



EUROPEAN COMMISSION  
EUROSTAT

Directorate E: Sectoral and regional statistics  
**Unit E-2: Environmental statistics and accounts; sustainable development**

# *Progress on the classification of environmental activities*

**London Group on Environmental Accounting**

**Meeting of 26 to 29 September 2022**

**Bonn, Germany**

**Abstract:** Eurostat is leading a revision of the classification of environmental protection activities (CEPA) and its transformation into an integrated functional classification of environmental activities (CEA), including also resource management. The advancement of this work has been discussed since 2018 in the London Group. This work is very advanced and Eurostat seeks to finalise it in 2023.

This paper presents a fully developed version of the structure of a new integrated classification of environmental activities, as presented for a first discussion in the SEEA Technical Committee CF in June 2022, and draft explanatory notes.

The London Group will be asked for comments in the view of the finalisation of the work and the preparation for submission of the classification to the UN Statistical Commission for its adoption as international classification.

## 1. Purpose and structure of the document

This document informs the London Group of experts on environmental accounting and seeks comments on the progress on the development of a classification of environmental activities ('CEA'). The advancement of this work, led by Eurostat, has been discussed since 2018 in the London Group and were presented at SEEA CF Technical Committee (9 June 2022 meeting) and UN Committee of Experts on Environmental-Economic Accounting (27-28 September meeting 2022)

The work is moved forward mostly in Europe, with discussions in the Eurostat Working Group on Monetary Environmental Statistics and Accounts ('MESA WG') and a dedicated Eurostat task force on the classification of environmental activities (hereinafter referred to as Task Force or TF).

The current state of advancement is as follows: there is a fully developed version of the structure of a new integrated, resulting from analyses and discussions in the groups named above, plus a work-in-progress version of the explanatory notes.

The classification CEA is based on the pre-existing classifications CEPA and CReMA, the former covering environmental protection and the latter resource management. Only CEPA has the status of international classification. CEPA is annexed to the SEEA CF. CReMA is used at the European level for the mandatory reporting of the environmental goods and services sector account (EGSS), as set out in Regulation (EU) N° 691/2011<sup>1</sup>. Once adopted, CEA will overrule CEPA and CReMA.

Section 2 provides some background information; Section 3 presents next steps in the process.

The **Annexes** include:

- **Annex 1:** introductory guidelines containing the main concepts for understanding and applying the classification;
- **Annex 2:** last version of the proposal for the structure of the integrated classification of environmental activities;
- **Annex 3** (*excel file 'CEA\_explanatory\_notes\_draft\_v2'*): explanatory notes to the integrated classification.

## 2. Background information

The purpose of the review was to update a classification used in Europe in several environmental accounts data collections, clarifying descriptions of the concepts and providing operational rules on the recording of specific transactions, raise the status of the classification, or part of the classification, on resource management (CReMA) to the status of CEPA. In the long run, the purpose of the revision was to integrate environmental protection and resource management into an integrated classification of environmental activities, with up-to-date explanatory notes and guidance for the data compilers, to propose a comprehensive integrated functional classification for monetary environmental accounts, and also to move forward the items on classifications of environmental activities and development of resource management

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<sup>1</sup> See Regulation (EU) No 691/2011, Annex V as emended by [Commission delegated regulation 2022/125](#).

expenditure accounts of the System of Environmental Economic Accounting Central Framework research agenda<sup>2</sup>, for which Eurostat has been the lead agency.

Eurostat established a task force of European countries to assist in the review of the classification of environmental activities (CEA) in 2017. In June 2018 meeting, the Task Force<sup>3</sup> discussed alternative versions of an integrated classification of environmental activities: several proposals disregarded the environmental protection ('EP') and resource management ('RM') as a key distinguishing criterion in environmental classification activities, and one proposal retained the split into environmental protection and resource management and envisaged only changes to resource management classification. In May 2020, Eurostat on behalf of the CEA TF presented to the MESA WG two alternative versions of a possible new classification structure, seeking advice on which proposal should be further developed<sup>4</sup>.

Eurostat presented progress to the London Group expert and discussed in meetings since 2018. In 2018 (Dublin meeting) the LG discussed strategic decisions for the review. In 2019 (Melbourne meeting) there were discussions about two possible structures and borderline cases (energy storage, construction of energy-efficient buildings). In the 2020 online meeting the LG provided input for two alternative structures and provided input on specific decisions about recording of management of energy resources, 'greening of brown activities' and measurement of green investments. In the 2021 online meeting, the LG provided comments on the draft structure of CEA and contribute to the process of the review of the list of environmental economic activities and environmental products.

