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Definitions and guidelines for measurement and reporting of company environmental protection expenditure

Eurostat Task Force
"Environmental Protection Expenditure – Industry Data Collection"

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1 INTRODUCTION

1.1 Objective

These definitions and guidelines have been developed by a group of experts on environmental protection expenditure statistics. They are intended for the use of statistical services producing statistics on these issues and as guidance for companies and other bodies which want to measure and/or report information on environmental protection expenditure (e.g. in their annual accounts, annual reports and voluntary environmental or sustainable development reports).

The objective has been to provide as complete, up-to-date, policy-relevant, practical and harmonised definitions and guidelines as possible, which will provide a basis for the reporting of harmonised and comparable information on these issues.

The guidelines have been developed mainly for companies or other bodies in the activities mining and quarrying, manufacturing, energy and water supply (NACE 10-41), but are applicable also to other activities.

However, the guidelines do not address the issue of expenditure for the provision of environmental protection services which are used by other companies or bodies (outside the reporting unit): e.g. expenditure in a specialised waste company for the collection and treatment of waste generated by other companies.

1.2 Organisation

The first section focuses on the general definition of environmental protection. This section includes guidelines on how to select the relevant measures, describes the scope of environmental protection and give guidelines on how to allocate expenditure to environmental domains, and gives guidance on the treatment of some specific examples.

The second section focuses on environmental protection investments. It includes the definition of the two categories of environmental protection investments, gives guidelines on how these could be measured, and lists some typical examples.

The third section focuses on current expenditure for environmental protection. It includes the definition of categories of current expenditure for environmental protection, gives guidelines on how these could be measured, and lists some typical examples.

1.3 Acknowledgement

These definitions and guidelines have been developed by experts on environmental protection expenditure statistics in the statistical offices of seven volunteer countries, by the Commission, represented by Eurostat and the Environment DG, and with the help of CREA Studio Associato.

Members and Member State Representatives of the Task Force on Environmental Protection Expenditure – Industry Data Collection

Member States	
Belgium	Bruno Kestemont, Institut national de Statistique
Germany	Bernd Becker, Statistisches Bundesamt
Denmark	Laban Koch Karlshøj, Statistics Denmark
France	Valérie Comte Trotet, Ministère de l'Economie, des Finances et de l'Industrie
The Netherlands	Jaap van Riessen, Centraal Bureau voor de Statistiek
Finland	Merja Saarnilehto, Statistics Finland
United Kingdom	Alan Brown, DETR
	Stephen Reynolds, DEFRA
The Commission	
Environment DG	José Madeira
Eurostat	Anton Steurer
Eurostat	Ulf Johansson
Consultants	
CREA Studio Associato	Stefania Borghini

2 GENERAL DEFINITION OF ENVIRONMENTAL PROTECTION

2.1 Definition of environmental protection expenditure

Environmental protection is an action or activity (which involves the use of equipment, labour, manufacturing techniques and practices, information networks or products) where the **main purpose** is to collect, treat, reduce, prevent, or eliminate pollutants and pollution or any other degradation of the environment resulting from the operating activity of the company.

Environmental protection expenditure is the sum of capital and current expenditure for the undertaking of environmental protection activities.

Environmental protection expenditure may include activities which generate marketable by-products, results in savings or are financed by subsidies or capital allowances. In such cases, environmental protection expenditure should be reported gross of any such cost offsets.

2.1.1 Application of the main purpose criterion

There are a large number of actions and activities which may have a favourable effect on the environment but whose main purpose is not environmental protection. The expenditure associated with these actions and activities should not be reported as environmental protection expenditure. The environmental purpose criterion is used to identify these actions and activities.

The environmental purpose criterion should be applied through comparison with the normal operating activity of the company, whereby actions and activities beneficial to the environment which would have been taken regardless of environmental protection considerations are not considered as environmental protection activities.

The environmental purpose criterion should be applied in connection to the function of the implemented measure so that all actions and activities (and parts thereof in the case of “integrated” solutions) where the primary function is environmental protection should be included, regardless of whether the actions and activities are undertaken as a response to environmental legislation, to meet demands of customers, to increase market shares or improve company image etc.

2.2 Types of environmental protection expenditure

Apart from some general activities such as administration, environmental protection expenditure can be classified into two different categories, distinguished by the nature and function of the activity, namely pollution treatment and pollution prevention.

2.2.1 Pollution treatment

Methods, practices, technologies, processes or equipment designed to collect and remove pollution and pollutants (e.g. air emissions, effluents or solid

waste) after their creation, to treat and dispose of the pollutants, and to monitor and measure the level of pollution.

Pollution treatment mainly involves the use of "end-of-pipe" methods, techniques or equipment (e.g. air emission filters, wastewater treatment plants, waste collection and treatment activities).

2.2.2 Pollution prevention

Methods, practices, technologies, processes or equipment designed to prevent or reduce the pollution created at the source thereby reducing the environmental impacts associated with the release of pollutants and/or polluting activities.

Pollution prevention can be an inherent part of the production process, whereby production and pollution prevention are said to be "integrated".

2.3 Allocation to environmental domains

The scope of environmental protection is defined according to the Classification of Environmental Protection Activities (CEPA), which identifies nine different environmental domains, see table 1 below.

Environmental protection expenditure should be classified into environmental domains according to the purpose of the activity, taking into account the technical nature as well as the policy purpose of the action or activity.

Actions, activities and expenditure which affects more than one environmental domain (including administration) should be allocated to the different domains involved, through the use of estimations if necessary.

Table 1. Classification of Environmental Protection Activities (CEPA) 2000, final draft. (See Annex 1 for more details)

1. Protection of ambient air and climate
1.1 prevention of pollution through in-process modifications
1.1.1 for the protection of ambient air
1.1.2 for the protection of climate and ozone layer
1.2 treatment of exhaust gases and ventilation air
1.2.1 for the protection of ambient air
1.2.2 for the protection of climate and ozone layer
1.3 measurement, control, laboratories and the like
1.4 other activities
2. Wastewater management
2.1 prevention of pollution through in-process modifications
2.2 sewerage networks
2.3 wastewater treatment
2.4 treatment of cooling water
2.5 measurement, control, laboratories and the like
2.6 other activities
3. Waste management
3.1 prevention of pollution through in-process modifications
3.2 collection and transport
3.3 treatment and disposal of hazardous waste
3.3.1 thermal treatment

3.3.2 landfill
3.3.3 other treatment and disposal
3.4 treatment and disposal of non-hazardous waste
3.4.1 incineration
3.4.2 landfill
3.4.3 other treatment and disposal
3.5 measurement, control, laboratories and the like
3.6 other activities

4. Protection and remediation of soil, groundwater and surface water
4.1 prevention of pollutant infiltration
4.2 cleaning up of soil and water bodies
4.3 protection of soil from erosion and other physical degradation
4.4 prevention and remediation of soil salinity
4.5 measurement, control, laboratories and the like
4.6 other activities

