



EUROPEAN COMMISSION
EUROSTAT

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

**Distinction between materials recovery
and waste management activities**

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Item 6

Eurostat – Unit E2

**Task Force on the classification of environmental activities
Meeting of 27 and 28 November 2018
BECH Building – Room B3/336**

Distinction between materials recovery and waste management activities

1. INTRODUCTION

Clarification of boundary cases is one of the most important short-term objectives of the Task Force.

Under this agenda item, the Task Force will discuss where to draw a boundary between materials recovery and waste management activities and under which CEPA/CRoMA to record relevant activities to ensure comparability of the monetary environmental accounts across countries. The basis for the discussion are findings from Eurostat's survey on the recording of materials recovery and related waste management activities run as a follow-up to the 2017 EGSS data validation round.

This document starts with recalling definitions and recommendations of the EGSS handbook relating to materials recovery. Subsequently, it presents results of the summer 2018 survey carried out by Eurostat on countries' practices. Next, based on the results of this survey and conclusions of June 2018 TF meeting, it highlights three main issues to prioritize in further TF discussions. For each of the issues, Eurostat raises questions for discussion and presents possible solutions.

Finally, conclusions are drawn and a possible way forward in short-term and long-term is proposed.

Task Force is invited to:

- **take note of and comment on the results of the survey on the recording of materials recovery and related waste management activities in country EGSS accounts,**
- **take note, and provide feedback on the “open issues” identified by Eurostat (par. 4) and solutions put forward to address the problems.**

In particular:

- **do you agree to prioritize the three issues pointed out in par. 4?**
- **take note of Eurostat’s review of related definitions in NACE and waste statistics and provide answers to questions raised (par. 4.1)**
- **comment on Eurostat’s proposals of definitions of “recycling” and express a preference which definition should be followed; propose alternative solutions (par. 4.1)**
- **comment on Eurostat’s proposals to classify waste recovery activities not “divisible” by type of waste (e.g. paper, plastic, steel,...) (par. 4.3)**
- **express their views on Eurostat’s proposal to compile a list of main materials and identify the stage in the production process where they should be recorded, align terminology and discuss whether they are able to record these data (See related agenda item – point 3, “3TF_CEA_3 Annex 2 - CRoMA explanatory notes” under CRoMA 11B).**

2. BACKGROUND INFORMATION

As concluded in the first Task Force meeting of September 2017, the classifications of environmental activities have major boundary issues. The existing guidelines seem to allow too much discretion as to how to record certain transactions and which products to include. A comparison of country data indicates countries are making different interpretations.

[EGSS Handbook](#) sets out that the material recovery services, in principle, fall under RM and are allocated to CReMA 11B (Minimisation of the intake of forest resources), CReMA 13C (Minimisation of the intake of fossil resources for raw materials for uses other than energy production) or CReMA 14 (Management of minerals), depending on the type of material recovered. The handbook acknowledges, however, that in certain cases the main purpose of material recovery activities is to avoid other forms of waste disposal. Such material recovery activities may then be allocated to CEPA 3 (Waste management).

Annex 6 of the handbook, introduce some operational rules. For boundary cases, the handbook recommends that recovery of materials or energy from waste:

1. **Should** be classified as resource management activity (under the CReMA 11B, 13B, or 14) if laws or programs (public or private) governing these activities mention resource management as their single main objective,
2. **May** be classified as resource management activity (under the CReMA 11B, 13B, or 14) if it can be demonstrated that the value of the recovered materials or compost (either sold or for own use) covers more than 90% of the costs of these activities on a multiannual average,
3. **Are to be** recorded as waste management activities in all other cases.

There are also some qualifications to this guidance in the event that existing data and modelling approaches do not permit separating out these activities from data on waste collection and treatment activities.

In addition to that, the [EGSS Handbook](#) excludes many downstream activities (using outputs of environmental activities as raw materials) from the scope of environmental activities on the grounds that they are not undertaken for EP or RM purposes. It explicitly states that:

'Although CReMA may be interpreted as including these activities, in this manual, following the indicative compendium products manufactured from recovered materials (e.g. paper made from recovered paper or steel made from recovered scrap) are not included in EGSS. The rationale is that paper and steel produced from recovered materials do not reduce as such the use of natural resources any more than the reduction already achieved due to the recovery of the paper and scrap. It is rather the recovery of the materials (production of secondary raw materials) that reduces the use of natural resources'.

