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Directorate E – Sectoral and regional statistics
E.2 – Environmental statistics and accounts; sustainable development

Annex

Classification of environmental purposes (CEP) and policy areas

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Annex: classification of environmental purposes and policy areas

One of the building principles of the CEP is to provide to policy makers and users an instrument to organise the available information according to their needs.

This Annex provides an example of how CEP “maps” specific relevant policy areas, in particular, **climate change mitigation, climate change adaptation, sustainable use and protection of water bodies, circular economy, pollution prevention and control, and protection and restoration of biodiversity and ecosystem**¹. Starting from a definition of this policy themes the table below shows the list of activities included/excluded or partially included in the CEP. Please consider that different definitions of one specific policy theme may exists and obviously, the definition chosen as starting point could imply slight changes in the correspondence with CEP.

¹ The policy areas refer to the six environmental objectives defined by the EU Taxonomy regulation. The Taxonomy Regulation was published in the Official Journal of the European Union on 22 June 2020 and entered into force on 12 July 2020. It has been implemented, together with the Sustainable Finance Disclosure Regulation (SFDR), to ensure equal competition and legal certainty for all companies operating within the EU. Both regulations follow the objectives of the Green Deal. In particular, the EU taxonomy regulation describes a framework to classify “green” or “sustainable” economic activities executed in the EU.

CLIMATE CHANGE MITIGATION

UNFCCC provides an internationally accepted definition of the concept of climate change mitigation: "Mitigation involves human interventions to reduce the emissions of greenhouse gases by sources or enhance their removal from the atmosphere by "sinks". A "sink" refers to forests, vegetation or soils that can reabsorb CO₂."

In the Eurostat Project "Economic Aspects of Circular Economy" - Identifying Economic Activities for Climate Change Mitigation activities (Prognos, DevStat, January 2022), five broad purpose types of economic activities for climate change mitigation have been distinguished and a list of climate change mitigation goods and services have been drafted².

Based on this list, a map of CEP has been produced and the results are shown in the summary table below³. Some CEP categories are fully included in the aggregate Climate change mitigation, whereas others are partially included. In the former case, the use of CEP to produce the aggregate is straightforward. In the latter case, for activities partially included, additional calculations are necessary, for instance calculating and applying shares to certain CEP categories or developing sub-categories beyond the 3rd CEP structure level with a view to disclose the parts relevant for climate change mitigation.

Furthermore, according to this project results, certain climate change mitigation activities are beyond the scope of SEEA CF, and thus they are not covered by CEP. They are the following activities:

- activities related to the production of crops for energy use;
- activities related to the transmission and distribution of energy;
- public transport as a whole; CEP includes electric and hybrid cars, buses and other cleaner and more efficient vehicles, including components and charging stations and other essential infrastructure for recharging electric road vehicles.

Those extra activities can be added to the CEP-based aggregate 'climate change mitigation', but the necessary estimates would be based on sources different from SEEA CF, such as energy and transport statistics.

² Project "Economic Aspects of Circular Economy" - Identifying Economic Activities for Climate Change Mitigation activities, Prognos, DevStat, January 2022, presented at 2022 Joint meeting of Working group environmental accounts and Working group monetary environmental statistics and accounts.

³ For CEP mapping the complete list of of climate change mitigation goods and services has been taken into account and not the short one drafted for the first implementation exercise.

CEP AGGREGATE: CLIMATE CHANGE MITIGATION

CCM activities	Description	Correspondence with CEP
Renewable Energy	Generation of electricity from renewable energy and biofuels; heat production from renewable energy; biofuels and biogas; etc.	<i>CEP 020101 Production of energy from renewable sources (fully included)</i>
	Production of specifically designed products for the generation of renewable energy, e.g. biomass boilers, biomass steam boiler, rotor blades for wind turbines, bio-gas storage; generators, turbogenerators and transformers for bioenergy powering, solar systems, geothermal deep and hydro powering; parts for wind turbines; fuel cells; hydropower turbines; etc.	<i>CEP 020102 Equipment and technologies for renewable energy (fully included)</i>
	Installation and maintenance of renewable energy production sites Planning and engineering services	<i>CEP 020103 Supporting services for renewable energy (fully included)</i>
	Renewable energy; economic efficiency analysis; services of data collection, environmental impact assessments planning, etc.	<i>CEP 020104 Monitoring and measurement of energy from renewable sources (fully included)</i>
	Renewable energy: planning and approval processes; education and training services.	<i>CEP 020199 Other activities for energy from renewable sources, n.e.c. (fully included)</i>
	Research and development for existing power plants, energy networks and technologies, new and advanced technologies.	<i>CEP 070201 R&D for renewables (fully included)</i>
	Production of biomass to be further processed into biofuels	Out of CEP scope
	Transmission and distribution of renewable energy (e.g. electricity distribution or switching equipment, electricity network expansion for renewable energy: cable poles, towers; etc.)	Out of CEP scope
Energy Efficiency	Production and cogeneration of Heat/cool from concentrated solar power, from geothermal energy, from bioenergy (Biomass, Biogas, Biofuels); production of heat/cool using waste Heat; pumped-storage hydropower stations; etc.	<i>CEP 020201 Energy savings through in-process modifications (fully included)</i>
	Thermal insulation; construction of new buildings designed to minimise energy use and carbon emissions; manufacture of mineral insulating materials; better insulating doors and windows; energetic refurbishment of existing buildings; etc.	<i>CEP 020202 Energy efficient buildings; other efficient energy-demand technologies (fully included)</i>
	Energy efficiency: energy measurement technology.	<i>CEP 020203 Monitoring and measurement for energy savings and management (fully included)</i>