5. Noise and vibration abatement (excluding workplace protection)
5.1 preventive in-process modifications at the source
5.1.1 road and rail traffic
5.1.2 air traffic
5.1.3 industrial and other noise
5.2 construction of anti noise/vibration facilities
5.2.1 road and rail traffic
5.2.2 air traffic
5.2.3 industrial and other noise
5.3 measurement, control, laboratories and the like
5.4 other activities

6. Protection of biodiversity and landscapes
6.1 protection and rehabilitation of species and habitats
6.2 protection of natural and semi-natural landscapes
6.3 measurement, control, laboratories and the like
6.4 other activities

7. Protection against radiation (excluding external safety)
7.1 protection of ambient media
7.2 transport and treatment of high level radioactive waste
7.3 measurement, control, laboratories and the like
7.4 other activities

8. Research and development
8.1 protection of ambient air and climate
8.1.1 Protection of ambient air
8.1.2 Protection of atmosphere and climate
8.2 protection of water
8.3 waste
8.4 protection of soil and groundwater
8.5 abatement of noise and vibration
8.6 protection of species and habitats
8.7 protection against radiation
8.8 other research on the environment

9.Other environmental protection activities
9.1 general environmental administration and management
9.1.1 General administration, regulation and the like
9.1.2 Environmental management
9.2 education, training and information
9.3 activities leading to indivisible expenditure
9.4 activities not elsewhere classified

2.4 Treatment of specific examples

Environmental protection expenditure is recorded at the unit (company) where the pollution is generated.

- This includes environmental protection activities in all parts of the operating activity of the company (purchasing, production process, operation, maintenance, training, logistic, housekeeping, etc).
- This excludes measures that aim to reduce pollution when the products are used or scrapped (environmental adaptation of products). However, environmental adaptation of products should be included if environmental policy and regulation expands the legal responsibility of the producer to cover also the pollution generated by the products when used, or for taking care of the products when they become waste. These environmental policies exist today mainly in the waste area, when producers could be responsible for the final treatment of the products as waste. In this case expenditures to be reported include:
    - Expenditure for the treatment of the products as waste (treated similar to the waste generated by the production), either by the company itself or in the form of payments which finance treatment made outside the company.
    - Expenditure which facilitates the final treatment of the products as waste e.g. simplifies the decomposition into fractions.

Resource use and saving activities are excluded (e.g. water supply or the saving of energy or raw materials), unless the primary purpose is environmental protection: e.g. when these activities aim at implementing national or international environmental policy and are not undertaken for cost saving reasons. Examples could include additional expenditure associated with switching to inputs or procedures which reduce pollution (e.g. solvent free paints, low sulphur fuels or renewable resources). In the case of renewable energy sources, examples could include:

- Adaptation of existing facilities (both when the energy generated is used by the company itself, or when the company sells the energy)
- Possible additional expenditures associated with new facilities based on renewable energy sources.
- Possible additional expenditures associated with the use of the renewable resource as production input.

Environmental protection expenditure includes fees, charges and similar payments (regardless of the name) to external bodies (outside the reporting unit), in exchange of environmental protection services related to the environmental impacts of the operating activity of the company. Fees, charges and similar payments (regardless of the name) by the reporting unit that are not linked to purchasing such an environmental service are excluded, even if the government authorities have earmarked the revenue for financing other environmental protection activities.

Measures that primarily aim at health and safety of the workplace environment including production security are excluded. However, measures to prevent environmental hazards are included: e.g. prevention of pollutant infiltration from storage facilities, security measures linked to the transportation of toxic compounds or hazardous waste (including high radioactive nuclear waste)

Excluded are loss of income, compensatory charges, fines, penalties and similar, because these do not relate to an environmental protection activity.

Excluded are also calculated cost items such as depreciation of environmental equipment or capital loss due to forced replacement (i.e. the non-depreciated value of the existing equipment which can no longer be used due to environmental legislation), which do not relate to an activity (transaction).

3 ENVIRONMENTAL PROTECTION INVESTMENTS

3.1 General definition

Environmental protection investments include all capital expenditure related to environmental protection activities (involving methods, technologies, processes, equipment or parts thereof), where the main purpose is to collect, treat, monitor and control, reduce, prevent, or eliminate pollutants and pollution or any other degradation of the environment, resulting from the operating activity of the company.

The definition of investments is based on the accounting standards applied by the company in its bookkeeping, in compliance with EU accounting standards: i.e. these are expenditures that qualify for recognition as an asset. This means that they are intended for use on a continuing basis for the purpose of the undertaking's activities and, in addition, meet one of the following criteria:

- the costs relate to anticipated economic benefits that are expected to flow to the company and extend the life, increase the capacity, improve the safety or efficiency of other assets owned by the company (in excess of their originally assessed standard of performance); or
- the costs reduce or prevent pollution that is likely to occur as a result of future operations of the company.

Recommended definitions of investments for statistical purposes can be found in Commission Regulation (EC) No 2700/98 - *"Definition of characteristics for Structural Business Statistics"*. A summary of these definitions is given below for guidance.

Investments in environmental protection consists mainly of gross investment in tangible goods, but could in principle consist of other types of capital expenditure.

3.1.1 Tangible goods

Gross investment in tangible goods is the sum of:

- Gross investment in land;
- Gross investment in existing buildings and structures;
- Gross investment in construction and alteration of buildings;
- Gross investment in machinery and equipment

Gross investment in tangible goods includes:

- Investments during the reference period in all tangible goods: new and existing tangible capital goods, whether bought from third parties or produced for own use (i.e. capitalised production of tangible capital goods), having a useful life of more than one year including non-produced tangible goods such as land.

- Also included are all additions, alterations, improvements and renovations which prolong the service life or increase the productive capacity of capital goods.

Capital expenditures should be reported in the same period as they are recognised in the company's financial accounts (including measures where the invoicing, delivery, payment and first use of the good take place in different time periods).

Gross investments in tangible goods should be valued accordingly:

- Purchased goods are valued at purchase price, i.e. transport and installation charges, fees, taxes and other costs of ownership transfer are included.
- Own-produced tangible goods are valued at production cost.
- Investments are valued prior to (i.e. gross of) value adjustments, and before the deduction of income from disposals.

Excluded are

- Goods acquired through restructuring (such as mergers, take-overs, break-ups, split-off).
- Purchases of small tools which are not capitalised (should be reported under current expenditure).
- Current maintenance costs, as is the value and current expenditure on capital goods used under rental contracts.

3.1.2 Other capital expenditure

Any investments in intangible assets or financial assets used for environmental protection should be included, if these have been capitalised in the company accounts.