The discussion during the Task Force meeting of 27 and 28 June 2018 highlighted different practices followed by countries to record and classify materials recovery activities. Apparently, this heterogeneity can be explained not only by different treatment in data source but also different interpretation of the guidance and problem with conceptual distinction between resource management and environmental protection in waste treatment and recovery.

Following the discussion on the EGSS compilation at the 2018 MESA WG meeting, Eurostat enquired about Member States' practices to distinguish between waste management and materials

recovery activities¹. To this end, Eurostat sent out a survey with a deadline for response set at end-July² requesting the following information:

1. *Do you compile data on materials recovery for EGSS?*
2. *If not, what is the reason preventing you from compiling these data?*
3. *If you do cover materials recovery, which activities and/or materials do you capture in your compilation?*
4. *If you do cover materials recovery, in which environmental domain(s) do you report on materials recovery in the EGSS questionnaire?*

CEPA 3,

CReMA 11B,

CReMA 13C,

CReMA 14,

Other CEPA/CReMA category (please specify)?

If possible, for each CEPA/CReMA category above, list the activities and/or materials covered.

The main findings from this survey are presented in the following paragraph.

3. RESULTS OF SURVEY ON THE RECORDING OF MATERIALS RECOVERY AND RELATED WASTE MANAGEMENT ACTIVITIES IN COUNTRY EGSS DATA

Eurostat received answers from 20 countries; the results are summarised in Table 1 annexed to this note.

The responses of data compilers highlight that:

- almost all countries, except SK, are in a position to compile some data on materials recovery;
- plastic, paper and metal are materials of which recovery is captured by almost 50% of countries; rubber, glass, wood and minerals have also a good coverage (in terms of number of countries compiling the data). Among “other” products we find metallurgical slag-based cement (ES, SI), cell, battery, accumulator, ink cartridges (PT).

In addition to activities classified in NACE 38 or products classified in CPA 38, at least two countries appear to capture the wholesale of secondary raw material and wholesale trade services of waste and scrap and retails sale of second-hand goods in stores. In this context, Eurostat reiterates that these activities fall outside the scope of the EGSS accounts and urges countries that cover the activities to correct their data for the next EGSS reporting round.

Moreover, some countries include some other activities and products, in particular:

- PT explains that it also includes 'recycling' and not only recovering. Specifically, PT covers in this context some activities from, and products manufactured by, NACE C division e.g.:
 - NACE 13.9 *Manufacture of made-up textile articles (from secondary raw materials);* Products – textile wastes recovered or recycled according to specific environmental questionnaire;
 - NACE 17 *Manufacture of paper and paper products (from secondary raw materials);*

¹ According to one of the of the action items from the 2018 meeting of the MESA Working Group '*National compilers can send after the meeting information: (i) on what activities and products they cover and what sources and methods they use to produce the EGSS data for water management and recycling, (ii) comments on other issues raised in Eurostat's progress report on EGSS.*

² Deadline extended until 24 August 2018.

- Products - waste and scrap of paper and paperboard recovered or recycled according to specific environmental questionnaire;
 - NACE 23 *Recycled glass*; Products – Recycled glass according to specific environmental questionnaire,....
- DK in their EGSS accounts covers also NACE categories whose output consist of products fully or partly based on recovered materials.

Eurostat has also noted the following specific points with regard to the data compilation and reporting:

- almost all countries have access to the detailed NACE 38 breakdown (into NACE 38.1 Waste collection, NACE 38.2 Waste treatment and disposal and NACE 38.3 Materials recovery), and, consequently, are in a position to identify the entities specializing in materials recovery (classified under NACE 38.3), whose activities they report under CReMA, whilst they report NACE 38.1 + NACE 38.2 under CEPA 3³;
- most countries are able to break down materials recovery by material and classify to CReMA 11B, CReMA 13C or CReMA 14 based on the type of material recovered;
- diverse data compilation approaches are followed when it is not possible to distinguish by the type of materials:
 - LT and EE report under CEPA 3
 - ES reports under CReMA 16
 - LU, NL and UK report under CReMA 14
 - SE reports under CReMA 13C all activities included in NACE 38.3 while recycled fibres are reported under CReMA 11.