CEP AGGREGATE: CLIMATE CHANGE MITIGATION (continued)

	Education and training services in energy efficiency.	<i>CEP 020299 Other activities for energy savings and management, n.e.c. (fully included)</i>
Fuel Switch and Public Transport	Fuel switch to electrification, hydrogen or other GHG-emission-free vehicle technologies.	Out of CEP scope
	Public mass transport is included as a widely acknowledged more energy efficient mode of transport compared to individual transport, as well as rail freight transport compared to road freight transport. Examples: e-vehicle technology, hydrogen heavy-goods vehicle technology, bicycles, e-bikes, public transport, rail transport, freight wagon, train operations.	<i>In general, transport is out of CEP scope.</i> <i>Electric and hybrid cars, buses and other cleaner and more efficient vehicles, including components; charging stations and other essential infrastructure for recharging electric road vehicles are included in CEP 010101</i> <i>Prevention of greenhouses gases emissions</i>
GHG Carbon Capture, Storage and Destruction	The category includes the production of technologies and specialised services operating carbon capture and storage and GHG destruction/treatment.	<i>CEP 010102 Treatment of greenhouse gases (fully included)</i>
GHG Removal by Sinks	Afforestation and reforestation activities.	<i>CEP 050301 Reforestation, afforestation and forest-related land management (partially included)</i>
	Energy crops for electricity and heat (Cultivation and harvest: e.g. corn, grain, rape) Energy crops for biofuels (Cultivation and harvest: e.g. corn, grain, rape).	Out of CEP scope

CLIMATE CHANGE ADAPTATION

As a general rule, climate change adaptation measures (e.g. disaster prevention activities dedicated to extreme weather events such as storms, heat waves, droughts, flood, etc.) are out of CEP scope, given that there is currently no commonly accepted definition on what economic activities of climate change adaptation constitute and, moreover, existing climate change adaptation approaches and concepts involve a broad spectrum of environmental, societal and economic aspects and not only environmental ones.

The IPCC defines climate change adaptation as "the process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effects."

The UNFCCC states "the term refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities."

The Taxonomy regulation, article 14, states that an economic activity shall qualify as contributing substantially to climate change adaptation where that activity:

(a) includes adaptation solutions that either substantially reduce the risk of the adverse impact of the current climate and the expected future climate on that economic activity or substantially reduce that adverse impact, without increasing the risk of an adverse impact on people, nature or assets; or

(b) provides adaptation solutions that, [...], contribute substantially to preventing or reducing the risk of the adverse impact of the current climate and the expected future climate on people, nature or assets, without increasing the risk of an adverse impact on other people, nature or assets.

In the Eurostat Project "Economic Aspects of Circular Economy" - Identifying Economic Activities for Climate Change Adaptation activities (Prognos, DevStat, April 2023), six broad purpose types of economic activities for climate change adaptation have been distinguished and a list of climate change adaptation goods and services have been drafted:

1. Hydrological events including floods, mass movements (subsidence, rockfall, avalanche, landslide). This category includes activities that produce specifically designed products to moderate or avoid harm from hydrological events occurring in inland waters, such as by floods and water-triggered mass movements, in response to actual or expected climatic stimuli from climate change;

