



UNITED NATIONS
DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS
STATISTICS DIVISION

**Expert Group meeting on International economic
and social classifications
New York, 18-20 May 2011**

ESA/STAT/AC.234/29
16 May 2011

Classification of Environmental Activities (CEA) - Information paper

UNSD

Classification of Environmental Activities (CEA)

Background

1. An important part of the revision of the System of Economic and Environmental Accounts (SEEA) is the development of statistics relating to various environmental activities. The definition of these activities and their classification is therefore an important development.
2. A Classification for Environmental Protection Activities (CEPA) has been developed for some time but no classification has been developed for the other key environmental activities – natural resource management and natural resource use. This was recognized at the start of the SEEA revision process and work commenced through the London Group to develop relevant classes for these two activities under the title Classification of natural Resource Use and Management Activities and expenditures (CRUMA). A draft CRUMA was sent for global consultation in late 2010 as part of the general consultation on the 21 key SEEA revision issues.
3. The outcome from the global consultation process was presented in the series of recommendations for the revised SEEA presented to the UNSC in February 2011. The recommendations concerning CEA were the following
 - (i) There should be an integration of classifications regarding environmental activities within an overarching Classification of Environmental Activities (CEA). The CEA should be composed of three parts: a part covering environmental protection activities, a part covering resource management activities and a part covering resource use activities. All three parts must be distinguished at the highest level of the classification.
 - (ii) The scope of the parts of the CEA concerning resource management and resource use should be limited to activities concerning non-produced resources.
4. It is intended that the new CEA, the details of which are presented in the following pages, will be included in the draft material for SEEA chapter 4 to be circulated for global consultation in June 2011.
5. The main coherence issue for consideration before finalizing the draft CEA is the structure of the parts concerning natural resource use and resource management in terms of their alignment with the proposed classification of environmental assets which has just been sent for global consultation. The current draft CEA is structured based on the asset classification from the SEEA-2003.

Issues for discussion

The Classification Expert Group may wish to discuss whether to replace CEPA, already part of the family of classification with CEA, upon its finalization as part of the SEEA revision process.

Classification of Environmental Activities (CEA)¹

1. Organisation of the draft Classification of Environmental Activities and expenditures (draft CEA2011)	3
2. Definition and scope of CEA groups	3
3. List of CEA classes and related categories	5
4. Explanatory notes of RM and RU groups of CEA	11
5. Correspondences with other classifications	15

List of Tables

Table 1 Draft Classification of Environmental Activities and expenditures – Draft CEA2011, Overview of groups and classes	4
Table 2 Kinds of environmental activities considered for identifying CEA categories	5
Table 3 Environmental domains and natural resources considered for identifying CEA categories	5
Table 4 Environmental Protection group of CEA: list of classes and related categories	6
Table 5 Environmental Protection group of CEA: overview	7
Table 6 Resource Management group of CEA: list of classes and related categories	8
Table 7 Resource Management group of CEA: overview	9
Table 8 Resource Use group of CEA: list of classes and related categories	10
Table 9 Resource Use group of CEA: overview	10
Table 10 RM group of CEA – Explanatory notes	11
Table 11 RU group of CEA – Explanatory notes	14
Table 12 Correspondences between CEA and other classifications of environmental activities and expenditures	15

¹ Paper prepared by Istat taking into account the recommendation to the UNCEEA on Issue #9 Classification of natural resource use and management activities and expenditures

1. Organisation of the draft Classification of Environmental Activities and expenditures (draft CEA2011)

The draft Classification of Environmental Activities and expenditures (draft CEA2011) is composed of three “groups” of activities and expenditures:

- A. Environmental Protection (EP)**
- B. natural Resource Management (RM)**
- C. natural Resource Use (RU)**

Each group is subdivided into “classes” (1-digit categories). Classes are in turn subdivided into 2-digits and 3-digits categories which have the main function of guiding classification into the classes. Selected 2-digits and 3-digits categories may also be used for data collection and coding as well as for reporting purposes.

2. Definition and scope of CEA groups

A. Environmental Protection (EP)

Environmental Protection groups together all actions and activities that are aimed at the prevention, reduction and elimination of pollution as well as any other degradation of the environment (1994 SERIEE § 2006). This includes measures taken in order to restore the environment after it has been degraded due to the pressures from human activities.

This definition implies that to be included under environmental protection, actions and activities or parts thereof must satisfy the primary purpose criterion (*causa finalis*), i.e. that environmental protection is their prime objective. Actions and activities which have a favourable impact on the environment but which serve other goals do not come under environmental protection. Hence, excluded from the field of environmental protection are activities which, while beneficial to the environment, primarily satisfy technical needs or the internal requirements for hygiene or security of an enterprise or other institution (1994 SERIEE § 2007).

Activities like the saving of energy or raw materials are excluded from environmental protection and included in the resource management group (RM). However, such activities are considered environmental protection activities to the extent that they mainly aim at environmental protection. An important example is recycling which is included to the extent that it constitutes a substitute for waste management (1994 SERIEE § 2008), or the energy saving which is included when its main purpose is the reduction of air pollution.

Activities like water supply or, in general, the exploitation of natural resources are excluded either from the environmental protection and the resource management groups; such activities are classified within the natural resource use group (RU).

With reference to the “functions” of environmental assets, environmental protection (EP) activities and expenditures preserve and maintain the sink and service functions provided by all kinds of environmental assets covered by the SEEA, except for the mineral and energy resources which are mainly relevant from the point of view of their resource functions.

EP activities and expenditures can be carried out by all economic and institutional sectors, as principal, secondary or ancillary activities.

B. natural Resource Management (RM)

Resource Management groups together all actions and activities that are aimed at preserving and maintaining the stock of natural resources safeguarding against depletion phenomena. This includes actions and activities aiming at reducing the withdrawals of natural resources (recovery, reuse, recycling, savings, substitution of natural resources) as well as restoring natural resource stocks (increases/ recharges of natural resource stocks).

As for the EP group, to be included under resource management, actions and activities or parts thereof must satisfy the primary purpose criterion (*causa finalis*), i.e. that resource management is their prime objective.

Activities like recycling or the saving of energy or raw materials, while are generally included within the RM group, are considered environmental protection (EP) activities when they are carried out with the main purpose of protecting the environment.

Activities like water supply or, in general, the exploitation of natural resources are excluded either from the environmental protection and the resource management groups; such activities are classified within the natural resource use group (RU).