4. KEY ISSUES FOR DISCUSSION BY THE TASK FORCE

The results of the survey and earlier discussions by the Task Force point out the need for:

- common and clear definitions of concepts related to “waste management process”, with particular reference to difference between recovery and recycling,
- detailed guidance on how to deal with downstream activity and products from secondary raw materials,
- recommendations about how to allocate (under which CEPA/CReMA class) materials recovery activities when available source data lacks the information for the split by type of material⁴.

The further discussion and clarification of the above points should in the very first place improve cross-country comparability of monetary environmental accounts data.

³ RO is the only country that reports NACE 38 as a whole under CEPA 3, but from next data collection they will separate and report NACE 38.3 in CReMA.

⁴ It needs to be underlined that this can only be considered as a 'last resort' and provisional solution before the relevant data sources have been secured.

4.1. PROBLEMS WITH DEFINITIONS AND TERMINOLOGY

At present, guidance on the waste management activities (CEPA3) and recovery activities (CReMA) in the handbooks and explanatory note for the environmental monetary accounts is based on the following definitions:

Concept	Description	CEPA/CReMA	Comments
Waste management	<p>Activities and measures aimed at the <u>prevention</u> of the generation of waste and <u>the reduction of its harmful effect</u> on the environment.</p> <p>Includes:</p> <ul style="list-style-type: none"> • 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. 	CEPA 3	-
Waste treatment	<p>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.</p> <p><u>Composting and recycling activities for the purpose of environmental protection are included.</u> 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 20 of ISIC/NACE (Manufacture of fertilisers and nitrogen compounds) is excluded.</p> <p><u>Treatment of hazardous waste</u> comprises the processes of physical/chemical treatment, thermal treatment, biological treatment, conditioning of wastes, and any other relevant treatment method.</p> <p><u>Treatment of non-hazardous waste</u> comprises the processes of physical/chemical treatment, incineration of waste, biological treatment, and any other treatment method (composting, recycling, etc.).</p>	CEPA 3	<p>Reference to composting and recycling activities should be dropped.</p> <p>Once the TF agree on how to define recycling operations, explanatory notes will be accordingly adjusted.</p>
Waste disposal	<p>final deposition of waste on or underground in controlled or uncontrolled fashion, in accordance with the sanitary, environmental or security requirements.</p> <p><u>Disposal of hazardous waste</u> comprises landfill, containment, underground disposal, dumping at sea, and any other relevant disposal method.</p> <p><u>Disposal of non-hazardous waste</u> comprises landfill, dumping at sea, and any other disposal method.</p>	CEPA 3	-
Waste recovery	<p>processing of metal and non-metal waste and scrap and other articles <u>into secondary raw materials, usually involving a mechanical or chemical transformation process.</u></p> <p>Also included is the recovery of materials from waste streams in the form of (1) <u>separating and sorting recoverable materials from non-hazardous waste streams (i.e. garbage)</u> or (2) the separating and sorting of commingled recoverable materials, such as paper, plastics, used beverage cans and metals, into distinct categories</p>	CReMA 11B, 13C or 14 according to the type of waste recovered	<p>The definition of recovery corresponds to NACE rev.2.</p> <p>Nace rev.2 mentions explicitly that class 38.31 excludes <i>the manufacture of new final products from secondary raw material.</i></p>

Some countries requested a **definition of recycling**, currently not provided in monetary environmental accounts even though references to this process are made in CEPA explanatory notes⁵. Given that depending on the interpretation of this term, different classification decisions might be made (impacting on the cross-country data comparability), it is necessary to clarify the **boundary line between recovery and recycling**. Eurostat agrees on the importance of this point and would like to discuss further with the Task Force.

Eurostat presents below an overview of definitions from NACE and Waste statistics that could be useful for discussion.

In **NACE rev.2** the following definitions are adopted:

