

**Protocol** *for the* **Protection**  
*of the* **Mediterranean Sea**  
**against Pollution** *from*  
**Land-Based Sources**  
*and* **Activities**

**The Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources (LBS Protocol) was adopted on 17 May 1980 and entered into force on 17 June 1983.**

**The Protocol was amended by the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities on 7 March 1996.**

**The amended Protocol entered into force on 11 May 2006.**

**The Contracting Parties to the present Protocol,**

***Being Parties to the Convention for the Protection of the Mediterranean Sea against Pollution, adopted at Barcelona on 16 February 1976 and amended on 10 June 1995,***

***Desirous of implementing article 4, paragraph 5, and articles 8 and 21 of the said Convention,***

***Noting the increasing environmental pressures resulting from human activities in the Mediterranean Sea Area, particularly in the fields of industrialization and urbanization, as well as the seasonal increase in the coastal population due to tourism,***

***Recognizing the danger posed to the marine environment, living resources and human health by pollution from land-based sources and activities and the serious problems resulting therefrom in many coastal waters and river estuaries of the Mediterranean Sea, primarily due to the release of untreated, insufficiently treated or inadequately disposed of domestic or industrial discharges containing substances that are toxic, persistent and liable to bioaccumulate,***

***Applying the precautionary principle and the polluter pays principle, undertaking environmental impact assessment and utilizing the best available techniques and the best environmental practice, including clean production technologies, as provided for in article 4 of the Convention,***

***Recognizing the difference in levels of development between the coastal States, and taking account of the economic and social imperatives of the developing countries,***

***Determined to take, in close cooperation, the necessary measures to protect the Mediterranean Sea against pollution from land-based sources and activities,***

***Taking into consideration the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities, adopted in Washington, D. C. , on 3 November 1995,***

## Have agreed as follows:

### Article 1

#### GENERAL PROVISION

The Contracting Parties to this Protocol (hereinafter referred to as “the Parties”) shall take all appropriate measures to prevent, abate, combat and eliminate to the fullest possible extent pollution of the Mediterranean Sea Area caused by discharges from rivers, coastal establishments or outfalls, or emanating from any other land-based sources and activities within their territories, giving priority to the phasing out of inputs of substances that are toxic, persistent and liable to bioaccumulate.

### Article 2

#### DEFINITIONS

For the purposes of this Protocol:

- (a) “The Convention” means the Convention for the Protection of the Mediterranean Sea against Pollution, adopted at Barcelona on 16 February 1976 and amended on 10 June 1995;
- (b) “Organization” means the body referred to in article 17 of the Convention;
- (c) “Freshwater limit” means the place in watercourses where, at low tides and in a period of low freshwater flow, there is an appreciable increase in salinity due to the presence of sea-water;

- (d) The “Hydrologic Basin” means the entire watershed area within the territories of the Contracting Parties, draining into the Mediterranean Sea Area as defined in article 1 of the Convention.

### Article 3

#### PROTOCOL AREA

The area to which this Protocol applies (hereinafter referred to as the “Protocol Area”) shall be:

- (a) The Mediterranean Sea Area as defined in article 1 of the Convention;
- (b) The hydrologic basin of the Mediterranean Sea Area;
- (c) Waters on the landward side of the baselines from which the breadth of the territorial sea is measured and extending, in the case of watercourses, up to the freshwater limit;
- (d) Brackish waters, coastal salt waters including marshes and coastal lagoons, and ground waters communicating with the Mediterranean Sea.