2. Hydrological events including coastal erosion, sea-level rise, storm surges. This category includes activities that produce specifically designed products to moderate or avoid harm from hydrological events occurring in coastal waters, such as by sea-level rise, erosion, storm surges, in response to actual or expected climatic stimuli from climate change.
3. Climatological events including heat waves, cold waves, droughts, forest fires. This category includes activities that produce specifically designed products to moderate or avoid harm from climatological events, such as heat stress, water stress, and intense cold on human and eco-systems occurring, in response to actual or expected climatic stimuli from climate change.
4. Meteorological events including heavy/intense precipitation/rain/snowfall, hail. This category includes activities that produce specifically designed products to moderate or avoid harm from meteorological events, such as intense rain/snow/hail fall on human and eco-systems, in response to actual or expected climatic stimuli from climate change.
5. Meteorological events including storms/blizzards, strong winds, lightning: This category includes activities that produce specifically designed products to moderate or avoid harm from meteorological events, such as storm/strong winds, in response to actual or expected climatic stimuli from climate change.
6. Health, ecosystem and soils: this category addresses other related concerns not covered above to moderate harm to human health including vector-borne diseases and ecosystem health (soil health; plant growth). This category includes activities that produce specifically designed products to moderate or avoid harm from changed living environment/ecosystem conditions, in response to actual or expected climatic stimuli from climate change.

Based on the list of goods and services drafted in the context of the Eurostat project, a first map of CEP has been produced and the results are shown in the summary table below.

CEP MAPPING: CLIMATE CHANGE ADAPTATION

Climate change adaptation activities	Description	Correspondence with CEP
Manufacture of specifically designed products to moderating harm from different types of natural hazards	<p>Production of specifically designed products to moderate or avoid harm from:</p> <ul style="list-style-type: none"> • Hydrological events (including floods, mass movements like subsidence, rockfall, avalanche, landslide, coastal erosion, sea-level rise, storm surges). • Climatological events (including heat waves, cold waves, droughts, forest fires). • Meteorological events (heavy/intense precipitation/rain/snowfall, hail, storms/blizzards, strong winds, lightning). • Health, ecosystem and soils. 	<p><i>To be considered case by case, based on the type of product.</i></p> <p><i>Some products are included in CEP scope, e.g. certain elements of smart grids, such as smart meters and related software; tubes, pipes and hollow profiles, of cast iron; others like sensor technology for monitoring the health of farm animals and protection from e.g. heat-waves are out of the scope.</i></p>
Construction, installation, repair and other related activities	<ul style="list-style-type: none"> • Water and sewage network: underground pipeline engineering for improved drainage, maintenance and repair; construction of sewage. 	<p><i>CEP 030102 Management of sewerage networks (fully included)</i></p>
	<ul style="list-style-type: none"> • Construction and renovation of more storm-, flood- and heatwave-resistant buildings (e.g. floating houses and elevated houses, floors specially adapted for storing heat or cold, maximising water efficiency); public indoor cooling structures. • New pumping and drainage systems for rainwater and floods; Flood retention and rainwater basins; Planning and construction of dikes, sea walls and flood protection systems; Planning and construction of climate-resilient port facilities. • Roofers and carpenters for more resilient roof construction, maintenance and repair • Insulation service works for more resistant buildings against heat-waves. • Repair and installation services for climate-change adaptation technology and machinery. 	<p><i>Out of CEP scope</i></p>

CEP MAPPING: CLIMATE CHANGE ADAPTATION (continued)

<p>Architectural, engineering and other professional activities</p>	<ul style="list-style-type: none"> • Architectural services for water and wastewater infrastructure in response to actual or expected climatic stimuli from climate change. • Architectural design services: greening of inner-city areas and roofs. • Risk prevention of critical above and below ground infrastructure. • Risk prevention of buildings. • Planning of construction and renovation: for more storm-, flood- and heatwave-resistant buildings (e.g. floating houses and elevated houses, floors specially adapted for storing heat or cold, maximising water efficiency). 	<p><i>Out of CEP scope</i></p>
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SUSTAINABLE USE AND PROTECTION OF WATER BODIES

Protection and restoration activities related to water bodies and marine resources as well as activities to prevent their deterioration are fully covered by CEP.

Based on Article 12 of the Taxonomy regulation, an economic activity shall qualify as contributing substantially to the sustainable use and protection of water and marine resources where that activity either contributes substantially to achieving the good status of bodies of water, including bodies of surface water and groundwater or to preventing the deterioration of bodies of water that already have good status, or contributes substantially to achieving the good environmental status of marine waters or to preventing the deterioration of marine waters that are already in good environmental. Some specific activities are highlighted as reported below with their correspondence with CEP.