With reference to the “functions” of environmental assets, resource management (RM) activities and expenditures relate to the resource functions of all natural resources covered by the SEEA except for soil resources which are mainly protected through EP activities.

RM activities and expenditures can be carried out by all economic and institutional sectors, as principal, secondary or ancillary activities.

C. natural Resource Use (RU)

Resource Use (RU) groups together all actions and activities that are aimed at the abstraction, harvesting and extraction of natural assets, including exploration and development. Also the distribution of water is included.

The standard classification of economic activities (ISIC) includes several activities that are typically resource-related industries, such as fisheries, forestry, mining and water supply. These industries carry out RU activities as their main activity. RU activities can be also carried out as secondary or ancillary activities.

Table 1 Draft Classification of Environmental Activities and expenditures – Draft CEA2011, Overview of groups and classes

Groups	Classes
A. Environmental Protection (EP) <i>actions and activities that are aimed at the prevention, reduction and elimination of pollution as well as any other degradation of the environment</i>	1 Protection of ambient air and climate
	2 Wastewater management
	3 Waste management
	4 Protection and remediation of soil, groundwater and surface water
	5 Noise and vibration abatement (excluding workplace protection)
	6 Protection of biodiversity and landscapes
	7 Protection against radiation (excluding external safety)
	8 Research and development for environmental protection
	9 Other environmental protection activities for environmental protection
B. natural Resource Management (RM) <i>actions and activities that are aimed at preserving and maintaining the stock of natural resources safeguarding against depletion phenomena</i>	10 Management of water resources
	11 Management of natural forest resources
	12 Management of wild flora and fauna
	13 Management of fossil energy
	14 Management of minerals
	15 Research and development activities for natural resource management
	16 Other natural resource management activities
C. natural Resource Use (RU) <i>actions and activities that are aimed at the abstraction, harvesting and extraction of natural assets, including exploration and development</i>	17 Use of water resources
	18 Use of natural forest resources
	19 Use of wild flora and fauna
	20 Use of fossil energy
	21 Use of minerals

3. List of CEA classes and related categories

The CEA classes (1-digits) and the related categories (2-digits and 3-digits) are identified by cross-classifying the kinds of activities that can be carried out (Table 2) and the environmental domain or natural resource concerned (Table 3).

Table 2 Kinds of environmental activities considered for identifying CEA categories

Kinds of EP activities		<ul style="list-style-type: none"> - pollution/degradation prevention activities <ul style="list-style-type: none"> ▪ pollution/degradation reduction activities: ▪ reduction of emissions and discharges - reduction of pollution levels and degradation of environmental media - measurement and control activities - research and development activities in the field of environmental protection - teaching and training activities - administrative activities
Kinds of RM activities		<ul style="list-style-type: none"> - activities aimed at reducing withdrawals: recovery, reuse, recycling, savings, substitution of natural resources - replenishment activities: increases/ recharges of natural resource stocks (for renewable resources, i.e. inland waters, forest and wild flora and fauna) - monitoring, control and surveillance (including the control on the observance of licenses, permits, quotas, ...), measurement, inventories, data collection and the like - R&D activities in the field of natural resource management - teaching, training, information and communication activities - natural resource administration and regulation activities carried out by the general government (including e.g. the elaboration of plans, the release of any kind of licenses and permits for exploiting resources, the enforcement of quotas, ...)
Kinds of RU activities	<i>Withdrawals and distribution</i>	<ul style="list-style-type: none"> - withdrawals from existing resources - management and maintenance activities carried out by the public or private authorities in charge of the direct management and exploitation of the reserves of natural resources - distribution of natural resources (only for water resources)
	<i>Exploration</i>	<ul style="list-style-type: none"> - research and exploration for new reserves and resources

Table 3 Environmental domains and natural resources considered for identifying CEA categories

Environmental domains (for EP activities), i.e. type of environmental media or type of pollution-nuisance-degradation	<ul style="list-style-type: none"> - Air pollution (and related climatic risks) - Surface water pollution - Waste - Soil and ground water pollution, erosion and other physical degradation of soil - Noise and vibration - Degradation of biodiversity and landscape - Radiation
Natural resources (for RM and RU activities)	<ul style="list-style-type: none"> - Water resources - Natural forest resources - Wild flora and fauna - Fossil energy - Minerals

Hereafter CEA classes and related categories are listed separately for the three groups.

The EP group of CEA corresponds exactly to the Classification of Environmental Protection Activities and expenditures – CEPA2000, published by Eurostat in 2002 within the “SERIEE Environmental Protection Expenditure Accounts — Compilation Guide”.

Next paragraph reports the explanatory notes of the RM and RU groups of CEA; the explanatory notes of the EP group are provided by the Eurostat Compilation Guide quoted above.

Table 4 Environmental Protection group of CEA: list of classes and related categories