### Article 4

#### PROTOCOL APPLICATION

1. This Protocol shall apply:
  - (a) To discharges originating from land-based point and diffuse sources and activities within the territories of the Contracting Parties that may affect directly or indirectly the Mediterranean Sea Area. These discharges shall include those

- which reach the Mediterranean Area, as defined in article 3(a), (c) and (d) of this Protocol, through coastal disposals, rivers, outfalls, canals, or other watercourses, including ground water flow, or through run-off and disposal under the seabed with access from land;
- (b) To inputs of polluting substances transported by the atmosphere to the Mediterranean Sea Area from land-based sources or activities within the territories of the Contracting Parties under the conditions defined in annex III to this Protocol.
2. This Protocol shall also apply to polluting discharges from fixed man-made offshore structures which are under the jurisdiction of a Party and which serve purposes other than exploration and exploitation of mineral resources of the continental shelf and the seabed and its subsoil.
  3. The Parties shall invite States that are not parties to the Protocol and have in their territories parts of the hydrologic basin of the Mediterranean Area to cooperate in the implementation of the Protocol.

## Article 5

### GENERAL OBLIGATIONS

1. The Parties undertake to eliminate pollution deriving from land-based sources and activities, in particular to phase out inputs of the substances that are toxic, persistent and liable to bioaccumulate listed in annex I.
2. To this end, they shall elaborate and implement, individually or jointly, as appropriate, national and regional action plans and programmes, containing measures and timetables for their implementation.
3. The priorities and timetables for implementing the action plans, programmes and measures shall be adopted by the Parties taking into account the elements set out in annex I and shall be periodically reviewed.
4. When adopting action plans, programmes and measures, the Parties shall take into account, either individually or jointly, the best available techniques and the best environmental practice including, where appropriate, clean production technologies, taking into account the criteria set forth in annex IV.
5. The Parties shall take preventive measures to reduce to the minimum the risk of pollution caused by accidents.

## Article 6

### AUTHORIZATION OR REGULATION SYSTEM

1. Point source discharges into the Protocol Area, and releases into water or air that reach and may affect the Mediterranean Area, as defined in article 3(a), (c) and (d) of this Protocol, shall be strictly subject to authorization or regulation by the competent

authorities of the Parties, taking due account of the provisions of this Protocol and annex II thereto, as well as the relevant decisions or recommendations of the meetings of the Contracting Parties.

2. To this end, the Parties shall provide for systems of inspection by their competent authorities to assess compliance with authorizations and regulations.
3. The Parties may be assisted by the Organization, upon request, in establishing new, or strengthening existing, competent structures for inspection of compliance with authorizations and regulations. Such assistance shall include special training of personnel.
4. The Parties establish appropriate sanctions in case of non-compliance with the authorizations and regulations and ensure their application.

## Article 7

### COMMON GUIDELINES, STANDARDS AND CRITERIA

1. The Parties shall progressively formulate and adopt, in cooperation with the competent international organizations, common guidelines and, as appropriate, standards or criteria dealing in particular with:
  - (a) The length, depth and position of pipelines for coastal outfalls, taking into account, in particular, the methods used for pretreatment of effluents;
  - (b) Special requirements for effluents

necessitating separate treatment;

- (c) The quality of sea-water used for specific purposes that is necessary for the protection of human health, living resources and ecosystems;
- (d) The control and progressive replacement of products, installations and industrial and other processes causing significant pollution of the marine environment;
- (e) Specific requirements concerning the quantities of the substances discharged (listed in annex I), their concentration in effluents and methods of discharging them.

2. Without prejudice to the provisions of article 5 of this Protocol, such common guidelines, standards or criteria shall take into account local ecological, geographical and physical characteristics, the economic capacity of the Parties and their need for development, the level of existing pollution and the real absorptive capacity of the marine environment.
3. The action plans, programmes and measures referred to in articles 5 and 15 of this Protocol shall be adopted by taking into account, for their progressive implementation, the capacity to adapt and reconvert existing installations, the economic capacity of the Parties and their need for development.

## Article 8

### MONITORING

Within the framework of the provisions of, and the monitoring

programmes provided for in article 12 of the Convention, and if necessary in cooperation with the competent international organizations, the Parties shall carry out at the earliest possible date monitoring activities and make access to the public of the findings in order:

- (a) Systematically to assess, as far as possible, the levels of pollution along their coasts, in particular with regard to the sectors of activity and categories of substances listed in annex I, and periodically to provide information in this respect;
- (b) To evaluate the effectiveness of action plans, programmes and measures implemented under this Protocol to eliminate to the fullest possible extent pollution of the marine environment.