Resulting from this body of input, it was decided to establish a classification structure disregarding the split between EP and RM at the first level. This approach better satisfies the needs of:

- users, more and more oriented towards environmental theme in their whole aspect without making reference to a strict distinction between environmental protection and resource management;
- and compilers, given that in some cases it could be very difficult to establish clear borders between environmental protection and resource management.

It is also clear the need to secure a clear bridge between the integrated classification and the existing structure of classification of environmental protection activities (CEPA) and classification of resource management activities (CREMA), thus ensuring also consistency of data over time. This is particularly important in Europe to preserve data time series built over the last decade, in particular about products and activities of the environmental sector (EGSS account), environmental expenditure (EPEA account) and environmental subsidies (ESST account).

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<sup>2</sup> [https://seea.un.org/sites/seea.un.org/files/research\\_agenda\\_seea\\_cf\\_2018\\_2.pdf](https://seea.un.org/sites/seea.un.org/files/research_agenda_seea_cf_2018_2.pdf)

<sup>3</sup> The first meeting of the Task Force took place in Luxembourg on 14-15 September 2017. The Task Force has 10 members (Eurostat + National statistical offices from 9 EU Member States) and since October 2019, the European Commission DG Environment participates too

<sup>4</sup> See doc "Integrated CEA classification – TF proposal for the structure of a future classification of environmental activities" available at [Circabc \(europa.eu\)](https://circabc.europa.eu)

In 2022 the consolidated proposal of integrated classification presented by Eurostat, on behalf of the CEA TF, received a large support from EU countries through the MESA WG

As follow up of MESA WG feedback and of written consultation within the TF on outstanding questions impacting on the structure of the classification, in July 2022, Eurostat fine-tuned the proposal of integrated classification and prepared an updated version of the associated explanatory notes: they are presented in **Annex 2** and **Annex 3** respectively.

### 3. Next steps

Eurostat and the Task Force made substantial progress on the integrated classification and the associated explanatory notes.

The updated version draft of the explanatory notes will be presented at the next Task Force meeting (8-9 September).

In the view of including in the discussion non-EU countries and the global community of environmental accountants, Eurostat presents this work in the London Group meeting to inform on the progress and collect comments by 14<sup>th</sup> of October.

The discussions has been also extended to reach the SEEA CF technical committee and the UN Committee of Experts on International Statistical Classifications. The latter must adopt the classification for it to get the status of international classification.

The next steps are as follows:

- September 2022:
  - discussion on the updated version of explanatory notes in the context of European Task Force;
  - report progress to the London Group. This version will already include an introduction about the principles and use of the classification, the draft structure and draft explanatory notes;
- October 2022: first discussion in the UN Committee of Experts on International Statistical Classifications;
- November 2022: global consultation run by UNSD Environmental Economic Accounting Section as Secretariat of the UNCEEA;
- Winter 2022-2023: summary of the results of the global consultation are presented at the technical committee central framework (TC CF) and UN Committee on Classifications (or the Bureau);
- January/February 2023: submission to the UN Statistical Commission.

## Annex 1

### Introduction to classification of environmental activities (CEA)

#### 1. Scope and characteristics

The Classification of Environmental Activities (CEA) is a generic, multi-purpose, functional classification used for classifying activities, products, expenditure and other transactions related to environmental protection and management of natural resource.

Environmental protection activities are defined as economic activities aimed at preventing, reducing and eliminating pollution or any other degradation of the environment. Also included are measures to restore the environment after it has been degraded. Resource management activities include the preservation, maintenance and enhancement of the stock of natural resources and therefore the safeguarding of those resources against depletion.

Environmental products include i) goods and services produced, designed and manufactured for purposes of environmental protection and management of natural resource (e.g. sewerage services and collection, treatment and disposal services for waste, equipment for renewable energy production), ii) cleaner and resource efficient products (e.g. electricity, gas and heat from renewable sources, the most efficient domestic appliances).