<p>1 PROTECTION OF AMBIENT AIR AND CLIMATE</p> <p>1.1 Prevention of pollution through in-process modifications</p> <p> 1.1.1 for the protection of ambient air</p> <p> 1.1.2 for the protection of climate and ozone layer</p> <p>1.2 Treatment of exhaust gases and ventilation air</p> <p> 1.2.1 for the protection of ambient air</p> <p> 1.2.2 for the protection of climate and ozone layer</p> <p>1.3 Measurement, control, laboratories and the like</p> <p>1.4 Other activities</p> <p>2 WASTEWATER MANAGEMENT</p> <p>2.1 Prevention of pollution through in-process modifications</p> <p>2.2 Sewerage networks</p> <p>2.3 Wastewater treatment</p> <p>2.4 Treatment of cooling water</p> <p>2.5 Measurement, control, laboratories and the like</p> <p>2.6 Other activities</p> <p>3 WASTE MANAGEMENT</p> <p>3.1 Prevention of pollution through in-process modifications</p> <p>3.2 Collection and transport</p> <p>3.3 Treatment and disposal of hazardous waste</p> <p> 3.3.1 Thermal treatment</p> <p> 3.3.2 Landfill</p> <p> 3.3.3 Other treatment and disposal</p> <p>3.4 Treatment and disposal of non-hazardous waste</p> <p> 3.4.1 Incineration</p> <p> 3.4.2 Landfill</p> <p> 3.4.3 Other treatment and disposal</p> <p>3.5 Measurement, control, laboratories and the like</p> <p>3.6 Other activities</p> <p>4 PROTECTION AND REMEDIATION OF SOIL, GROUNDWATER AND SURFACE WATER</p> <p>4.1 Prevention of pollutant infiltration</p> <p>4.2 Cleaning up of soil and water bodies</p> <p>4.3 Protection of soil from erosion and other physical degradation</p> <p>4.4 Prevention and remediation of soil salinity</p> <p>4.5 Measurement, control, laboratories and the like</p> <p>4.6 Other activities</p>	<p>5 NOISE AND VIBRATION ABATEMENT (excluding workplace protection)</p> <p>5.1 Preventive in-process modifications at the source</p> <p> 5.1.1 Road and rail traffic</p> <p> 5.1.2 Air traffic</p> <p> 5.1.3 Industrial and other noise</p> <p>5.2 Construction of anti noise/vibration facilities</p> <p> 5.2.1 Road and rail traffic</p> <p> 5.2.2 Air traffic</p> <p> 5.2.3 Industrial and other noise</p> <p>5.3 Measurement, control, laboratories and the like</p> <p>5.4 Other activities</p> <p>6 PROTECTION OF BIODIVERSITY AND LANDSCAPES</p> <p>6.1 Protection and rehabilitation of species and habitats</p> <p>6.2 Protection of natural and semi-natural landscapes</p> <p>6.3 Measurement, control, laboratories and the like</p> <p>6.4 Other activities</p> <p>7 PROTECTION AGAINST RADIATION (excluding external safety)</p> <p>7.1 Protection of ambient media</p> <p>7.2 Transport and treatment of high level radioactive waste</p> <p>7.3 Measurement, control, laboratories and the like</p> <p>7.4 Other activities</p> <p>8 RESEARCH AND DEVELOPMENT</p> <p>8.1 Protection of ambient air and climate</p> <p> 8.1.1 Protection of ambient air</p> <p> 8.1.2 Protection of atmosphere and climate</p> <p>8.2 Protection of water</p> <p>8.3 Waste</p> <p>8.4 Protection of soil and groundwater</p> <p>8.5 Abatement of noise and vibration</p> <p>8.6 Protection of species and habitats</p> <p>8.7 Protection against radiation</p> <p>8.8 Other research on the environment</p> <p>9 OTHER ENVIRONMENTAL PROTECTION ACTIVITIES</p> <p>9.1 General environmental administration and management</p> <p> 9.1.1 General administration, regulation and the like</p> <p> 9.1.2 Environmental management</p> <p>9.2 Education, training and information</p> <p>9.3 Activities leading to indivisible expenditure</p> <p>9.4 Activities not elsewhere classified</p>
---	---

Source: *Classification of Environmental Protection Activities and expenditures – CEPA2000*

Remarks

- **General classification principles**

Classification should be made according to the main purpose taking into account the technical nature as well as the policy purpose of an action or activity. Multi-purpose actions, activities and expenditure that address several CEA classes of the EP group should be divided by these classes. Classification under the heading 'indivisible expenditure and activities' should only be made as a last resort.

- **Classification of transversal activities and expenditure**

Transversal activities are R&D, administration and management as well as education, training and information.

All R&D activities related to environmental protection should be allocated to CEA 8.

Administration and management as well as education, training and information related to environmental protection should, to the extent possible, be allocated to the 'Other' positions in CEA 1-7. When these activities concern simultaneously two or more environmental domains they should be allocated respectively to 9.1 or 9.2 positions.

Table 5 Environmental Protection group of CEA: overview

Type of EP activity	Environmental Domain: type of environmental media or type of pollution-nuisance-degradation						
	Air pollution (and related climatic risks)	Surface water pollution	Waste	Soil and ground water pollution, erosion and other physical degradation of soil	Noise and vibration	Degradation of biodiversity and landscape	Radiation
Pollution/degradation prevention activities	1.1 Prevention of pollution through in-process modifications	2.1 Prevention of pollution through in-process modifications	3.1 Prevention of pollution through in-process modifications	4.1 Prevention of pollutant infiltration 4.3 Protection of soil from erosion and other physical degradation 4.4 Prevention and remediation of soil salinity	5.1 Preventive in-process modifications at the source	6.1 Protection and rehabilitation of species and habitats 6.2 Protection of natural and semi-natural landscapes	7.1 Protection of ambient media
Pollution/degradation reduction activities:	1.2 Treatment of exhaust gases and ventilation air	2.2 Sewerage networks 2.3 Wastewater treatment 2.4 Treatment of cooling water	3.2 Collection and transport 3.3 Treatment and disposal of hazardous waste 3.4 Treatment and disposal of non-hazardous waste	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	5.2 Construction of anti noise/vibration facilities		7.2 Transport and treatment of high level radioactive waste
- <i>reduction of emissions and discharges</i>	1.2 <i>Treatment of exhaust gases and ventilation air</i>	2.3 <i>Wastewater treatment</i> 2.4 <i>Treatment of cooling water</i>	3.3 <i>Treatment and disposal of hazardous waste</i> 3.4 <i>Treatment and disposal of non-hazardous waste</i>				
- <i>reduction of pollution levels and degradation of environmental media</i>		2.2 <i>Sewerage networks</i>	3.2 <i>Collection and transport</i>	4.2 <i>Cleaning up of soil and water bodies</i> 4.3 <i>Protection of soil from erosion and other physical degradation</i> 4.4 <i>Prevention and remediation of soil salinity</i>	5.2 <i>Construction of anti noise/vibration facilities</i>	6.1 <i>Protection and rehabilitation of species and habitats</i> 6.2 <i>Protection of natural and semi-natural landscapes</i>	7.2 <i>Transport and treatment of high level radioactive waste</i>
Measurement and control activities	1.3 Measurement, control, laboratories and the like	2.5 Measurement, control, laboratories and the like	3.5 Measurement, control, laboratories and the like	4.5 Measurement, control, laboratories and the like	5.3 Measurement, control, laboratories and the like	6.3 Measurement, control, laboratories and the like	7.3 Measurement, control, laboratories and the like
Research and development activities	8.1 R&D for protection of ambient air and climate 8.8 Other research on the environment	8.2 R&D for protection of water 8.8 Other research on the environment	8.3 R&D for waste 8.8 Other research on the environment	8.4 R&D for protection of soil and groundwater 8.8 Other research on the environment	8.5 R&D for abatement of noise and vibration 8.8 Other research on the environment	8.6 R&D for protection of species and habitats 8.8 Other research on the environment	8.7 R&D for protection against radiation 8.8 Other research on the environment
Teaching and training activities	1.4 Other activities 9.2 Education, training and information	2.6 Other activities 9.2 Education, training and information	3.6 Other activities 9.2 Education, training and information	4.6 Other activities 9.2 Education, training and information	5.4 Other activities 9.2 Education, training and information	6.4 Other activities 9.2 Education, training and information	7.4 Other activities 9.2 Education, training and information
Administrative activities	1.4 Other activities 9.1 General environmental administration and management	2.6 Other activities 9.1 General environmental administration and management	3.6 Other activities 9.1 General environmental administration and management	4.6 Other activities 9.1 General environmental administration and management	5.4 Other activities 9.1 General environmental administration and management	6.4 Other activities 9.1 General environmental administration and management	7.4 Other activities 9.1 General environmental administration and management