## Article 9

### SCIENTIFIC AND TECHNICAL COOPERATION

In conformity with article 13 of the Convention, the Parties shall cooperate in scientific and technological fields related to pollution from land-based sources and activities, particularly research on inputs, pathways and effects of pollutants and on the development of new methods for their treatment, reduction or elimination, as well as the development of clean production processes to this effect. To this end, the Parties shall, in particular, endeavour to:

- (a) Exchange scientific and technical information;
- (b) Coordinate their research programmes;
- (c) Promote access to, and transfer of, environmentally sound technology including clean production technology.

## Article 10

### TECHNICAL ASSISTANCE

1. The Parties shall, directly or with the assistance of competent regional or other international organizations, bilaterally or multilaterally, cooperate with a view to formulating and, as far as possible, implementing programmes of assistance to developing countries, particularly in the fields of science, education and technology, with a view to preventing, reducing or, as appropriate, phasing out inputs of pollutants from land-based sources and activities and their harmful effects in the marine environment.
2. Technical assistance would include, in particular, the training of scientific and technical personnel, as well as the acquisition, utilization and production by those countries of appropriate equipment and, as appropriate, clean production technologies, on advantageous terms to be agreed upon among the Parties concerned.

## Article 11

### TRANSBOUNDARY POLLUTION

1. If discharges from a watercourse which flows through the territories of two or more Parties or forms a boundary between them are likely to cause pollution of the marine environment of the Protocol Area, the Parties in question, respecting the provisions of this Protocol in so far as each of them is concerned, are called upon to cooperate with a view to ensuring its full application.
2. A Party shall not be responsible for any pollution originating on the territory of a non-contracting State. However, the said Party shall endeavour to cooperate with the said State so as to make possible full application of the Protocol.

## Article 12

### SETTLEMENT OF DISPUTES

1. Taking into account article 28, paragraph 1, of the Convention, when land-based pollution originating from the territory of one Party is likely to prejudice directly the interests of one or more of the other Parties, the Parties concerned shall, at the request of one or more of them, undertake to enter into consultation with a view to seeking a satisfactory solution.
2. At the request of any Party concerned, the matter shall be placed on the agenda of the next meeting of the Parties held in accordance with article 14 of this Protocol; the meeting may make recommendations with a view to reaching a satisfactory solution.

## Article 13

### REPORTS

1. The Parties shall submit reports every two years, unless decided otherwise by the Meeting of the Contracting Parties, to the meetings of the Contracting Parties, through the Organization, of measures taken, results achieved and, if the case arises, of difficulties encountered in the application of this Protocol. Procedures for the submission of such reports shall be determined at the meetings of the Parties.
2. Such reports shall include, inter alia:
  - (a) Statistical data on the authorizations granted in accordance with article 6 of this Protocol;
  - (b) Data resulting from monitoring as provided for in article 8 of this Protocol;
  - (c) Quantities of pollutants discharged from their territories;
  - (d) Action plans, programmes and measures implemented in accordance with articles 5, 7 and 15 of this Protocol.

## Article 14

### MEETINGS

1. Ordinary meetings of the Parties shall take place in conjunction with ordinary meetings of the Contracting Parties to the Convention held pursuant to article 18 of the Convention. The Parties

may also hold extraordinary meetings in accordance with article 18 of the Convention.

2. The functions of the meetings of the Parties to this Protocol shall be, inter alia:
  - (a) To keep under review the implementation of this Protocol and to consider the efficacy of the action plans, programmes and measures adopted;
  - (b) To revise and amend any annex to this Protocol, as appropriate;
  - (c) To formulate and adopt action plans, programmes and measures in accordance with articles 5, 7 and 15 of this Protocol;
  - (d) To adopt, in accordance with article 7 of this Protocol, common guidelines, standards or criteria, in any form decided upon by the Parties;
  - (e) To make recommendations in accordance with article 12, paragraph 2, of this Protocol;
  - (f) To consider the reports submitted by the Parties under article 13 of this Protocol;
  - (g) To discharge such other functions as may be appropriate for the application of this Protocol.