Any tangible goods used for environmental protection acquired through financial leasing should be included, if these have been capitalised in the company accounts. The value of tangible goods acquired through financial leasing has been defined in Commission Regulation (EC) No 2700/98 - *"Definition of characteristics for Structural Business Statistics"* (variable 15 31 0):

- The value to be recorded corresponds to the market value of the good if it had been purchased. This value is in principle known in the contract, or can be estimated by summing up the part of the instalments that cover the capital reimbursement. The value should be recorded at the time when the good is delivered to the lessee.
- The part of instalments corresponding to the interest payments are to be excluded.
- Annual payments for assets under financial leasing should be excluded.
- The value of goods used under leases other than financial should also be excluded.

- If financial leasing of environmental equipment is not capitalised in the company accounts, annual payments for assets under financial leasing should be reported as current expenditure.

3.2 Environmental protection investments by type and lists of examples

Total investments in environmental protection is the sum of investments in pollution treatment and pollution prevention, distinguished by the nature and function of the activity.

3.2.1 Pollution treatment investment

Pollution treatment investment is defined as capital expenditures for methods, technologies, processes or equipment designed to collect and remove pollution and pollutants (e.g. air emissions, effluents or solid waste) after their creation, prevent the spread of and measure the level of the pollution, and treat and dispose of pollutants generated by the operating activity of the company.

Pollution treatment investments include distinct, identifiable components supplementing existing equipment, which are implemented at the end of or completely outside the production line ("end-of-pipe" equipment).

Pollution treatment also include investments in equipment (e.g. filters or separate cleaning steps) which compose or extract pollutants within the production line, when the removal of these added facilities would not affect in the main the functioning of the production line.

The main purpose or function of the methods, technologies, processes or equipment is environmental protection by definition and the total expenditure for these should be reported as environmental protection expenditure.

Examples of pollution treatment investments in different environmental domains

Protection of ambient air and climate	- Different types of filters, scrubbers, cyclones, centrifuges, etc.
	- Coolers and condensers to treat process gases
	- Equipment for thermal and catalytic combustion of process gases and other measures involving combustion technology
	- Measures to restrict dust problems in connection with transport and storage
	- Measurement equipment
Wastewater management	- All investments in own wastewater treatment plants
	- Dams and tanks for storage of wastewater
	- Oil separators, sedimentation basins, neutralisation basins
	- Equipment for taking care of and treating sludge
	- Costs associated with connection to municipal wastewater treatment plants
	- Measurement equipment
Waste management	- Equipment for own storage and transport, e.g. special vehicles, containers, transhipment stations, sorting equipment
	- Equipment for own treatment, e.g. compressors and all investments in own landfill
Protection of soil, and groundwater	- Equipment for the cleaning up of polluted soil
Other	- Noise pollution: different materials and measures to reduce noise pollution, e.g. enclosure of equipment, sound-proofing, noise barriers, etc.
	- Landscape and biodiversity: examples include planting trees barriers to hide a building.

3.2.2 Pollution prevention investment

Pollution prevention investment is defined as capital expenditures for new or adaptation of existing methods, technologies, processes, equipment (or parts thereof) designed to prevent or reduce the amount pollution created at the source, thereby reducing the environmental impacts associated with the release of pollutants and/or with polluting activities.

There are two different types of preventive investments: separately identifiable and integrated investments.

Separately identifiable

The first one includes pollution prevention investments that involve distinct, separately identifiable (environmental parts of) methods, processes, technologies, equipment.

The main purpose or function is environmental protection by definition and the total expenditure of the (environmental parts of) methods, processes, technologies, equipment should be reported as environmental protection expenditure.

Integrated

Pollution prevention also includes capital expenditures for methods, processes, technologies and equipment that are integrated with the overall operating activity (production process/installation) in a way that may make it difficult to identify separately the pollution prevention component.

- In these cases ("integrated measures"), only the environmental protection fraction of the total investment should be reported as an environmental protection expenditure.
- This fraction corresponds to the additional expenditure of the selected investment vis-à-vis the capital expenditure that would have been incurred were it not for the environmental protection considerations.
- Therefore, the alternative for comparison corresponds to the cheapest alternative available to the company with similar functions and characteristics in all respects, except for those related to environmental protection.
- When the selected option is standard technology and there is no cheaper less environmentally beneficial alternative available to the company, the measure is by definition not an environmental protection activity, and no environmental protection expenditure should be reported.

Examples of pollution prevention investments in different domains

Protection of ambient Air and Climate	- Systems for the re-circulation of process gases
	- Measures involving combustion technology, control systems and optimisation of operations
	- Measures involved in switching to less polluting raw materials and fuels, e.g. cost of the adaptation of the production process to use water-based products or substitutes for fossil fuels, costs of the adaptation of the production process for the replacement of coolants
	- Measures to reduce pollution of the flare system, e.g. steam or water injection systems for better combustion, flame monitoring equipment in order to prevent air pollution
	- Measures to improve the dispersion of air pollutants into external ambient air, e.g. encapsulation of equipment, heightening of existing stacks, extra height of new stacks
	- Special appendages (incl. taps and valves, welded joints instead of flanges, sealed pump shafts)
	- Reduced air emissions achieved e.g. by control equipment and programmes
Water management and protection	- Closed water systems, closed cooling systems, re-circulation of process water
	- Measures involved in switching to less polluting production inputs
	- Reduced discharges achieved e.g. by control equipment and programmes for reduced and more efficient water use and reduced losses of solid substances
	- Equipment to achieve maximisation of water circulation
	- Counter current rinsing
	- Multi-stage feeding of chemicals
	- Adaptation of existing installations for extra pumping capacity to reduce discharge
	- Control equipment to restrict thermal pollution
Waste management	- Measures to increase recovery or to use recovered materials in production processes (if intended to reduce the production of waste)
	- Measures to reduce the use of raw materials (only if intended to reduce the production of waste and not for cost savings)
	- Measures to switch to less polluting production inputs to make waste less hazardous
Protection of soil, groundwater and surface water	- Extra costs of double-walled tanks (installed for protection of soil or ground water)
	- Reduced pollutant infiltration achieved e.g. by control equipment and programmes
Other	- Noise pollution: extra cost for low-noise machinery
	- Nature and landscape: extra costs for pylons which fit the landscape

4 CURRENT EXPENDITURE ON ENVIRONMENTAL PROTECTION

4.1 General definition

Current expenditure on environmental protection includes labour expenditure, payments of rents, use of energy and other material goods and purchases of services, where the main purpose is to prevent, reduce, treat or eliminate pollutants and pollution or any other degradation of the environment resulting from the operating activity of the company.

The definition of current expenditure is based on the accounting standards applied by the company in its bookkeeping, in compliance with EU accounting standards: i.e. current expenditure includes all expenditure that is not capitalised but charged to the profit and loss account. These correspond to the annual costs of operating and maintaining an activity, technology, process, equipment (or parts thereof).