Concept	Description	CEPA/CReMA	Comments
Waste collection (NACE group 38.1)	includes the collection of waste from households and businesses by means of refuse bins, wheeled bins, containers, etc. It includes collection of non-hazardous and hazardous waste e.g. waste from households, used batteries, used cooking oils and fats, waste oil from ships and used oil from garages, as well as construction and demolition waste.	CEPA 3	
Waste treatment and disposal (NACE group 38.2)	This group includes the disposal and treatment prior to disposal of various forms of waste by different means, such as treatment of organic waste with the aim of disposal; treatment and disposal of toxic live or dead animals and other contaminated waste; treatment and disposal of transition radioactive waste from hospitals, etc.; dumping of refuse on land or in water; burial or ploughing-under of refuse; disposal of used goods such as refrigerators to eliminate harmful waste; disposal of waste by incineration or combustion. Included is also energy recovery resulting from waste incineration process.	CEPA 3	
Materials recovery (NACE groups 38.3)	includes <u>dismantling of wrecks of any type (automobiles, ships, computers, televisions and other equipment) for materials recovery</u> (NACE class 38.31) and the processing of metal and non-metal waste and scrap and other articles into secondary raw materials, usually involving a mechanical or chemical transformation process (NACE class 38.32). Also included is the recovery of materials from waste streams in the form of (1) separating and sorting recoverable materials from non-hazardous waste streams (i.e. garbage) or (2) the separating and sorting of commingled recoverable materials, such as paper, plastics, used beverage cans and metals, into distinct categories.	CReMA 11B, 13c and 14 according to the type of waste recovered	As far as dismantling activities is concerned, CReMA explanatory notes still need an adjustments to explicitly mention all dismantling activities

NACE rev.2 doesn't refer to **recycling**⁶ activities.

⁶ NACE rev. 1.1. classified "recycling" activities under division 37. In NACE rev. 2 a new section E (Water supply; sewerage, waste management and remediation activities) has been created, which includes [...] and materials recovery activities, which largely correspond to NACE Rev.1.1 division 37. Also correspondence Table between the two version of NACE classification show that there is a perfect correspondence between NACE rev.2 group 38.3 and NACE rev.1.1 division 37.

In the **Directive 2008/98/EC on waste**⁷ (Waste Framework Directive – WFD) the following definitions are provided:

Concept	Description	CEPA/CReMA	Comments
Waste management	collection, transport, recovery and disposal of waste, including the supervision of such operations and the after-care of disposal sites, and including actions taken as a dealer or broker;.	CEPA3 and CReMA11B/13C/14	
Collection	gathering of waste, including the preliminary sorting and preliminary storage of waste for the purposes of transport to a waste treatment facility;	CEPA 3	
Treatment	means recovery or disposal operations, including preparation prior to recovery or disposal;	CEPA 3	
Recovery	means any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy. Recovery is divided into three sub-categories: preparing for re-use, recycling, and other recovery	CReMA11B/13C/14 according to type of waste (?) Some activities are outside the scope of monetary environmental accounts?	The treatment of the operations undertaken to 'prepare for re-use' and 'recycling' not clear. More information are needed
Preparing for re-use	checking, cleaning or repairing recovery operations, by which products or components of products that have become waste are prepared so that they can be re-used without any other pre-processing	outside the scope of monetary environmental accounts (?)	The treatment of the operations undertaken to 'prepare for re-use' not clear. More information are needed
Recycling	means any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations.	CReMA11B/13C/14 according to type of waste and activities out of the scope of environmental monetary accounts (?)	The treatment of the operations undertaken to 'recycling' not clear. More information are needed
Other recovery ⁸	any operation meeting the definition for 'recovery' under the WFD but failing to comply with the specific requirements for preparation for re-use or for recycling. Examples of other recovery operations are: <ul style="list-style-type: none"> • Incineration or co-incineration where the principal use of the waste is as a fuel or other means to generate energy. It is a waste management operation with energy recovery [...]. This contrasts with the incineration of waste without energy recovery, classified as a disposal operation [...]. • Backfilling operations meeting the recovery definition 	CReMA 13C/14	

⁷ Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32008L0098>)

⁸ Source of definition: non-binding guidelines to the Waste Framework Directive released by Eurostat http://ec.europa.eu/environment/waste/framework/pdf/guidance_doc.pdf

Based on this overview, Eurostat proposes possible interpretations of the concept ‘recycling’ are as followed:

#	Alternative definitions of recycling	Comments
1	Its scope is identical with the scope of 'recovery' according to its current definition	This approach would be in line with guidance in NACE where only the term recovery is used ⁹ Explanatory notes will have to be consequently updated and they will refer only to one term, i.e. 'recovery'.
2	It is one of the recovery operations	This proposal goes towards consistency with definitions used in Waste statistics. It requires: <ul style="list-style-type: none"> • a more in-depth analysis whether, and if yes, how to distinguish between “recycling” and 'preparing for re-use” (another waste statistics concept; for details, see above), • clarification of the links with NACE and CPA and • a wider revision of definition of waste management process as actually defined in explanatory note
3	Its scope goes beyond the concept of recovery	This proposal has as its point of departure the NACE rev 2 definition of what is excluded in recovery activities. “ <i>Waste recovery excludes manufacture of new final products from (whether or not self-manufactured) secondary raw materials, such as spinning yarn from garnetted stock, making pulp from paper waste, retreading tyres or production of metal from metal scrap, see corresponding classes in section C (Manufacturing)</i> ”. These activities could be referred to as “recycling” operation. The definition of recycling in such proposal includes downstream activities.