Table 6 Resource Management group of CEA: list of classes and related categories

<p>10 MANAGEMENT OF WATER RESOURCES</p> <p>10.1 Reduction of the intake of water resources</p> <p>10.2 Reduction of water losses and leaks, water reuse and savings</p> <p>10.3 Replenishment of water stocks</p> <p>10.4 Measurement, control, laboratories and the like related to water resources</p> <p>10.5 Other activities for the management of water resources</p> <p>11 MANAGEMENT OF NATURAL FOREST RESOURCES</p> <p>11.1 Reduction of the intake of natural forest resources</p> <p>11.2 Reduction of the consumption of forest (wood and non wood)-related products</p> <p>11.3 Reforestation and afforestation</p> <p>11.4 Forest fires</p> <p>11.5 Measurement, control, laboratories and the like related to natural forest resources</p> <p>11.6 Other activities for the management of natural forest resources</p> <p>12 MANAGEMENT OF WILD FLORA AND FAUNA</p> <p>12.1 Reduction of the intake of wild flora and fauna</p> <p>12.2 Replenishment of wild flora and fauna stocks</p> <p>12.3 Measurement, control, laboratories and the like related to wild flora and fauna</p> <p>12.4 Other activities for the management of wild flora and fauna</p> <p>13 MANAGEMENT OF FOSSIL ENERGY</p> <p>13.1 Reduction of the intake of fossil energy</p> <p>13.2 Reduction of heat and energy losses, and energy savings</p> <p>13.3 Measurement, control, laboratories and the like related to fossil energy</p> <p>13.4 Other activities for the management of fossil energy</p>	<p>14 MANAGEMENT OF MINERALS</p> <p>14.1 Reduction of the intake of minerals</p> <p>14.2 Reduction of minerals use through the reduction of scraps and the production and consumption of recycled materials and products</p> <p>14.3 Measurement, control, laboratories and the like related to minerals</p> <p>14.4 Other activities for the management of minerals</p> <p>15 RESEARCH AND DEVELOPMENT ACTIVITIES FOR NATURAL RESOURCE MANAGEMENT</p> <p>15.1 Water resources</p> <p>15.2 Natural forest resources</p> <p>15.3 Wild flora and fauna</p> <p>15.4 Fossil energy</p> <p>15.5 Minerals</p> <p>15.6 Other R&D activities for natural resource management</p> <p>16. OTHER NATURAL RESOURCE MANAGEMENT ACTIVITIES</p> <p>16.1 General administration of natural resources</p> <p style="padding-left: 20px;">16.1.1 General administration, regulation and the like</p> <p style="padding-left: 20px;">16.1.2 Environmental management</p> <p>16.2 Education, training and information</p> <p>16.3 Activities leading to indivisible expenditure</p> <p>16.4 Activities not elsewhere classified</p>
--	--

Remarks

- **General classification principles**

Classification should be made according to the main purpose taking into account the technical nature as well as the policy purpose of an action or activity. Multi-purpose actions, activities and expenditure that address several CEA classes related to natural resource management should be divided by these classes. Classification under the heading 'indivisible expenditure and activities' should only be made as a last resort.

- **Classification of transversal activities and expenditure**

Transversal activities are R&D, administration and management as well as education, training and information.

All R&D activities related to natural resource management should be allocated to CEA 15.

Administration and management as well as education, training and information related to natural resource management should, to the extent possible, be allocated to the 'Other' positions in CEA 10-14. When these activities concern simultaneously two or more natural resources they should be allocated respectively to 16.1 or 16.2 positions.

Table 7 Resource Management group of CEA: overview

Type of RM activity	Natural resource				
	Water resources	Natural forest resources	Wild flora and fauna	Fossil energy	Minerals
Reduction of the intake of natural resources through preventive in-process modifications	10.1 Reduction of the intake of water resources	11.1 Reduction of the intake of natural forest resources	12.1 Reduction of the intake of wild flora and fauna	13.1 Reduction of the intake of fossil energy	14.1 Reduction of the intake of minerals
Use of alternative resources: use of renewable resources or substitution of natural inputs with alternative inputs					
Reduction of losses, leaks and scraps	10.2 Reduction of water losses and leaks, water reuse and savings	11.2 Reduction of the consumption of forest (wood and non wood)-related products 11.4 Forest fires		13.2 Reduction of heat and energy losses, and energy savings	14.2 Reduction of minerals use through the reduction of scraps and the production and consumption of recycled materials and products
Reduction of the intake of natural resources indirectly through the reduction of the consumption of natural resource-related products (energy savings, water savings, etc.)					
Reuse, recycling					
Increase/recharge of natural resource stocks	10.3 Replenishment of water stocks	11.3 Reforestation and afforestation	12.2 Replenishment of wild flora and fauna stocks		
Measurement and control activities	10.4 Measurement, control, laboratories and the like related to water resources	11.5 Measurement, control, laboratories and the like related to natural forest resources	12.3 Measurement, control, laboratories and the like related to wild flora and fauna	13.3 Measurement, control, laboratories and the like related to fossil energy	14.3 Measurement, control, laboratories and the like related to minerals
Research and development activities	15.1 R&D for management of water resources 15.6 Other R&D activities for natural resource management	15.2 R&D for management of natural forest resources 15.6 Other R&D activities for natural resource management	15.3 R&D for management of wild flora and fauna 15.6 Other R&D activities for natural resource management	15.4 R&D for management of fossil energy 15.6 Other R&D activities for natural resource management	15.5 R&D for management of minerals 15.6 Other R&D activities for natural resource management
Teaching and training activities	10.5 Other activities 16.2 Education, training and information	11.6 Other activities 16.2 Education, training and information	12.4 Other activities 16.2 Education, training and information	13.4 Other activities 16.2 Education, training and information	14.4 Other activities 16.2 Education, training and information
Administrative activities	10.5 Other activities 16.1 General administration of natural resources	11.6 Other activities 16.1 General administration of natural resources	12.4 Other activities 16.1 General administration of natural resources	13.4 Other activities 16.1 General administration of natural resources	14.4 Other activities 16.1 General administration of natural resources