Environmental expenditure consists of the transactions related to environmental activities and products, e.g. inputs for environmental activities (energy, raw materials and other intermediate inputs, wages and salaries, taxes linked to production, consumption of fixed capital); investments; household expenditure on environmental products; transfers for environmental protection and management of natural resources (subsidies and other current transfers (e.g., regular payments to support international aid programmes), investment grants, international aid, taxes earmarked for environmental protection, etc.).

The CEA is based on the pre-existing functional classifications used for monetary environmental accounting:

- classification of environmental protection activities and expenditure (CEPA 2000);
- classification of resource management activities and expenditure (CReMA 2008).

The CEPA 2000 is an internationally agreed classification included in the family of international standard classification<sup>5</sup>.

The CReMA 2008 (or CReMA for short) has been developed by Eurostat and used in Europe for data collection and analysis of statistics on the Environmental Goods and Services Sector

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<sup>5</sup> The International Family of Classifications primarily contains those classifications that have been reviewed and approved as guidelines by the United Nations Statistical Commission or other competent intergovernmental bodies, covering broad statistical areas such as economics, demographics, labour, health, education, social welfare, geography, environment, and tourism, among others.

(EGSS)<sup>6</sup>. It includes activities and expenditures related to the management of natural resources, i.e. the preservation and maintenance of the stock of natural resources. The CReMA was built consistently with the structure and classification principles of the CEPA. Categories were built complementarily with CEPA and without overlapping with CEPA classes (the numbering of the CReMA classes follows the CEPA's one).

## **2. Classification purpose and structure**

### **Purpose**

The purpose of the classification of environmental activities is to offer an integrated framework, flexible enough to ensure the collection and reporting of data on environmental activities and transactions, and the organisation of the information according policy needs in the short, medium and long-term.

In this context, the following “principles” are at the basis of the classification’s design:

- the first level of classification should be informative and clear for the users about the specific environmental activities included, and ideally also their primary environmental purpose (commonly directly linking with one or a number of environmental policies);
- the breakdown at all levels (first, second and third) should ensure (as much as possible) symmetry across categories of a given classification detail in the availability of information, e.g. it should be avoided that similar type of activities (from the functional point of view, e.g. in-process modification) in one category are available at the third level split while in the other categories the same information is already relatively well defined at the second level breakdown.

### **Structure**

The level 1 structure of CEA (the 1-digits) are the CEA classes. CEA classes 1 to 7 are also called (environmental) domains.

At the first level split, the CEA groups together “homogeneous” environmental protection and/or resource management categories, i.e. categories that are linked together and represent borderline cases, such as for example in the case of activities related to biodiversity and forest, or air and energy (see Table 1).

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<sup>6</sup> See [Environmental goods and services sector accounts, Handbook, 2016 Edition](#).

**Table 1 – Classification of environmental activities - classes**

<b>1</b>	<b>Air, climate and energy</b>
<b>2</b>	<b>Wastewater and water resources</b>
<b>3</b>	<b>Waste and materials recovery</b>
<b>4</b>	<b>Soil, surface and groundwater, biodiversity and forest</b>
<b>5</b>	<b>Noise and radiation</b>
<b>6</b>	<b>Research and development</b>
<b>7</b>	<b>Cross-cutting and other activities</b>

CEA classes 6 and 7 include transversal activities, i.e. R&D and administration, management as well as education, training and information. Ideally administration and management as well as education, training and information activities should be classified by environmental domains. Since primary data sources often do not allow the split, they are re-grouped in CEA 7.

At the second level split the environmental protection or resource management categories are singled out. This split also ensures a bridge with CEPA and CReMA as separate classification and as used to classify environmental activities, products, expenditure and other transactions, so that time series reconciliation can be relatively easily established<sup>7</sup>.

At the third level split, in almost all cases, an extra level of granularity is offered with regard to the activities, actions, expenditures that are object of the classification (an exception is for materials recovery (CEA 3.2) where the third level split is based on material type).

The structure of the CEA classification has been designed to be flexible enough to accommodate policy and user needs of different international settings. National compilers can also consider to have further level of details to organize available information in their country and relevant for policy needs, by using additional level splits. E.g. the CEA 1.2.1 “Production of energy from renewable sources” can be further detailed by energy sources (wind, solar, etc...) or CEA 7.1 “General environmental administration, management, regulation, dissemination and consultancy” can be further detailed by environmental domains (waste, wastewater, air, etc...) by adding a fourth and a third level split respectively, to organise the possible available information at national level.