TF Members are asked to:

- **comment on these proposal and express their preference,**
- **propose possible alternative solutions.**

4.2.DOWNSTREAM ACTIVITIES AND PRODUCTS FROM SECONDARY RAW MATERIALS

The [EGSS Handbook](#) excludes products manufactured from recovered materials (e.g. paper made from recovered paper or steel made from recovered scrap) from EGSS scope.

In the TF meeting of 14 and 15 September 2017 Austria presented arguments for inclusion of 'downstream activities' within the scope of environmental activities, arguing that some activities that use secondary raw materials as inputs for production of non-environmental goods and services should be considered as resource management activities.

⁹ The term recycling is only used in class 27.51 Manufacture of electric domestic appliances: *it includes [...]ventilating or recycling hoods* and in class 46.77 Wholesale of waste and scrap: *it includes wholesale of metal and non-metal waste and scrap and materials for recycling [...]*

Estonia, providing answer to their practice to record materials recovery and other waste management, comments that *“material recovery and production of a new product from the recovered material are often realized by the same enterprise. In these cases it is often impossible to distinguish the materials recovery activity from the production of a good from this material. The inclusion of products made from recycled materials in EGSS should be reconsidered. These goods are a big part of the environmental market and are gaining more and more importance in countries across the world, especially since the concept of green economy is becoming more popular”*.

The issue about integration of “downstream activities” within the concept of environmental activities and the classification structure is for discussion in the current TF meeting under Agenda point 7, as follow-up of Action point 8 from the June 2018 TF meeting.

4.3.ALLOCATION OF MATERIALS RECOVERY ACTIVITIES

Different operational rules are followed by countries in classification of materials recovery when no information is available to split it by type of waste (paper, plastic, steel,...).

Given that the Member States have the legal obligation to report the relevant split, it is expected that in the long term the relevant data sources will be secured by the countries to estimate the breakdown of materials recovery operations by material. Still, before the improved data sources are in place, consistent operational rules are needed to increase data comparability.

Eurostat proposes for discussion the following options:

- **use of waste statistics data, e.g. data on waste recovered by waste category (paper, plastic, wood, textile,..) as a proxy to split monetary data**
- or, as a second-best**
- **classification of “indivisible” materials recovery activities under CReMA 14?**

5. CONCLUSIONS

Having examined the guidance, data, concepts and recording rules in related statistical domains and for related statistical classifications, Eurostat has identified a number of conceptual and practical questions for discussion with the Task Force. Some of the issues can already be solved in the short term. For the other, further discussion might be needed or they could be addressed by re-design, of the presentation of waste management and recovery activities in the new integrated classification of the environmental activities.

Based on the Task Force's feedback, Eurostat will also propose further modification to the text of the explanatory notes relating to CEPA3/CReMA11B/13C and 14 categories of the existing classification of environmental activities (CEPA/CReMA). Eurostat puts forward in this document no solutions for the recording of materials recovery services and secondary materials and products manufactured from recovered materials. The Task Force will need to address these issues under another point of its agenda or during its future meetings.

Annex

Table 1 : Overview of classification of materials recovery products by CEPA/CReMA class reported (ESTAT survey results)

CEPA/CReMA	Products	Country																	
		BE	BG	HR	DK	EE	FI	FR	LT	LU	NL	PO	PT	RO	SK	SI	ES	SE	UK
Management of minerals	recycled metals	x	x	x	x			x	x			x	x						
	recycled glass	x	x		x			x	x				x						
	recycled minerals				x			x											
	recycled stone	x																	
	recycled ceramics	x																	
	recycled polymers												x						
	recovered cement							x											
	recycled solder		x																
	iron, steel and ferro-alloys							x											
	basic iron and steel and ferro-alloys produced from iron and steel waste				x														
	recovered basic precious and other non-ferrous metals				x														
	recycled mixtures of slag and similar industrial waste products, whether or not incorporating pebbles, gravel, shingle and flint for construction use							x											