Table 8 Resource Use group of CEA: list of classes and related categories

17 USE OF WATER RESOURCES

- 17.1 Exploitation of water resources including water supply and distribution
- 17.2 Exploration and development of water resources

18 USE OF NATURAL FOREST RESOURCES

- 18.1 Exploitation of natural forest areas (as a resource and not as a habitat)
- 18.2 Exploration of natural forest areas

19 USE OF WILD FLORA AND FAUNA

- 19.1 Exploitation of wild flora and fauna stocks
- 19.2 Exploration and research of new reserves

20 USE OF FOSSIL ENERGY

- 20.1 Exploitation of the stocks of non-renewable energy sources
- 20.2 Exploration and discovery of new fossil energy reserves

21 USE OF MINERALS

- 21.1 Exploitation of mineral stocks
- 21.2 Exploration and discovery of new mineral reserves

Remarks

- **General classification principles**
Classification should be made according to the main purpose taking into account the technical nature as well as the policy purpose of an action or activity. Multi-purpose actions, activities and expenditure that address several CEA classes related to natural resource use should be divided by these classes.
- **Classification of transversal activities and expenditure**
Transversal activities are R&D, administration and management as well as education, training and information.
All transversal activities are regarded as related to natural resource management and consequently classified within the RM group of CEA.

Table 9 Resource Use group of CEA: overview

Type of RU activity	Natural resource					
	Water resources	Natural forest resources	Wild flora and fauna	Fossil energy	Minerals	
Withdrawals and distribution	17.1 Exploitation of water resources including water supply and distribution	18.1 Exploitation of natural forest areas (as a resource and not as a habitat)	19.1 Exploitation of wild flora and fauna stocks	20.1 Exploitation of the stocks of non-renewable energy sources	21.1 Exploitation of mineral stocks	
Exploration	17.2 Exploration and development of water resources	18.2 Exploration of natural forest areas	19.2 Exploration and research of new reserves	20.2 Exploration and discovery of new fossil energy reserves	21.2 Exploration and discovery of new mineral reserves	

4. Explanatory notes of RM and RU groups of CEA

Table 10 RM group of CEA – Explanatory notes

Code	Description	Explanatory notes/Examples
10	Management of water resources	All the activities and actions aiming at minimising the intake of water resources through in-process modifications as well as reuse, recycling, savings and the use of substitutes of fresh water resources. Activities aiming at the replenishment of water stocks are included. All the activities and actions concerning measurement, control, laboratories and the like are also included as well as education, training and information and administration and regulation activities. Exploitation, exploration and distribution activities are excluded and included in the RU group → CEA 17.
10.1	Reduction of the intake of water resources	Reduction of the intake through in-process modifications related to the reduction of the water input for the production process. It includes all the kinds of replacement or adjustment of production processes aiming at reducing the water input needed for producing a certain output. De-salinisation of sea water is included.
10.2	Reduction of water losses and leaks, water reuse and savings	Reduction of water use through the reduction of water losses and leaks, the installation of facilities for water reuse and savings, etc.
10.3	Replenishment of water stocks	Increase of water available in water stocks. The following activities are included: recharge of groundwater bodies to increase/restore water stocks (not to improve water quality or fight salinity → CEA 4.4); land improvement, development of vegetal cover in order to increase water infiltration and recharge phreatic water bodies (not for the protection of soil against erosion → CEA 4.3).
10.4	Measurement, control, laboratories and the like related to water resources	Activities aimed at measuring, controlling and monitoring the use and the level of water stocks. The following activities are excluded: measurement, monitor and control of the concentration of pollutants in wastewater and the quality of the inland water and marine water at the place wastewater is discharged → CEA 2.5; measurement, monitor and control of the quality of surface and ground water → CEA 4.5.
10.5	Other activities for the management of water resources	All other activities and measures aimed at the management of water resources. It includes regulation, administration, education, training and information 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 of the RM group. It includes for example: information campaigns to encourage water savings; release of licences for water abstraction; General Government units or part thereof which administrate and regulate the use of water resources or are responsible for water saving policies. It excludes public or private bodies which carry out e.g. water abstraction, conduction and distribution activities which are included in the RU group → CEA 17.
11	Management of natural forest resources	All the activities and actions aiming at minimising the intake of natural forest resources through in-process modifications as well as recovery, reuse, recycling, savings and the use of substitutes of forest products. Replenishment activities like reforestation and afforestation are included when concern natural forest. All the activities and actions concerning measurement, control, laboratories and the like are also included as well as education, training and information and administration and regulation activities. Exploitation and exploration activities of natural forest areas are excluded and included in the RU group → CEA 18. Natural forests are virgin forests and, in general, non-cultivated forests. All the activities and actions related to cultivated forests are excluded.
11.1	Reduction of the intake of natural forest resources	Reduction of the intake through in-process modifications related to the reduction of the input of forest resources for the production process. It includes all the kinds of replacement or adjustment of production processes aiming at reducing the input of forest (wood and non wood)-related products needed for producing a certain output. The substitution of forest products with other material and substances is included.
11.2	Reduction of the consumption of forest (wood and non wood)-related products	Recycling, reuse or savings of forest products and by-products (wood, paper, etc.).
11.3	Reforestation and afforestation	Replenishment of existing natural wooded areas or development of new wooded areas.
11.4	Forest fires	Prevention and control of natural forest fires (concerning forest areas relevant mainly as economic resource and not as habitats → CEA 6.2). It includes for example: development of fireballs, mobilisation of fire fighting means or measures aimed at the prevention of fires in forest areas.
11.5	Measurement, control, laboratories and the like related to natural forest resources	Activities aimed at measuring, controlling and monitoring the use and the consistency of forest resource stocks. It includes for example inventories and assessments of forest resources. Measurement, controlling and monitoring activities related to the protection of biodiversity and landscape are excluded like e.g. inventories of flora and fauna species living in natural forest areas → CEA 6.1 and census of natural forest protected areas → CEA 6.2.
11.6	Other activities for the management of natural forest resources	All other activities and measures aimed at the management of natural forest resources. It includes regulation, administration, education, training and information 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 of the RM group. It includes for example: the release of logging licences; General Government units or part thereof which administrate and regulate the use of natural forest resources or are responsible for forest management policies. It excludes public or private bodies which carry out exploitation and exploration activities which are included in the RU group → CEA 18.
12	Management of wild flora and fauna	All the activities and actions aiming at minimising the intake of wild flora and fauna resources through in-process modifications as well as the use of alternative resources and any other kind of measure.