Labour expenditure includes expenditure for personnel (part or fulltime) involved in environmental protection activities. Labour expenditure should be reported including all employers' charges and social contributions, but excluding any general overhead.

Expenditure associated with leasing which is not capitalised in the company accounts (operational leasing), if any, should be reported as current expenditure.

Excluded are:

- Depreciation allowances for environmental equipment
- Payments of taxes, fees or charges by the reporting unit that are not linked to purchasing an environmental service related to the environmental impacts of the operating activity of the company, even if the government authorities have earmarked the revenue for financing other environmental protection activities.

4.2 Current expenditure by type and lists of examples

Current expenditure could be divided into four overall categories according to the type of activity

- Current expenditure for environmental protection is often linked to previous investment in environmental protection equipment. All current expenditure related to waste is included (which is not always directly related to environmental protection equipment): e.g. total current expenditure for waste collection, storage, treatment, landfill etc.
- Current expenditures also occur when activities are undertaken which aim to provide general environmental protection services such as environmental co-ordination, certification, training, information and research.
- Current expenditure may also include the purchase of goods used for environmental protection purposes which are not used to run an environmental protection equipment.
- Current expenditure includes the full cost of purchasing environmental protection services (fees, charges) which finance an environmental protection

activity which is related to the environmental impacts of the operating activity of the company.

Apart from some general activities such as administration, current expenditure could be classified into two different categories, distinguished by the nature and function of the activity, namely pollution treatment and pollution prevention.

Pollution treatment

Includes e.g. expenditure related to the operation and control of pollution treatment equipment such as sewage treatment plants, expenditure for the collection, treatment and disposal of waste; measurement and monitoring of pollution levels etc.

Pollution prevention

Includes current expenditure linked to pollution prevention equipment, but also includes changes in practices and switch to new production inputs which reduce the pollution or any other degradation of the environment resulting from the operating activity of the company.

Current expenditure for pollution prevention can be related to methods, technologies, processes or equipment integrated with the overall operating activity of the company in a way that may make it difficult to identify separately the pollution prevention component.

- For these cases, the identification of the pollution prevention fraction of the current expenditures should follow the same principles as those outlined above for pollution prevention capital expenditure (see § 53 to 55).
- In other words, the actual current expenditure could be compared with those needed to run, repair and maintain the alternative measure available to the company with similar functions and characteristics, except for the environmental protection aspects.

Current expenditure should be divided into “in-house spending” and “payments/purchases” according to the nature of the expenditure.

4.2.1 In-house spending

In-house spending includes all current expenditure on environmental protection except purchases of environmental protection services from external organisations. It includes the use of energy and other materials and the use of the company’s own staff for environmental protection purposes related to e.g.:

- Operation of environmental protection equipment: labour expenditure, the payment of rents, insurance of the environmental equipment, consumption of goods and services necessary to run, control, repair and maintain the environmental protection facilities and equipment. Included are expenditure for waste collection, storage (including landfill) and treatment which may not always be directly linked to environmental protection equipment
- Measurement and monitoring of pollution levels

- The purchase of goods used for environmental protection purposes which are not directly linked to an environmental protection equipment including identifiable and substantial additional costs resulting from a switch to new production inputs or practices: e.g. solvent free paints, low-sulphur fuels or renewable resources.
- General administration and other activities which are not directly linked to environmental protection equipment: e.g. setting up and maintaining environmental information systems; preparation for environmental licences, registration and certification; environmental education and information; external communications (e.g. with authorities); making environmental reports etc.
- Environmental protection research and development including tests of new equipment or practices aimed at reducing the environmental impacts of the operating activity of the company.

4.2.2 Payments/Purchases

Current expenditure includes all fees, charges and similar payments to external bodies (outside the reporting unit), in exchange of environmental protection services related to the environmental impacts of the operating activity of the company e.g.:

- Payments for the collection and treatment of solid waste, including payments for the use of containers or wheelbarrows etc.
- Collection and treatment of waste water
- Regulatory charges
- Payments to environmental consultants e.g. related to investigations, education of the staff, information and certification activities, or for the operation and maintenance of environmental equipment and facilities.
- Removal, treatment or containment of contaminated soil and/or groundwater

ANNEX 1 – CEPA 2000 EXPLANATORY NOTES AND DEFINITIONS (final draft)

Source:
"Classification of Environmental Protection Activities and Expenditure (CEPA 2000) with explanatory notes"
Version of 28 March 2001

1 PROTECTION OF AMBIENT AIR AND CLIMATE

Protection of ambient air and climate comprises measures and activities aimed at the reduction of emissions into the ambient air or ambient concentrations of air pollutants as well as to measures and activities aimed at the control of emissions of greenhouse gases and gases that adversely affect the stratospheric ozone layer.

Excluded are measures undertaken for cost saving reasons (e.g. energy saving).

1.1 Prevention of pollution through in-process modifications

Activities and measures aimed at the elimination or reduction of the generation of air pollutants through in-process modifications related to:

- cleaner and more efficient production processes and other technologies (cleaner technologies),
- the consumption or use of 'cleaner' (adapted) products.

Cleaner technologies

Prevention activities consist of replacing an existing production process by a new process designed to reduce the generation of air pollutants during production, storage or transportation, e.g. fuel combustion improvement, recovery of solvents, prevention of spills and leaks through improving air-tightness of equipment, reservoirs and vehicles, etc.

Use of cleaner products

Prevention activities consist of modifying facilities so as to provide for the substitution of raw materials, energy, catalysts and other inputs by non- (or less) polluting products, or of treating raw materials prior to their use in order to make them less polluting, e.g. desulphuration of fuel. Expenditure under this position also include the extra-cost of the use of cleaner products (low sulphur fuels, unleaded gasoline, clean vehicles, etc.).

1.2 Treatment of exhaust gases and ventilation air

Activities involving the installation, maintenance and operation of end-of-pipe equipment for the removal and reduction of emissions of particulate matter or other air-polluting substances either from the combustion of fuels or from processes: filters, dedusting equipment, catalytic converters, post-combustion and other techniques. Also included are activities aimed at increasing the dispersion of gases so as to reduce concentrations of air pollutants.

Exhaust gases are emissions into the air, usually through exhaust pipes, stacks or chimneys, due to the combustion of fossil fuels. Ventilation air are exhausts of air conditioning systems of industrial establishments.

1.3 Measurement, control, laboratories and the like

Activities aimed at monitoring the concentrations of pollutants in exhaust gases, the quality of air, etc. Included are measurement services of exhaust gases from vehicles and heating systems and the monitoring related to ozone layer, greenhouse gases and climate change. Weather stations are excluded.

1.4 Other activities

All other activities and measures aimed at the protection of ambient air and climate. Includes regulation, administration, management, training, information and education activities specific to CEPA 1, when they can be separated from other activities related to the same class and from similar activities related to other environmental protection classes.