### **3. Classification criteria**

The CEA encompasses all activities, goods and services that have an environmental purpose, i.e. that have as primary purpose to prevent, reduce and eliminate pollution and other forms of degradation of the environment (e.g. treatment of waste and wastewater, protection of

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<sup>7</sup> This is particularly important in Europe to preserve data time series built over the last decade, in particular about products and activities of the environmental sector (EGSS account), environmental expenditure (EPEA account) and environmental subsidies (ESST account).

biodiversity), or to make more efficient use of natural resources, and hence safeguarding from depletion (e.g. recovery and substitution of natural resources, recharges of natural stocks).

The principal basis for determining the environmental purpose of an activity is the technical nature of the activities and produced goods and services. It determines whether or not the activity is suitable to reduce the pressure on the environment, through prevention, reduction and elimination of pollution or through the reduction of the use of natural resources, whatever the stated motivations and presumed or real effects are. By extension, activities that support the production and the use of environmental products (administration, education, training, information and communication services) as well as environmental research and development activities are also considered environmental activities.

From a statistical point of view, the technical nature is the most neutral basis for determining the environmental protection purpose. Indeed it allows checking the purpose of production activities by considering their suitability from a technical perspective for achieving the environmental purpose, whatever the motivation of the agent that performs it.

It should be also considered that, the purpose of an activity is different from the effect of an activity. Actions and activities undertaken for other than environmental purposes (e.g. human health) can have positive environmental effects; these activities are out of the CEA scope.

As for every functionally oriented classification, there is the possibility that a same activity could serve different environmental purposes in different countries (e.g. the purchase of double-glazed windows in warm countries will typically relate to issues of noise protection, whereas in colder countries they will be an energy saving device). In order to reduce the possible difficulties for the compiler and to have comparable statistics, some clarification, examples and operational rules have been added in the explanatory notes, in order to clarify and harmonize the classification of a number of activities that could lead to different interpretations by the compilers of statistics and accounts.

## Annex 2

### Proposal for the structure of the classification of environmental activities (CEA)

LEVEL I	LEVEL II	LEVEL III		Correspondence with current version of CEPA CReMA classifications
1	<b>Air, climate and energy</b>			CEPA1, CReMA13A, CReMA13B
	1.1	<b>Reduction and control of air emissions (excluding energy related measures)</b>		CEPA 1
		1.1.1	<i>Prevention of pollution</i>	
		1.1.2	<i>Treatment</i>	
		1.1.3	<i>Monitoring, measurement and similar</i>	
		1.1.4	<i>Other activities</i>	
	1.2	<b>Energy from renewable sources</b>		CReMA13A
		1.2.1	<i>Production of energy from renewable sources</i>	
		1.2.2	<i>Equipment and technologies for renewable energy</i>	
		1.2.3	<i>Supporting services for renewable energy</i>	
		1.2.4	<i>Monitoring, measurement and similar</i>	
	1.3	<b>Energy savings and management</b>		CReMA13B
		1.3.1	<i>Energy savings through in-process modifications</i>	
		1.3.2	<i>Energy efficient buildings; other efficient energy-demand technologies</i>	
		1.3.3	<i>Monitoring, measurement and similar</i>	
1.3.4		<i>Other activities</i>		
2	<b>Wastewater and water resources</b>			[Σ – sum of below]
	2.1	<b>Wastewater management</b>		CEPA2
		2.1.1	<i>Prevention of pollution</i>	
		2.1.2	<i>Sewerage networks</i>	
		2.1.3	<i>Wastewater treatment</i>	
		2.1.4	<i>Treatment of cooling water</i>	
		2.1.5	<i>Monitoring, measurement and similar</i>	
2.1.6	<i>Other activities</i>			