Code	Description	Explanatory notes/Examples
		<p>Replenishment activities like repopulation of wild flora and fauna stocks are included when aiming at maintaining/increasing the consistency of stocks (not the biodiversity → CEA 6). All the activities and actions concerning measurement, control, laboratories and the like are also included as well as education, training and information and administration and regulation activities. Management and exploitation of wild flora and fauna reserves are excluded and included in the RU group → CEA 19.</p> <p>Wild flora and fauna are stocks and reserves of non-cultivated animals and plants. The class includes all the activities and actions with the purpose of managing, maintaining and increasing the stock of wild flora and fauna. The protection of biodiversity of wild flora and fauna is excluded (→ CEA 6).</p>
12.1	Reduction of the intake of wild flora and fauna	<p>Reduction of the intake through in-process modifications. It includes all the kinds of replacement or adjustment of production processes aiming at reducing the input of wild flora and fauna resources needed for producing a certain output. It includes for example vessel buy-back programmes for the introduction of more efficient fishing fleets and equipments.</p> <p>The use of alternative resources is included, i.e. the use of renewable resources or the substitution of natural inputs with alternative inputs.</p>
12.2	Replenishment of wild flora and fauna stocks	Increase of the number of individuals of wild flora and fauna stocks. It includes for example breeding for the replenishment of stocks for fishing or hunting (for restocking purposes and not for protection of biodiversity → CEA 6.1).
12.3	Measurement, control, laboratories and the like related to wild flora and fauna	Activities aimed at measuring, controlling and monitoring the use and the consistency of wild flora and fauna stocks. It includes for example: inventories and assessment of wild fauna stocks; control on the observance of licences, quotas, temporary or permanent fishing/hunting bans. Measurement, controlling and monitoring activities related to the protection of biodiversity and landscape are excluded like e.g. inventories of flora and fauna threatened species → CEA 6.1.
12.4	Other activities for the management of wild flora and fauna	All other activities and measures aimed at the management of wild flora and fauna resources. It includes regulation, administration, education, training and information 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 of the RM group. It includes for example: release of fishing and hunting licences, enforcement and administration of quotas, enforcement and regulation of temporary or permanent fishing/hunting bans; General Government units or part thereof which administrate and regulate the exploitation of wild flora and fauna resources or are responsible for wild flora and fauna management policies. It excludes public or private bodies which carry out the management and exploitation of wild flora and fauna reserves which are included in the RU group → CEA 19.
13	Management of fossil energy	All the activities and actions aiming at minimising the intake of fossil energy resources through in-process modifications as well as savings, the production of energy from renewable sources and any other kind of measure. All the activities and actions concerning measurement, control, laboratories and the like are also included as well as education, training and information and administration and regulation activities. Exploitation of fossil energy stocks as well as exploration and discovery of new reserves are excluded and included in the RU group → CEA 20.
13.1	Reduction of the intake of fossil energy	<p>Reduction of the intake through in-process modifications related to the reduction of the input of non-renewable energy sources for the production process. It includes all the kinds of replacement or adjustment of production processes aiming at reducing the input of energy resources needed for producing a certain output.</p> <p>This category includes the production of energy from renewable sources when it has the primary purpose of reducing the exploitation of non-renewable energy sources (the production of energy from renewable sources mainly aimed at reducing air pollution is excluded → CEA 1.1). All kinds of renewables are included according to the International Energy Agency definition of renewables, i.e. hydropower, solar, wind, tidal, biogas, geothermal or biomass sources as well as the production of energy from the combustion of any kind of waste (the incineration of waste carried out for the main purpose of waste treatment and disposal is excluded → CEA 3.3 or 3.4).</p>
13.2	Reduction of heat and energy losses, and energy savings	Reduction of the use of non-renewable energy sources through the minimisation of heat and energy losses and through energy savings (energy savings mainly aimed at reducing air pollution is excluded → CEA 1.1).
13.3	Measurement, control, laboratories and the like related to fossil energy	Activities aimed at measuring, controlling and monitoring the use and the consistency of fossil energy stocks as well as the production of energy from renewable sources. It includes for example: assessment and reassessment of existing reserves; assessment of the importance of the production of energy from renewable sources on total energy production.
13.4	Other activities for the management of fossil energy	All other activities and measures aimed at the management of energy resources. It includes regulation, administration, education, training and information 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 of the RM group. It includes for example: release of licences for energy sources abstraction; General Government units or part thereof which administrate and regulate the exploitation of energy resources or are responsible for energy savings policies. It excludes public or private bodies which manage, exploit and explore energy reserves which are included in the RU group → CEA 20.
14	Management of minerals	All the activities and actions aiming at minimising the intake of mineral resources through in-process modifications as well as recovery, reuse, recycling, savings and the use of substitutes mineral resources. All the activities and actions concerning measurement, control, laboratories and the like are also included as well as education, training and information and administration and regulation activities. Exploitation of mineral resources as well as exploration and discovery of new reserves are excluded and included in the RU group → CEA 21.
14.1	Reduction of the intake of minerals	Reduction of the intake through in-process modifications related to the reduction of the raw material input for the production process or the consumption or use of resource-efficient products.
14.2	Reduction of minerals use	Production and use of secondary raw materials or final products obtained from recovered and recycled