2 WASTEWATER MANAGEMENT

Wastewater management comprises activities and measures aimed at the prevention of pollution of surface water through the reduction of the release of wastewater into inland surface water and seawater. It includes the collection and treatment of wastewater including monitoring and regulation activities. Septic tanks are also included.

Excluded are actions and activities aimed at the protection of groundwater from pollutant infiltration and the cleaning up of water bodies after pollution (see CEPA 4).

Wastewater is defined as water that is of no further immediate value for the purpose for which it was used or in the pursuit of which it was produced because of quality, quantity, or time of its occurrence.

2.1 Prevention of pollution through in-process modifications

Activities and measures aimed at reducing the generation of surface water pollutants and wastewater through in-process modifications related to:

- cleaner and more efficient production processes and other technologies (cleaner technologies),
- the consumption or use of 'cleaner' (adapted) products.

Cleaner technologies

Prevention activities consist of replacing an existing production process by a new process designed to bring about a reduction of water pollutants or wastewater generated during production. It includes separation of networks, treatment and re-use of water used in the production process, etc.

Use of cleaner products

Prevention activities consist of modifying an existing production process so as to provide for the substitution of raw materials, catalysts and other inputs by non- (or less) water polluting products.

2.2 Sewerage networks

Activities aimed at the operation of sewerage networks, i.e. the collection and transport of wastewater from one or several users, as well as rainwater, by means of sewerage networks, collectors, tanks and other means of transport (sewage vehicles, etc.), including maintenance and repair.

Sewerage networks are the systems of collectors, pipelines, conduits and pumps to evacuate any wastewater (rainwater, domestic and other wastewater) from the points of generation to either a sewage treatment plant or to a point where wastewater is discharged into surface water.

2.3 Wastewater treatment

Wastewater treatment designates any process to render wastewater fit to meet applicable environmental standards or other quality norms. Three broad types of treatment (mechanical, biological, and advanced treatment) are specified below.

Alternative definitions of types of treatment may be used, e.g. based on removal rates for BOD.

Mechanical treatment of wastewater designates processes of a physical and mechanical nature which result in decanted effluent and separate sludge. Mechanical processes are also used in combination and/or in conjunction with biological and advanced unit operations. Mechanical treatment is understood to include at least such processes as sedimentation, flotation, etc. The activity is aimed at separating materials in suspension by the use of screens (large solids) or through sedimentation eventually assisted by chemicals or flotation (elimination of sand, oil, part of the sludge, etc.).

Equipment includes screens for large solids, biological plants, equipment for filtration, flocculation, sedimentation; separation of oils and hydrocarbons; separation using inertia or gravity, including hydraulic and centrifugal cyclones, diaphragm floats, etc.

Biological treatment of wastewater designates processes which employ aerobic or anaerobic micro-organisms and result in decanted effluent and separate sludge containing microbial mass together with pollutants. Biological treatment processes are also used in combination and/or in conjunction with mechanical and advanced unit operations. This activity is designed to eliminate pollution from oxidisable materials through the use of bacteria: activated sludge technique or anaerobic treatment for specific concentrated wastewater. Biodegradable materials are treated with the addition of bacteria-enriched sludge in open or closed tanks.

Treatment of wastewater by advanced technologies designates processes capable of reducing specific constituents in wastewater not normally achieved by other treatment options. Covers all unit operations which are not considered to be mechanical or biological. Includes, for example, chemical coagulation, flocculation and precipitation; break-point chlorinating; stripping; mixed media filtration; micro-screening; selective ion exchange; activated carbon absorption; reverse osmosis; ultra-filtration; elector flotation. Advanced treatment processes may be used in combination and/or in conjunction with mechanical and biological unit operations. This activity is aimed at eliminating oxidisable non-biodegradable matter at a higher level, as well as metals, nitrate, phosphorous, etc. by using powerful biological or physical and chemical action. Special equipment is required for each depollution.

Septic tanks are settling tanks through which wastewater is flowing and the suspended matter is decanted as sludge. Organic matters (in the water and in the sludge) are partly decomposed by anaerobic bacteria and other micro-organisms. Maintenance services of septic tanks (emptying etc.) and other products for septic tanks (biological activators, etc.) are included.

2.4 Treatment of cooling water

Treatment of cooling water designates "processes which are used to treat cooling water to meet applicable environmental standards before releasing it into the environment. Cooling water is used to remove heat." Means, methods, facilities used may be: air cooling (extra cost compared with water cooling), cooling towers

(to the extent they are required to reduce pollution, as distinct from technical needs), cooling circuits for processing water from work sites and for condensing released vapour, equipment for enhancing the dispersion of cooling water on release, closed cooling circuits (extra cost), circuits for use of cooling water for heating purposes (extra cost).

2.5 Measurement, control, laboratories and the like

Activities aimed at monitoring and controlling the concentration of pollutants in wastewater and the quality of inland surface water and marine water at the place wastewater is discharged (analysis and measurement of pollutants, etc.).

2.6 Other activities

All other activities and measures aimed at wastewater management. Includes regulation, administration, management, training, information and education activities specific to CEPA 2, when they can be separated from other activities related to the same class and similar activities related to other environmental protection classes.

3 WASTE MANAGEMENT

Waste management refers to activities and measures aimed at the prevention of the generation of waste and the reduction of its harmful effect on the environment. Includes the collection and treatment of waste, including monitoring and regulation activities. It also includes recycling and composting, the collection and treatment of low level radioactive waste, street cleaning and the collection of public litter.

Waste are materials that are not prime products (that is, products made for the market) for which the generator has no further use for own purposes of production, transformation, or consumption, and which he wants to dispose of. Wastes may be generated during the extraction of raw materials, during the processing of raw materials to intermediate and final products, during the consumption of final products, and during any other human activity. Residuals recycled or reused at the place of generation are excluded. Also excluded are waste materials that are directly discharged into ambient water or air.

Hazardous waste is waste that due to its toxic, infectious, radioactive, flammable or other character defined by the legislator poses a substantial actual or potential hazard to human health or living organisms. For the purposes of this definition, "hazardous waste" comprises for each country all those materials and products which are considered to be hazardous in accordance with that country's practices. Low level radioactive waste is included, whereas other radioactive waste is excluded (see CEPA 7).

Low level radioactive waste is waste that, because of its low radionucleide content, does not require shielding during normal handling and transportation.

Treatment and disposal of waste

Treatment of waste refers to any process designed to change the physical, chemical, or biological character or composition of any waste to neutralise it, render it non-hazardous, safer for transport, amenable for recovery or storage, or to reduce it in volume. A particular waste may undergo more than one treatment process.