## **Article 15**

### ADOPTION OF ACTION PLANS, PROGRAMMES AND MEASURES

1. The meeting of the Parties shall adopt, by a two-thirds majority, the short-term and medium-term regional action plans and programmes containing

measures and timetables for their implementation provided for in article 5 of this Protocol.

2. Regional action plans and programmes as referred to in paragraph 1 shall be formulated by the Organization and considered and approved by the relevant technical body of the Contracting Parties within one year at the latest of the entry into force of the amendments to this Protocol. Such regional action plans and programmes shall be put on the agenda for the subsequent meeting of the Parties for adoption. The same procedure shall be followed for any additional action plans and programmes.
3. The measures and timetables adopted in accordance with paragraph 1 of this article shall be notified by the Secretariat to all the Parties. Such measures and timetables become binding on the one hundred and eightieth day following the day of notification for the Parties which have not notified the Secretariat of an objection within one hundred and seventy-nine days from the date of notification.
4. The Parties which have notified an objection in accordance with the preceding paragraph shall inform the meeting of the Parties of the provisions they intend to take, it being understood that these Parties may at any time give their consent to these measures or timetables.

**Article 16**

## FINAL PROVISIONS

1. The provisions of the Convention relating to any Protocol shall apply with respect to this Protocol.
2. The rules of procedure and the financial rules adopted pursuant to article 24 of the Convention shall apply with respect to this Protocol, unless the Parties to this Protocol agree otherwise.
3. This Protocol shall be open for signature, at Athens from 17 May 1980 to 16 June 1980, and at Madrid from 17 June 1980 to 16 May 1981, by any State invited to the Conference of Plenipotentiaries of the Coastal States of the Mediterranean Region for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources held at Athens from 12 May to 17 May 1980. It shall also be open until the same dates for signature by the European Economic Community and by any similar regional economic grouping of which at least one member is a coastal State of the Mediterranean Sea Area and which exercises competence in fields covered by this Protocol.
4. This Protocol shall be subject to ratification, acceptance or approval. Instruments of ratification, acceptance or approval shall be deposited with the Government of Spain, which will assume the functions of Depositary.
5. As from 17 May 1981, this Protocol shall be open for accession by the States referred to in paragraph 3 above, by the European Economic Community and by any grouping referred to in that paragraph.
6. This Protocol shall enter into force on the thirtieth day following the deposit of at least six instruments of ratification, acceptance or approval of, or accession to, the Protocol by the Parties referred to in paragraph 3 of this article.

## ANNEX I

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### 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 and paper-pulp industry;
7. Cement production;
8. The tanning industry;
9. The metal industry;
10. Mining;
11. The shipbuilding and repairing industry;
12. Harbour operations;
13. The textile industry;
14. The electronic industry;
15. The recycling industry;
16. Other sectors of the organic chemical industry;
17. Other sectors of the inorganic chemical industry;

18. Tourism;
19. Agriculture;
20. Animal husbandry;
21. Food processing;
22. Aquaculture;
23. Treatment and disposal of hazardous wastes;
24. Treatment and disposal of domestic waste water;
25. Management of municipal 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;
30. Transport.

#### **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. Health effects and risks;
8. Transboundary significance;

9. The risk of undesirable changes in the marine ecosystem and irreversibility or durability of effects;
10. Interference with the sustainable exploitation of living resources or with other legitimate uses of the sea;
11. Effects on the taste and/or smell of marine products for human consumption;
12. Effects on the smell, colour, transparency or other characteristics of seawater;
13. Distribution pattern (i.e. quantities involved, use patterns and probability of reaching the marine environment).