CEP MAPPING: SUSTAINABLE USE AND PROTECTION OF WATER BODIES

Protection of water bodies	Description	Correspondence with CEP
Wastewater discharges	Water protection from the adverse effects of urban and industrial wastewater discharges, including from contaminants of emerging concern such as pharmaceuticals and microplastics, for example by ensuring the adequate collection, treatment and discharge of urban and industrial wastewater.	<i>CEP 0301 Wastewater management (fully included) Monitoring and measurement (CEP 030105) and education, training and other activities for wastewater management (CEP 030199) are included.</i>
Monitoring of water resources pollutants for human health protection	Human health protection from the adverse impact of any contamination of water intended for human consumption by ensuring that it is free from any micro-organisms, parasites and substances that constitute a potential danger to human health as well as increasing people's access to clean drinking water.	Out of CEP scope
Water management, protection of surface water and groundwater	Sustainable use of water through the long-term protection of available water resources, through measures such as water reuse	<i>CEP 0302 Water savings and management of natural water resources (fully included). Monitoring and measurement (CEP 030204) and education, training and other activities for water savings and management of natural water resources (CEP 030299) are included.</i>
	Reduction of pollutant emissions into surface water and groundwater. Contribution to the good environmental status of marine waters, by protecting, preserving or restoring the marine environment and by preventing or reducing inputs in the marine environment	<i>CEP 050101 Prevention of pollutant infiltration into soil and water bodies (fully included) CEP 050102 Cleaning up of soil and water bodies (fully included)</i>

CEP MAPPING: SUSTAINABLE USE AND PROTECTION OF WATER BODIES (continued)

	<p>Mitigation of the effects of floods and droughts</p>	<p><i>As a general rule, disaster prevention activities dedicated to extreme weather events such as storms, droughts and flood are not included in CEP; nevertheless some specific activities with an environmental primary purpose are included. In particular:</i></p> <p><i>CEP 050103 Protection from erosion and other physical degradation of soil and water (partially included; e.g. activities intending to restore the protective vegetal cover of soils; construction of anti-erosion walls)</i></p> <p><i>CEP 050104 Prevention and remediation of soil and groundwater salinity (fully included)</i></p>
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CIRCULAR ECONOMY

Many definitions of circular economy exist around the world. The current internationally agreed statistical definition of circular economy is established in the CES guidelines for measuring circular economy, to be adopted in June 2023. In this framework, circular economy is defined as an economy where:

- the value of materials in the economy is maximised and maintained for as long as possible;
- the input of materials and their consumption is minimised; and
- the generation of waste is prevented and negative environmental impacts reduced throughout the life-cycle of materials.

In the context of the Eurostat Task Force to assist in the review of the classification of environmental functions (CEF), a CEF mapping was carried out highlighting the correspondence between circular economy activities and CEF classes. Eurostat drafted the table based on the main findings of the work presented in the Task Force.

The starting point is a broad definition of circular economy ‘as an economic system of exchange and production which, at all stages of the life cycle of products (goods and services), aims to increase the efficiency of the use of resources and to reduce the impact on the environment’. This definition also includes energy saving and management, organic agriculture and forestry and public transports sectors that are excluded from ‘narrow’ definitions.

CEP MAPPING: CIRCULAR ECONOMY ACTIVITIES

Circular economy activities	Description	Correspondence with CEP
Energy Efficiency	Efficient ways of producing	<i>CEP 0202 Energy savings and management (fully included)</i>
	Research and development in the field of energy efficiency	<i>CEP 070202 R&D for energy savings (fully included)</i>
Water	Prevention and treatment of water pollution	<i>CEP 0301. Wastewater management⁴ (fully included) Monitoring and measurement (CEP 030105) and education, training and other activities for wastewater management (CEP 030199) are included</i>
	Optimising the management of the resource and limiting losses; savings; desalinisations solutions; etc.	<i>CEP 0302 Water savings and management of natural water resources (fully included). Monitoring and measurement (CEP 030204) and education, training and other activities for water savings and management of natural water resources (CEP 030299) are included</i>
	Research and development in the field of water resource and wastewater management	<i>CEP 070300 R&D for wastewater management (fully included) CEP 070400 R&D for water resources (fully included)</i>
Waste/Recovery/re-use/repair	Collection of waste, waste treatment and materials recovery	<i>CEP 04 Waste, materials recovery and savings (fully included) Monitoring and measurement (CEP 040105 and CEP 040206), and education, training and other activities (CEP 040199 and CEP 040299) for waste management, materials recovery and savings are included</i>

⁴ According to a broad definition of circular economy, as the one adopted for this mapping, all wastewater management activities have to be included due to their purpose to recycle and reuse water. Some 'narrow' definitions of circular economy include only specific activities related to wastewater management like operation sewer treatment facilities and associated activities due to their clear purpose to recycle and recover water and other materials from wastewater.