Code	Description	Explanatory notes/Examples
	through the reduction of scraps and the production and consumption of recycled materials and products	materials and waste. It includes for example: processing of waste and scrap into a form which is readily transformed into new raw materials, production of recycled goods (recycling activities insofar as they constitute waste collection, transport, treatment or disposal activities are excluded → CEA 3.2, 3.3 and 3.4)
14.3	Measurement, control, laboratories and the like related to minerals	Activities aimed at measuring, controlling and monitoring the use and the consistency of mineral stocks. It includes for example: inventories and assessment of mineral stocks.
14.4	Other activities for the management of minerals	All other activities and measures aimed at the management of mineral resources. It includes regulation, administration, education, training and information 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 of the RM group. It includes for example: release of licences for mining and quarrying activities; General Government units or part thereof which administrate and regulate the exploitation of mineral resources or are responsible for material savings and recycling policies. It excludes public or private bodies which manage, exploit and explore mineral reserves which are included in the RU group → CEA 21.
15	Research and development activities for natural resource management	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 in the field of natural resource management and savings. Excluded are R&D activities related to environmental protection → CEA 8
15.1	Water resources	R&D activities exclusively related to water resources
15.2	Natural forest resources	R&D activities exclusively related to natural forest resources
15.3	Wild flora and fauna	R&D activities exclusively related to wild flora and fauna resources
15.4	Fossil energy	R&D activities exclusively related to energy sources (non-renewable and renewable)
15.5	Minerals	R&D activities exclusively related to minerals
15.6	Other R&D activities for natural resource management	Other R&D activities concerning other natural resources (not specified)
16.	Other natural resource management activities	
16.1	General administration of natural resources	Any identifiable activity that is directed at the general support of decisions taken in the context of natural resource management whether by governmental or by non-governmental units.
16.1.1	General administration, 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 natural resource management activities. When possible such activities should be allocated to CEA classes 10-14 (within the "other activities..." category). If this is impossible, they should be included under this position of the classification. If the general administration activities concern both environmental protection and management of natural resources, they should be broken down between this position and the corresponding CEA category of the EP group (→ CEA 9.1.1). If this is impossible, they should be classified in this position or alternatively in the one of the EP group according to the "main purpose" criterion; if this is impossible as well, they should be classified within the corresponding category of the EP group (→ CEA 9.1.1)
16.1.2	Environmental management	Any identifiable activity of corporations that is directed at the general support of decisions taken in the context of natural resource management 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 CEA classes 10-14 (within the "other activities..." category). If this is impossible, they should be included under this position of the classification. If the general administration activities concern both environmental protection and management of natural resources, they should be broken down between this position and the corresponding category of the EP group (→ CEA 9.1.2). If this is impossible, they should be classified in this position or alternatively in the one of the EP group according to the "main purpose" criterion; if this is impossible as well, they should be classified within the corresponding category of the EP group (→ CEA 9.1.2)
16.2	Education, training and information	Activities that aim at providing general environmental education or training and disseminating information on natural resource management. Included are high school programs, university degrees or special courses specifically aimed at training for natural resource management. Activities such as the production of environmental reports, environmental communication, etc. are also included. When possible such activities should be allocated to CEA classes 10-14 (within the "other activities..." category). If this is impossible, they should be included under this position of the classification. If the general education, training and information activities concern both environmental protection and management of natural resources, they should be broken down between this position and the corresponding category of the EP group (→ CEA 9.2). If this is impossible, they should be classified in this position or alternatively in the one of the EP group according to the "main purpose" criterion; if this is impossible as well, they should be classified within the corresponding category of the EP group (→ CEA 9.2).
16.3	Activities leading to indivisible expenditure	Natural resource management activities that lead to indivisible expenditure, i.e. which cannot be allocated to any other class of the RM group.
16.4	Activities not elsewhere classified	This position groups together all the natural resource management activities that cannot be classified under other positions of the RM group

Table 11 RU group of CEA – Explanatory notes

Code	Description	Explanatory notes/Examples
17	Use of water resources	All the activities and actions aiming at the abstraction of water resources, including exploration and development of new reserves. Water supply and distribution is included. Activities and actions aimed at protecting water bodies against pollution are excluded and included in the EP group (→ CEA 2 and CEA 4). Activities and actions aiming at preserving the stocks of water resources against depletion phenomena are excluded and included in the RM group (→ CEA 10).
17.1	Exploitation of water resources including water supply and distribution	Exploitation, management and maintenance of water resources. Distribution of water. It includes for example water abstraction, conduction and distribution (waterworks), including water use for irrigation; lakes and reservoirs regulation; etc. The management and maintenance activities carried out by the public or private authorities in charge of the direct management and exploitation of water stocks are included, while the administration and regulation activities carried out by the General Government are excluded and included in the RM group → CEA 10.5.
17.2	Exploration and development of water resources	Exploration for new stocks. Development of new stocks (e.g. creation of new reservoirs).
18	Use of natural forest resources	All the activities and actions aiming at the harvesting of natural forests, including exploration for the use of forest areas previously not exploitable. Activities and actions aimed at protecting forest landscape and biodiversity are excluded and included in EP group (→ CEA 6). Activities and actions aiming at preserving the stocks of natural forests against depletion phenomena are excluded and included in the RM group (→ CEA 11). Natural forests are virgin forests and, in general, non-cultivated forests. All the activities and actions related to cultivated forests are excluded.
18.1	Exploitation of natural forest areas (as a resource and not as a habitat)	Exploitation, management and maintenance of natural forest areas. The management and maintenance activities carried out by the public or private authorities in charge of the direct management and exploitation of natural forest are included, while the administration and regulation activities carried out by the General Government are excluded and included in the RM group → CEA 11.6. Examples: management and maintenance of non-cultivated forest areas available for felling and logging activities (except for reforestation and afforestation activities → CEA 11.3); monitoring and control activities carried out by forest rangers on forest areas as economic resources (not to protect forest habitats or the biodiversity of flora and fauna species living in forest areas → CEA 6.1 or 6.2).
18.2	Exploration of natural forest areas	Exploration for the use of forest areas previously not exploitable.
19	Use of wild flora and fauna	All the activities and actions with the purpose of using the stock of wild flora and fauna. The protection of biodiversity of wild flora and fauna is excluded (→ CEA 6) as well as the management of the stocks of wild flora and fauna (→ CEA 12). Wild flora and fauna are stocks and reserves of non-cultivated animals and plants.
19.1	Exploitation of wild flora and fauna stocks	Exploitation, management and maintenance of wild flora and fauna stocks. The management and maintenance activities carried out by the public or private authorities in charge of the direct management and exploitation of wild flora and fauna stocks are included, while the administration and regulation activities carried out by the General Government are excluded and included in the RM group → CEA 12.4. Examples: management of fish and game reserves.
19.2	Exploration and research of new reserves	Exploration and research activities for identifying/localizing reserves of wild flora and fauna previously unknown or not exploitable/exploited.
20	Use of fossil energy	All activities and actions aiming at the management and exploitation of fossil energy stocks as well as exploration and discovery of new reserves. Distribution of electricity is excluded. Activities and actions aiming at preserving the stocks of fossil energy against depletion phenomena are excluded and included in the RM group (→ CEA 13).
20.1	Exploitation of the stocks of non-renewable energy sources	Exploitation, management and maintenance of the stocks of non-renewable energy sources. The management and maintenance activities carried out by the public or private authorities in charge of the direct management, exploitation and exploration of energy reserves are included, while the administration and regulation activities carried out by the General Government are excluded and included in the RM group → CEA 13.4.
20.2	Exploration and discovery of new fossil energy reserves	Exploration and discovery of new reserves.
21	Use of minerals	All activities and actions aiming at the management and exploitation of mineral resources as well as exploration and discovery of new reserves. Activities and actions aiming at preserving the stocks of mineral against depletion phenomena are excluded and included in the RM group (→ CEA 14).
21.1	Exploitation of mineral stocks	Exploitation, management and maintenance of the stocks of mineral resources; management of quarrying sites (activities for the rehabilitation of abandoned mining and quarrying sites are excluded → CEA 6.2). The management and maintenance activities carried out by the public or private authorities in charge of the direct management, exploitation and exploration of mineral stocks are included, while the administration and regulation activities carried out by the General Government are excluded and included in the RM group → CEA 14.4.
21.2	Exploration and discovery of new mineral reserves	Exploration and discovery of new reserves.