#### **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 and Toxaphene;
2. Organophosphorus compounds and substances which may form such compounds in the marine environment;
3. Organotin compounds and substances which may form such compounds in the marine environment;

4. Polycyclic aromatic hydrocarbons;
5. Heavy metals and their compounds;
6. Used lubricating oils;
7. 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;
8. Biocides and their derivatives;
9. Pathogenic microorganisms;
10. Crude oils and hydrocarbons of petroleum origin;
11. Cyanides and fluorides;
12. Non-biodegradable detergents and other non-biodegradable surface-active substances;
13. Compounds of nitrogen and phosphorus and other substances which may cause eutrophication;
14. Litter (any persistent manufactured or processed solid material which is discarded, disposed of, or abandoned in the marine and coastal environment);
15. Thermal discharges;
16. Acid or alkaline compounds which may impair the quality of water;
17. Non-toxic substances that have an adverse effect on the oxygen content of the marine environment;
18. Non-toxic substances that may interfere with any legitimate use of the sea;
19. Non-toxic substances that may have adverse effects on the physical or chemical characteristics of seawater.

## ANNEX II

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### 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.

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;
  - (b) Bathing waters;
  - (c) Aesthetics.
2. Effects on marine ecosystems, in particular living resources, endangered species and critical habitats.
3. Effects on other legitimate uses of the sea.

## ANNEX III

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### CONDITIONS OF APPLICATION TO POLLUTION TRANSPORTED THROUGH THE ATMOSPHERE

This annex defines the conditions of application of this Protocol to pollution from land-based sources transported by the atmosphere in terms of Article

4. 1(b) of this Protocol:

1. This Protocol shall apply to polluting discharges into the atmosphere under the following conditions:
  - (a) the discharged substance is or could be transported to the Mediterranean Sea Area under prevailing meteorological conditions;
  - (b) the input of the substance into the Mediterranean Sea Area is hazardous for the environment in relation to the quantities of the same substance reaching the Area by other means.
2. This Protocol shall also apply to polluting discharges into the atmosphere affecting the Mediterranean Sea Area from land-based sources within the territories of the Parties and from fixed man-made offshore structures, subject to the provisions of article 4. 2 of this Protocol.
3. In the case of pollution of the Mediterranean Sea Area from land-based sources through the atmosphere, the provisions of articles 5 and 6 of this Protocol shall apply progressively to appropriate substances and sources listed in annex I to this Protocol as will be agreed by the Parties.
4. Subject to the conditions specified in paragraph 1 of this annex, the provisions of Article 7. 1 of this Protocol shall also apply to:
  - (a) discharges - quantity and rate - of substances emitted to the atmosphere, on the basis of the information available to the Contracting Parties concerning the location and distribution of air pollution sources;
  - (b) the content of hazardous substances in fuel and raw materials;
  - (c) the efficiency of air pollution control technologies and more efficient manufacturing and fuel burning processes;
  - (d) the application of hazardous substances in agriculture and forestry.
5. The provisions of annex II to this Protocol shall apply to pollution through the atmosphere whenever appropriate. Air pollution monitoring and modelling using acceptable common emission factors and methodologies shall be carried out in the assessment of atmospheric deposition of substances, as well as in the compilation of inventories of quantities and rates of pollutant emissions into the atmosphere from land-based sources.

- 6.** All Articles, including parts thereof to this Protocol not mentioned in paragraphs 1 to 5 above shall apply equally to pollution from land-based sources transported by the atmosphere wherever applicable and subject to the conditions specified in paragraph 1 of this Annex.

## ANNEX IV

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### 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 emphasize the use of non-waste technology, if available.
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 limiting 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 and volume of the discharges and emissions concerned.

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 and dismantled.

#### B. BEST ENVIRONMENTAL PRACTICE

6. The term “best environmental practice” means the application of the most appropriate combination of environmental control measures and strategies. 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 available to the public;
  - (f) avoiding the use of hazardous substances or products and the generation of hazardous waste;
  - (g) recycling, recovery and re-use;
  - (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.
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.
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.