LEVEL I	LEVEL II	LEVEL III		Correspondence with current version of CEPA CReMA classifications
	<b>2.2</b>	<b>Water savings and management of natural water resources</b>		CReMA10
		2.2.1	<i>Reduction of the intake</i>	
		2.2.2	<i>Water reuse and savings, reduction of water losses and leaks</i>	
		2.2.3	<i>Replenishment of water resources</i>	
		2.2.4	<i>Monitoring, measurement and similar</i>	
		2.2.5	<i>Other activities</i>	
<b>3</b>	<b>Waste and materials recovery</b>			[Σ – sum of below]
	<b>3.1</b>	<b>Waste management</b>		CEPA3
		3.1.1	<i>Prevention of pollution</i>	
		3.1.2	<i>Collection and transport</i>	
		3.1.3	<i>Treatment and disposal of hazardous waste</i>	
		3.1.4	<i>Treatment and disposal of non-hazardous waste</i>	
		3.1.5	<i>Monitoring, measurement and similar</i>	
		3.1.6	<i>Other activities</i>	
	<b>3.2</b>	<b>Materials recovery</b>		[Σ – sum of below]
		3.2.1	<i>Wood and paper</i>	CReMA11B
		3.2.2	<i>Mineral (metal, stone, glass, ceramics, other)</i>	CReMA14
		3.2.3	<i>Plastic</i>	CReMA13C
		3.2.4	<i>Textiles</i>	No direct correspondent
		3.2.5	<i>Other materials</i>	No direct correspondent
		3.2.6	<i>Monitoring, measurement and similar</i>	CReMA11B, 13C, 14
		3.2.7	<i>Other activities (related to the recovery of materials)</i>	CReMA11B, 13C, 14
<b>4</b>	<b>Soil, surface and groundwater, biodiversity and forest</b>			CEPA6+CReMA12, CReMA 11A
	<b>4.1</b>	<b>Protection of soil, surface and groundwater</b>		CEPA4
		4.1.1	<i>Prevention of pollutant infiltration</i>	
		4.1.2	<i>Cleaning up of soil and water bodies</i>	
		4.1.3	<i>Protection from erosion and other physical degradation of soil and water</i>	
		4.1.4	<i>Prevention and remediation of soil and groundwater salinity</i>	
		4.1.5	<i>Monitoring, measurement and similar</i>	
		4.1.6	<i>Other activities</i>	

LEVEL I	LEVEL II	LEVEL III		Correspondence with current version of CEPA CReMA classifications
	4.2	<b>Protection of biodiversity and landscape</b>		CEPA6 + CReMA12 (consolidated in the current version of CEPA & CReMA)
		4.2.1	<i>Protection and rehabilitation of species and habitats</i>	
		4.2.2	<i>Protection of natural and semi-natural landscapes</i>	
		4.2.3	<i>Monitoring, measurement and similar</i>	
		4.2.4	<i>Other activities</i>	
	4.3	<b>Management of forest resources</b>		CReMA 11A
		4.3.1	<i>Reforestation and afforestation</i>	
		4.3.2	<i>Protection against forest fires</i>	
		4.3.3	<i>Monitoring, measurement and similar</i>	
		4.3.4	<i>Others activities</i>	
5	<b>Noise and radiation</b>			CEPA5, CEPA7
	5.1	<b>Protection against noise and vibration</b>		CEPA5
		5.1.1	<i>Prevention and reduction of noise and vibration</i>	
		5.1.2	<i>Monitoring, measurement and similar</i>	
		5.1.3	<i>Other activities</i>	
	5.2	<b>Protection against radiation</b>		CEPA 7
		5.2.1	<i>Protection of ambient media</i>	
		5.2.2	<i>Transport and treatment of high level radioactive waste</i>	
		5.2.3	<i>Monitoring, measurement and similar</i>	
		5.2.4	<i>Other activities</i>	
6	<b>Research and development</b>			[Σ – sum of below]
	6.1	<b>R&amp;D for air, climate and energy</b>		CEPA8.1, CReMA15
	6.2	<b>R&amp;D for waste and materials recovery</b>		CEPA8.3, CReMA15
	6.3	<b>R&amp;D for wastewater and water resources</b>		CEPA8.2, CReMA15
	6.4	<b>R&amp;D for soil, surface and groundwater, biodiversity and forest</b>		CEPA8.4, 8.6, CReMA15
	6.5	<b>R&amp;D for noise and radiation</b>		CEPA8.5, 8.7, CReMA15
7	<b>Cross-cutting and other activities</b>			[Σ – sum of below]
	7.1	<b>Environmental education and training</b>		CEPA9.1, CReMA16
	7.2	<b>General environmental administration, management, regulation, dissemination and consultancy</b>		CEPA9.2, CReMA16
	7.3	<b>Environmental activities not elsewhere classified</b>		CEPA9.4, CReMA16

## **Annex 3**

### **CEA explanatory notes**

*(Please see the excel file: CEA\_explanatory\_notes\_draft\_v2)*