5. Correspondences with other classifications

Table 12 Correspondences between CEA and other classifications of environmental activities and expenditures

CEA – Classification of Environmental Activities and expenditures		Other classification of environmental activities and expenditures		
Code	Description	CEPA 2000 ^(*)	CReMA 2008 ^(**)	Draft CRUMA 2009 ^(***)
1	Protection of ambient air and climate	CEPA 1		
2	Wastewater management	CEPA 2		
3	Waste management	CEPA 3		
4	Protection and remediation of soil, groundwater and surface water	CEPA 4		
5	Noise and vibration abatement (excluding workplace protection)	CEPA 5		
6	Protection of biodiversity and landscapes	CEPA 6		
7	Protection against radiation (excluding external safety)	CEPA 7		
8	Research and development for environmental protection	CEPA 8		
9	Other environmental protection activities for environmental protection	CEPA 9		
10	Management of water resources		CReMA 10	
10.1	Reduction of the intake of water resources		CReMA 10	CRUMA 10.1
10.2	Reduction of water losses and leaks, water reuse and savings		CReMA 10	CRUMA 10.2
10.3	Replenishment of water stocks		CReMA 10	CRUMA 10.3
10.4	Measurement, control, laboratories and the like related to water resources		CReMA 10	CRUMA 10.5
10.5	Other activities for the management of water resources		CReMA 10	CRUMA 10.6
11	Management of natural forest resources		CReMA 11	
11.1	Reduction of the intake of natural forest resources		CReMA 11A	CRUMA 11.1
11.2	Reduction of the consumption of forest (wood and non wood)-related products		CReMA 11A	CRUMA 11.2
11.3	Reforestation and afforestation		CReMA 11B	CRUMA 11.3
11.4	Forest fires		CReMA 11B	CRUMA 11.4
11.5	Measurement, control, laboratories and the like related to natural forest resources		CReMA 11B	CRUMA 11.6
11.6	Other activities for the management of natural forest resources		CReMA 11B	CRUMA 11.7
12	Management of wild flora and fauna		CReMA 12	
12.1	Reduction of the intake of wild flora and fauna		CReMA 12	CRUMA 12.1
12.2	Replenishment of wild flora and fauna stocks		CReMA 12	CRUMA 12.2
12.3	Measurement, control, laboratories and the like related to wild flora and fauna		CReMA 12	CRUMA 12.4
12.4	Other activities for the management of wild flora and fauna		CReMA 12	CRUMA 12.5
13	Management of fossil energy		CReMA 13	
13.1	Reduction of the intake of fossil energy		CReMA 13A CReMA 13B CReMA 13C	CRUMA 13.1
13.2	Reduction of heat and energy losses, and energy savings		CReMA 13B CReMA 13C	CRUMA 13.2
13.3	Measurement, control, laboratories and the like related to fossil energy		CReMA 13B CReMA 13C	CRUMA 13.4
13.4	Other activities for the management of fossil energy		CReMA 13B CReMA 13C	CRUMA 13.5
14	Management of minerals		CReMA 14	
14.1	Reduction of the intake of minerals		CReMA 14	CRUMA 14.1
14.2	Reduction of minerals use through the reduction of scraps and the production and consumption of recycled materials and products		CReMA 14	CRUMA 14.2
14.3	Measurement, control, laboratories and the like related to minerals		CReMA 14	CRUMA 14.4
14.4	Other activities for the management of minerals		CReMA 14	CRUMA 14.5
15	Research and development activities for natural resource management		CReMA 15	CRUMA 15
16.	Other natural resource management activities		CReMA 16	CRUMA 16
17	Use of water resources			CRUMA 10.4
18	Use of natural forest resources			CRUMA 11.5
19	Use of wild flora and fauna			CRUMA 12.3
20	Use of fossil energy			CRUMA 13.3
21	Use of minerals			CRUMA 14.3

(*) Classification of Environmental Protection Activities and expenditures – CEPA2000, Eurostat 2002, “SERIEE Environmental Protection Expenditure Accounts - Compilation Guide”, http://epp.eurostat.ec.europa.eu/portal/page/portal/environmental_accounts/documents/6.pdf

(**) Classification of Resource Management Activities – CReMA2008, Eurostat (2009), “The Environmental Goods and Services Sector”, http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-RA-09-012/EN/KS-RA-09-012-EN.PDF

(***) Draft Classification of Resource Use and Management Activities and expenditures – draft CRUMA2009, UNSD (2010), SEEA Revision, Outcome Paper for Global Consultation - Issue #9: Classification of natural resource use and management activities and expenditures, <http://unstats.un.org/unsd/envaccounting/seerev/OCdocs/Outcome9.pdf>