Composting and recycling activities for the purpose of environmental protection are included. Often composting is a waste treatment method and the resulting compost provided free of charge or at a very low price. The manufacture of compost classified in division 24 of ISIC/NACE (Manufacture of fertilisers and nitrogen compounds) is excluded.

Division 37 of ISIC/NACE defines recycling as "the processing of waste, scraps whether or not used, into a form feasible to be transformed in new raw materials. Typical is that, in terms of commodities, both input and output consist of waste and scrap, the input being sorted or unsorted but always unfit for further direct use in an industrial process whereas the output is made fit for further processing and is to be considered then as an intermediate good. A process is required, either mechanical or chemical". The main purpose of activities classified in division 37 of ISIC/NACE is the manufacture of secondary raw materials but there may be important secondary waste management activities.

Compost and secondary raw materials (as well as products made of secondary raw materials) are not considered environmental protection products. Their use is excluded.

Disposal of waste is the final deposition of waste on or underground in controlled or uncontrolled fashion, in accordance with the sanitary, environmental or security requirements.

3.1 Prevention of pollution through in-process modifications

Activities and measures aimed at eliminating or reducing the generation of solid waste through in-process modifications related to:

- cleaner and more efficient production processes and other technologies (cleaner technologies),
- the consumption or use of 'cleaner' (adapted) products.

Cleaner technologies

Prevention activities consist of replacing an existing production process by a new process designed to reduce the toxicity or volume of waste produced during the production process, including by separation and re-processing.

Use of cleaner products

Protection activities consist of modifying or adapting the production process or facilities so as to provide for the substitution of raw materials, catalysts and other intermediate inputs by new, "adapted" inputs the use of which produces less waste or less hazardous waste.

3.2 Collection and transport

Collection and transport of waste is defined as the collection of waste, either by municipal services or similar institutions or by public or private corporations, and their transport to the place of treatment or disposal. It includes the separate collection and transport of waste fractions so as to facilitate recycling and the collection and transport of hazardous waste. Street cleaning is included for the part referring to public litter and collection of garbage from the streets. Excluded are winter services.

3.3 Treatment and disposal of hazardous waste

Treatment of hazardous waste comprises the processes of physical/chemical treatment, thermal treatment, biological treatment, conditioning of wastes, and any other relevant treatment method. Disposal of hazardous waste comprises landfill, containment, underground disposal, dumping at sea, and any other relevant disposal method.

Thermal treatment of hazardous waste refers to any process for the high temperature oxidation of gaseous, liquid, or solid hazardous wastes, converting them into gases and incombustible solid residues. The flue gases are released into the atmosphere (with or without recovery of heat and with or without cleaning) and any slag or ash produced is deposited in the landfill. The main technologies used in the incineration

of hazardous waste are the rotary kiln, liquid injection, incinerator grates, multiple chamber incinerators, and fluidised bed incinerators. Residues from hazardous waste incineration may themselves be regarded as hazardous waste. The resulting thermal energy may or may not be used for the production of steam, hot water, or electric energy.

Landfill is an activity concerning final disposal of hazardous waste in or on land in a controlled way, which meets specific geological and technical criteria.

Other treatment and disposal of hazardous waste may consist of chemical and physical treatment, containment and underground disposal.

Chemical treatment methods are used both to effect the complete breakdown of hazardous waste into non-toxic gases and, more usually, to modify the chemical properties of the waste, e.g. to reduce water solubility or to neutralise acidity or alkalinity.

Physical treatment of hazardous waste: includes various methods of phase separation and solidification whereby the hazardous waste is fixed in an inert, impervious matrix. Phase separation encompasses the widely used techniques of lagooning, sludge drying in beds, and prolonged storage in tanks, air flotation and various filtration and centrifugation techniques, adsorption/desorption, vacuum, extractive and azeotropic distillation. Solidification or fixation processes, which convert the waste into an insoluble, rock-hard material, are generally used as pre-treatment prior to landfill disposal. These techniques employ blending the waste with various reactants or organic polymerisation reactions or the mixing of the waste with organic binders.

Containment is the retention of hazardous material in such a way that it is effectively prevented from dispersing into the environment, or is released only at an acceptable level. Containment may occur in specially built containment spaces.

Underground disposal includes temporary storage or final disposal of hazardous wastes underground that meet specific geological and technical criteria.

3.4 Treatment and disposal of non-hazardous waste

Treatment of non-hazardous waste comprises the processes of physical/chemical treatment, incineration of waste, biological treatment, and any other treatment method (composting, recycling, etc.).

Incineration is the thermal treatment of waste during which chemically fixed energy of combusted matters is transformed into thermal energy. Combustible compounds are transformed into combustion gases leaving the system as flue gases. Incombustible inorganic matters remain in the form of slag and fly ash.

Disposal of non-hazardous waste comprises landfill, dumping at sea, and any other disposal method.

3.5 Measurement, control, laboratories and the like

Activities and measures aimed at controlling and measuring the generation and storage of waste, their toxicity, etc.

3.6 Other activities

All other activities and measures aimed at waste management. It includes administration, management, training, information and education activities specific to the class, when they can be separated from other activities related to the same class and from similar activities related to other environmental protection classes.

4 PROTECTION AND REMEDIATION OF SOIL, GROUNDWATER AND SURFACE WATER

Protection and remediation of soil, groundwater and surface water refers to measures and activities aimed at the prevention of pollutant infiltration, cleaning up of soils and water bodies and the protection of soil from erosion and other physical degradation as well as from salinisation. Monitoring, control of soil and groundwater pollution is included.

Excluded are wastewater management activities (see CEPA 2), as well as activities aimed at the protection of biodiversity and landscape (see CEPA 6).

4.1 Prevention of pollutant infiltration

Activities and measures aimed at the reduction or elimination of polluting substances that may be applied to soil, percolate into groundwater or run-off to surface water. Included are activities related to sealing of soils of industrial plants, installation of catchment for pollutant run-offs and leaks, strengthening of storage facilities and transportation of pollutant products.

4.2 Cleaning up of soil and water bodies

Processes to reduce the quantity of polluting materials in soil and water bodies either in situ or in appropriate installations. It includes soil decontamination at former industrial sites, landfills and other black spots, dredging of pollutants from water bodies (rivers, lakes, estuaries, etc.), the decontamination and cleaning up of surface water following accidental pollution e.g. through collection of pollutants or through application of chemicals, as well as the cleaning up of oil spills on land, inland surface waters and seas – including coastal areas. Excludes the liming of lakes and artificial oxygenation of water bodies (see CEPA 6). Excludes civil protection services.

Activities may consist of: measures for separating, containing and recovering deposits, extraction of buried casks and containers, decanting and re-storage, installation of off-gas and liquid effluent drainage networks, soil washing by means of degasification, pumping of pollutants, removal and treatment of polluted soil, biotechnological methods capable of intervening without affecting the site (use of enzymes, bacteria, etc.), physical chemistry techniques such as pervaporation and extraction using supercritical fluids, injection of neutral gases or bases to stifle internal fermentation, etc.

