
4. Biochemical transformation producing harmful compounds.
5. Adverse effects on the oxygen content and balance.
6. Susceptibility to physical, chemical and biochemical changes and interaction in the aquatic environment with other sea-water constituents which may produce harmful biological or other effects on any of the uses listed in section E below.
7. All other characteristics as listed in annex I, section B.

C. CHARACTERISTICS OF DISCHARGE SITE AND RECEIVING ENVIRONMENT

1. Hydrographic, meteorological, geological and topographical characteristics of the coastal area.
2. Location and type of the discharge (outfall, canal outlet, etc.) and its relation to other areas (such as amenity areas, spawning, nursery, and fishing areas, shellfish grounds) and other discharges.
3. Initial dilution achieved at the point of discharge into the receiving environment.
4. Dispersion characteristics such as effects of currents, tides and wind on horizontal transport and vertical mixing.
5. Receiving water characteristics with respect to physical, chemical, biological and ecological conditions in the discharge area, as well as the ecosystem functions and processes, in particular



temperature, hydrology, bathymetry, turbidity, transparency, sound, salinity, nutrients, organic carbon, chlorophyll, dissolved gases, acidity (pH), links between species of marine birds, mammals, reptiles, fish and cephalopods and habitats, pelagic-benthic community shifts and productivity.

6. Capacity of the receiving marine environment to receive waste discharges without undesirable effects.

D. AVAILABILITY OF WASTE TECHNOLOGIES

The methods of waste reduction and discharge for industrial effluents as well as domestic sewage should be selected taking into account the availability and feasibility of:

- (a) Alternative treatment processes;
- (b) Re-use or elimination methods;
- (c) On-land disposal alternatives;
- (d) Appropriate low-waste technologies.

E. POTENTIAL IMPAIRMENT OF MARINE ECOSYSTEMS AND SEA-WATER USES

1. Effects on human health through pollution impact on:

- (a) Edible marine organisms extraction and cultivation of living resources;
- (b) Bathing waters;
- (c) Aesthetics including color and odor;

2. Effects on marine ecosystems including food webs, in particular living resources, endangered species and critical habitats including from:

- (a) Noise
- (b) Artificial light
- (c) Acidification
- (d) Eutrophication
- (e) Hydrographic changes

3. Physical restructuring of rivers, coastline or seabed

4. Effects on other legitimate uses of the sea.



ANNEX III

**CRITERIA FOR THE DEFINITION OF BEST AVAILABLE TECHNIQUES
AND BEST ENVIRONMENTAL PRACTICE**

A. BEST AVAILABLE TECHNIQUES

1. The use of the best available techniques shall aim at preventing or minimizing the environmental impacts along all stages of life cycle of products and keeping as long as possible the value of products, materials and resources in the economy, minimizing the generation of waste.
2. The term "best available techniques" means the latest stage of development (state of the art) of processes, of facilities or of methods of operation which indicate the practical suitability of a particular measure for preventing and, where is not practicable, reducing discharges, emissions and waste. In determining whether a set of processes, facilities and methods of operation constitute the best available techniques in general or individual cases, special consideration shall be given to:
 - (a) comparable processes, facilities or methods of operation which have recently been successfully tried out;
 - (b) technological advances and changes in scientific knowledge and understanding;
 - (c) the economic feasibility of such techniques;
 - (d) time limits for installation in both new and existing plants;
 - (e) the nature, effects and volume of the discharges and emissions concerned;
 - (h) the commissioning dates for new or existing installations;
 - (i) the consumption and nature of raw materials used in the process and its energy efficiency;
 - (j) the need to prevent or reduce the overall impact of the releases to the environment and the risks to it;
 - (k) the need to prevent accidents and to minimize their consequences for the environment;
 - (l) the need to ensure occupational health and safety at workplaces;
 - (m) the need to use non-toxic substances in view of facilitating non-toxic waste streams to facilitate recovery and recycling;
 - (n) the need to keep material and products in use as long as possible.
3. It therefore follows that what is "best available techniques" for a particular process will change with time in the light of technological advances, economic and social factors, as well as changes in scientific knowledge and understanding.
4. If the reduction of discharges and emissions resulting from the use of best available techniques does not lead to environmentally acceptable results, additional measures have to be applied.
5. "Techniques" include both the technology used and the way in which the installation is designed, built, maintained, operated, dismantled and recycled.

B. BEST ENVIRONMENTAL PRACTICE

6. The term "best environmental practice" means the application of the most appropriate combination of environmental control measures and strategies to prevent and control pollution, design out waste and pollution, to keep products and material in use and to regenerate natural systems.



In making a selection for individual cases, at least the following graduated range of measures should be considered:

- (a) the provision of information and education to the public and to users about the environmental consequences of choice of particular activities and choice of products, their use and ultimate disposal;
- (b) the development and application of codes of good environmental practice, which cover all aspects of the activity in the product's life;
- (c) the mandatory application of labels informing users of environmental risks related to a product, its use and ultimate disposal;
- (d) saving resources, including energy;
- (e) making collection and disposal systems as well as reuse centres available to the public;
- (f) avoiding the use of hazardous substances or products and the generation of hazardous waste;
- (g) establishing processes (i.e., industrial symbiosis) by which wastes, or by-products of an industry or industrial process become the raw materials for another;
- (h) the application of economic instruments to activities, products or groups of products;
- (i) establishing a system of licensing, involving a range of restrictions or a ban;
- (j) the use of eco-labels, eco-design and eco-innovation to identify products proven to be environmentally sound;
- (k) establishing collaboration along the value chain in order to ensure that the origin and value of raw materials remain traceable when closing the loop;

7. In determining what combination of measures constitute best environmental practice, in general or individual cases, particular consideration should be given to:

- (a) the environmental hazard of the product and its production, use and ultimate disposal;
- (b) the substitution by less polluting activities or substances;
- (c) the scale of use;
- (d) the potential environmental benefit or penalty of substitute materials or activities;
- (e) advances and changes in scientific knowledge and understanding;
- (f) time limits for implementation;
- (g) social and economic implications;
- (h) the potential for keeping material and resources in use (e.g., through product services systems).

8. It therefore follows that best environmental practice for a particular source will change with time in the light of technological advances, economic and social factors, as well as changes in scientific knowledge and understanding;

9. If the reduction of inputs resulting from the use of best environmental practice does not lead to environmentally acceptable results, additional measures have to be applied and best environmental practice redefined.

C. GENERAL PREVENTION MEASURES RELATING TO BEST AVAILABLE TECHNIQUES AND BEST ENVIRONMENTAL PRACTICES

10. Priority should be given to the application of BAT and implementation of BEP to the sectors and categories of substances listed in Annex I.