4.3 Protection of soil from erosion and other physical degradation

Activities and measures aimed at the protection of soil from erosion and other physical degradation (compacting, encrusting, etc.). They may consist of programs intended to restore the protective vegetal cover of soils, construction of anti-erosion walls, etc. Measures may also consist in subsidising agricultural and grazing practices less harmful for soils and water bodies.

Excluded are activities carried out for economic reasons (e.g. agricultural production or protection of settlements against natural hazards such as landslides).

4.4 Prevention and remediation of soil salinity

Activities and measures aimed at the prevention and remediation of soil salinity. Concrete actions will depend on climatic, geological and other country-specific factors. Included are actions to increase groundwater tables, e.g. through increased freshwater infiltration to avoid infiltration of seawater into groundwater bodies, lowering of groundwater tables (when groundwater contains high levels of salts) through long-term re-vegetation programmes, changes in irrigation practices, etc.

Excluded are measures that respond to economic purposes (agricultural production, reclamation of land from the sea, etc.).

4.5 Measurement, control, laboratories and the like

All activities and measures aimed at controlling and measuring the quality and pollution of soils, groundwater and surface water, measuring the extent of soil erosion and salinisation etc. Includes the operation of monitoring systems, inventories of "black spots", maps and databases of groundwater and surface water quality, of soil pollution, erosion and salinity, etc.

4.6 Other activities

All other activities and measures aimed at the protection and remediation of soil, groundwater and surface water. It includes administration, management, training, information and education activities specific to the class, when they can be separated from other activities related to the same class and from similar activities related to other environmental protection classes.

5 NOISE AND VIBRATION ABATEMENT (EXCLUDING WORKPLACE PROTECTION)

Noise and vibration abatement refers to measures and activities aimed at the control, reduction and abatement of industrial and transport noise and vibration. Activities for the abatement of neighbourhood noise (soundproofing of dancing halls, etc.) as well as activities for the abatement of noise in places frequented by the public (swimming pools, etc.), in schools, etc., are included.

Excluded is the abatement of noise and vibration for purposes of protection at the workplace.

5.1 Preventive in-process modifications at the source

Activities and measures aimed at the reduction of noise and vibration from industrial equipment, vehicle motors, aircraft and ships engines, exhaust systems and brakes, or noise level due to tyre/road or wheel/rail surface contact. Includes the adaptation of equipment, vehicles (buses, trucks, or train and power units in the case of rail transport, aircraft and ships) in order to make them less noisy: soundproofing of hoods, brakes, exhaust systems, etc. Includes also plant modifications, specially conceived foundations to absorb vibrations, extra cost for regrouping of buildings and/or of facilities in the interest of noise abatement, special facilities in building construction or reconstruction, equipment and machines conceived or constructed for low noise or vibrations, low noise level flares and burners, etc.

Other preventive activities consist of noise abatement through the modification of surfaces. As noise emissions from motors, engines, exhaust systems and brakes are lowered, those from other sources becomes more important and in particular noise that originates from the contact between tyres and road surfaces. Activities consist of substituting concrete by silent asphalt, multi-layered surfaces, etc.

5.2 Construction of anti noise/vibration facilities

Activities and measures aimed at the installation and management of anti-noise facilities. These may be screens, embankments or hedges. They may consist of covering sections of urban motor ways or railroads. As concerns industrial and vicinity noise they also consist of add-on facilities, covering and soundproofing of machines and piping, fuel regulation systems and sound absorption, noise screens, barriers, soundproofing of buildings, noise protective windows, etc., in order to limit noise perception.

5.3 Measurement, control, laboratories and the like

Activities and measures aimed at controlling the level of noise and vibration: installation and operation of stationary measurement and monitoring sites or mobile equipment in urban areas, observation networks, etc.

5.4 Other activities

All other activities and measures aimed at noise and vibration abatement. It includes administration, management, training, information and education activities

specific to the class, when they can be separated from other activities related to the same class and from similar activities related to other classes. It also includes, when separable, traffic management with noise abatement purposes (for example, lowering of speed limits, improvement of traffic flows), introduction of time and geographical restrictions for noisy vehicles, traffic detours at a distance from residential areas, creation of pedestrian areas, creation of construction-free buffer zones, restructuring of modal split (improvement of public transportation, use of bicycles). This covers a potentially large set of administrative measures which raise serious identification problems given their incorporation in integrated programmes of traffic control and urban planning and the difficulty of separating that part of measures and expenditure that, in these programmes, concern noise and vibration abatement from expenditure related to air pollution control, improvement of the living environment or traffic security.

In addition to regulation, other measures may consist of: financial incentives for the production and use of low-noise vehicles, labelling or information programmes for consumers so as to encourage the use of low-noise vehicles and the adoption of quiet driving behaviour.

6 PROTECTION OF BIODIVERSITY AND LANDSCAPES

Protection of biodiversity and landscape refers to measures and activities aimed at the protection and rehabilitation of fauna and flora species, ecosystems and habitats as well as the protection and rehabilitation of natural and semi-natural landscapes. The separation between 'biodiversity' and 'landscape' protection may not always be practical. For example, maintaining or establishing certain landscape types, biotopes, eco-zones and related issues (hedgerows, lines of trees to re-establish 'natural corridors') have a clear link to biodiversity preservation.

Excluded is the protection and rehabilitation of historic monuments or predominantly built-up landscapes, the control of weed for agricultural purposes as well as the protection of forests against forests fire when this predominantly responds to economic reasons. The establishment and maintenance of green spaces along roads and recreational structures (e.g. gulf courses, other sports facilities) are also excluded.

Actions and expenditure related to urban parks and gardens would not normally be included but may be related in some cases to biodiversity – in such cases the activities and expenditure should be included.

6.1 Protection and rehabilitation of species and habitats

Activities and measures aimed at the conservation, reintroduction or recovery of fauna and flora species, as well as the restoring, rehabilitation and reshaping of damaged habitats for the purpose of strengthening their natural functions. Includes conserving the genetic heritage, re-colonising destroyed ecosystems, placing bans on exploitation, trade, etc. of specific animal and plant species, for protection purposes. Also includes censuses, inventories, databases, creation of gene reserves or banks, improvement of linear infrastructures (e.g., underground passages or bridges for animals at highways or railways, etc.), feeding of the young, management of special natural reserves (botany conservation areas, etc.). Activities may also include the control of fauna and flora to maintain natural balances, including re-introduction of predator species and control of exotic fauna and flora that pose a threat to native fauna, flora and habitats.

Main activities are the management and development of protected areas, whatever the denomination they receive, i.e. areas protected from any economic exploitation or in which the latter is subject to restrictive regulations whose explicit goal is the conservation and protection of habitats. Also included are activities for the restoration of water bodies as aquatic habitats: artificial oxygenation and lime-neutralisation actions. When they have a clear protection of biodiversity purpose, measures and activities related to urban parks and gardens are to be included. Purchase of land for protection of species and habitats purpose is included.

6.2 Protection of natural and semi-natural landscapes

Activities and measures aimed at the protection of natural and semi-natural landscapes to maintain and increase their aesthetic value and their role in biodiversity preservation. Included is the preservation of legally protected natural objects, expenditures incurred for the rehabilitation of abandoned mining and quarrying sites, renaturalisation of river banks, burying of electric lines,

maintenance of landscapes that are the result of traditional agricultural practices threatened by prevailing economic conditions, etc. For biodiversity and landscape protection related to agriculture, the identification of specific state aid programmes to farmers may be the only data source available. Protection of forests against forest fires for landscape protection purpose is included.

Excluded are measures taken in order to protect historic monuments, measures to increase aesthetic values for economic purposes (e.g., re-landscaping to increase the value of real estates) as well as protection of predominantly built-up landscapes.

6.3 Measurement, control, laboratories and the like

Measurement, monitoring, analysis activities which are not classified under the preceding items. In principle, inventories of fauna and flora are not covered since they are classified under protection of species.

6.4 Other activities

All other activities and measures aimed at the protection of biodiversity and landscape. It includes administration, training, information and education activities specific to the domain, when they can be separated from other activities related to the same domain and similar activities related to other classes.

7 PROTECTION AGAINST RADIATION (EXCLUDING EXTERNAL SAFETY)

Protection against radiation refers to activities and measures aimed at the reduction or elimination of the negative consequences of radiation emitted from any source. Included is the handling, transportation and treatment of high level radioactive waste, i.e. waste that, because of its high radionuclide content, requires shielding during normal handling and transportation.

Excluded are activities and measures related to the prevention of technological hazards (e.g. external safety of nuclear power plants), as well as protection measures taken at workplaces. Also excluded are activities related to collection and treatment of low-level radioactive waste (see CEPA 3).

Definition of radioactive waste

Any material that contains or is contaminated with radionuclides at concentrations or radioactivity levels greater than the "exempt quantities" established by the competent authorities, and for which no use is foreseen. Radioactive wastes are produced at nuclear power plants and at associated nuclear fuel cycle facilities as well as through other uses of radioactive material, for example, the use of radionuclides in hospitals and research establishments. Other important wastes are those from mining and milling of uranium and from the reprocessing of spent fuel.

7.1 Protection of ambient media

Protection of ambient media groups together activities and measures undertaken in order to protect ambient media from radiation. It may consist of protecting measures such as screening, creation of buffer zones, etc.

7.2 Transport and treatment of high level radioactive waste

Any process designed for the transport, conditioning, containment or underground disposal of high level radioactive waste.

Collection and transport of high level radioactive waste consists of the collection of high level radioactive waste, generally by specialised firms and their transport to the place of treatment, conditioning storage and disposal.

Conditioning of high level radioactive waste consists of activities that transform high level radioactive waste into a proper and fit condition for transport and/or storage and/or disposal. Conditioning may occur as part of ISIC/NACE 23 (processing of nuclear fuels) activities.

Containment of high level radioactive waste designates the retention of radioactive waste in such a way that it is effectively prevented from dispersing into the environment, or is released only at an acceptable level. Containment may occur in specially built containment spaces.

Underground disposal of high level radioactive waste is the temporary storage or final disposal of high level radioactive waste in underground sites that meet specific geological and technical criteria.

7.3 Measurement, control, laboratories and the like

Activities aimed at measuring, controlling and monitoring ambient radioactivity and radioactivity due to high level radioactive waste by means of specific equipment, instruments and installations.

7.4 Other activities

All other activities and measures aimed at the protection of ambient media against radiation and transport and treatment of high level radioactive waste. It includes administration, training, information and education activities specific to the domain, when they can be separated from other activities related to the same class and similar activities related to other environmental protection classes.

8 RESEARCH AND DEVELOPMENT

Research and development (R&D) comprises creative work undertaken on a systematic basis in order to increase the stock of knowledge and the use of this knowledge to devise new applications (see Frascati manual, OECD 1994) in the field of environmental protection.

The class regroups all R&D activities and expenditure oriented towards environmental protection: identification and analysis of sources of pollution, mechanisms of dispersion of pollutants in the environment as well as their effects on human beings, the species and the biosphere. This heading covers R&D for the prevention and elimination of all forms of pollution, as well as R&D oriented towards equipment and instruments of pollution measurement and analysis. When separable all R&D activities even when referring to a specific class have to be classified under this position.

Environmental R&D is further classified in accordance with the 1993 NABS (Nomenclature for the Analysis and Comparison of Scientific Programmes and Budgets, Eurostat 1994).

Excluded are R&D activities related to the management of natural resources.

9 OTHER ENVIRONMENTAL PROTECTION ACTIVITIES

Other environmental protection activities refers to all environmental protection activities which take the form of general environmental administration and management activities or training or teaching activities specifically oriented towards environmental protection or which consist of public information, when they are not classified elsewhere in CEPA. It also includes activities leading to indivisible expenditure, as well as activities not elsewhere classified.

9.1 General environmental administration and management

General administration of the environment designates any identifiable activity that is directed at the general support of decisions taken in the context of environmental protection activities, whether by governmental or by non-governmental units.

General administration of the environment, regulation and the like

Any identifiable activity within general government and NPISH units that is directed towards the regulation, administration of the environment and the support of decisions taken in the context of environmental protection activities. When possible such activities should be allocated to other classes. If this is impossible, they should be included under this position of the classification.

Environmental management

Any identifiable activity of corporations that is directed at the general support of decisions taken in the context of environmental protection activities. It includes the preparation of declarations or requests for permission, internal environmental management, environmental certification processes (ISO 14000, EMAS), as well as the recourse to environmental consultancy services. Activities of units specialised in environmental consultancy, supervision and analysis are included. When possible such activities should be allocated to other CEPA classes.

9.2 Education, training and information

Activities that aim at providing general environmental education or training and disseminating environmental information. Included are high school programs, university degrees or special courses specifically aimed at training for environmental protection. Activities such as the production of environmental reports, environmental communication, etc. are also included.

9.3 Activities leading to indivisible expenditure

Environmental protection activities that lead to indivisible expenditure, i.e. which cannot be allocated to any other CEPA class. International financial aid may be a case in point as it may be difficult for the donor countries to attribute international aid to individual classes. If international aid is important in volume and/or of specific political interest, a separate 2-digit heading under CEPA 9 could be adequate for national purposes.

9.4 Activities not elsewhere classified

This position groups together all these environmental protection activities that cannot be classified under other positions of the classification.