CEP MAPPING: CIRCULAR ECONOMY ACTIVITIES (continued)

	Re-use of a product which is still in good condition: retail sale of second-hand goods in stores	<i>Out of CEP scope</i>
	Repair services of different goods, e.g. machinery, computers and peripheral equipment, consumer electronics, household appliances and home and garden equipment, etc...	<i>Out of CEP scope</i>
Organic agriculture and soil protection	Activities related to practices less harmful for the soil	<i>CEP 0501 Protection of soil, surface and groundwater (fully included) Monitoring and measurement (CEP 050105), and education, training and other activities (CEP 050199) for soil, surface and groundwater are included</i>
	Research and development in the field of soil protection	<i>CEP 070701 R&D for soil, surface and groundwater (partially included)</i>
	Reconquering artificialized soils by adapted solutions: e.g. public gardens	<i>Out of CEP scope</i>
Public Transport	Optimisation of logistical places, preferring clean transport (river, rail, etc.), mutualising transport (people/ goods); etc.	<i>Out of CEP scope</i>

POLLUTION PREVENTION AND CONTROL

Pollution prevention and control activities are fully covered by CEP.

In the context of Taxonomy regulation, article 12, activities related to prevention and to reduction of pollutant emissions into air, water or land are identified as contributing to substantially to pollution prevention and control.

CEP MAPPING: POLLUTION PREVENTION AND CONTROL

Pollution prevention and control	Description	Correspondence with CEP
Prevention, reduction, treatment of pollutants	<ul style="list-style-type: none"> • Preventing or, where that is not practicable, reducing pollutant emissions into air, water or land. • Improving levels of air, water or soil quality in the areas in which the economic activity takes place whilst minimising any adverse impact on the environment. 	<p><i>CEP 0101 Reduction and control of greenhouse gases (fully included),)</i> <i>CEP 0102 Reduction and control of other air pollutants (fully included)</i> <i>CEP 0301 Wastewater management (fully included)</i> <i>CEP 0401 Waste management (fully included with the exception of CEP 040102 that can be considered as part of “pollution cleaning up” as highlighted below)</i> <i>CEP 0501 Protection of soil, surface and groundwater (fully included with the only exception of CEP 050102 that can be considered as part of “pollution cleaning up” as highlighted below).</i></p> <p><i>Monitoring and measurement and education, training and other activities for air, water, waste and soil are included under each CEP group listed above.</i></p>
	Improving levels of air, water or soil quality in the areas in which the economic activity takes place whilst minimising any adverse impact on human health	Out of CEP scope
Pollution cleaning up	Cleaning up litter and other pollution	<p><i>CEP 040102 Collection and transport (of waste) (fully included)</i> <i>CEP 050102 Cleaning up of soil and water bodies (fully included)</i></p>

PROTECTION AND RESTORATION OF BIODIVERSITY AND ECOSYSTEM

Protection and restoration activities related to biodiversity are fully covered by CEP.

As for ecosystem, activities of protection and restoration of e.g. marine protection, surface water protection and decontamination are included. But, as clarified in CEP introduction, consistently with the System of National Accounts (SNA) and the System of Environmental-Economic Accounting Central Framework (SEEA CF), a large part of ecosystem services, i.e., the contributions of ecosystems to benefits used in economic and other human activity (SEEA CF para 2.22) is outside the scope of CEP. Ecosystem services are addressed in the SEEA Ecosystem Accounting. Some of those ecosystem services, in particular regulatory and cultural services, are beyond the SNA production boundary, and those are also outside the CEP scope. One example is pollination. This means that, for instance, 'management of biodiversity' is under the scope of the CEP as far as it is an economic activity performed by an economic unit with human intervention (see below about classification units), but it is outside of the CEP as regards biodiversity support provided by an ecosystem such as a forest to other life forms.

Based on Article 15 of the Taxonomy regulation, an economic activity shall qualify as contributing substantially to the protection and restoration of biodiversity and ecosystems where that activity contributes substantially to protecting, conserving or restoring biodiversity or to achieving the good condition of ecosystems, or to protecting ecosystems that are already in good condition. Some specific activities are highlighted as reported below with their correspondence with CEP.

CEP MAPPING: PROTECTION AND RESTORATION OF BIODIVERSITY AND ECOSYSTEM ACTIVITIES

Biodiversity/ Ecosystem related activities	Description	Correspondence with CEP
Protection and conservation of biodiversity	Nature and biodiversity conservation, including achieving favourable conservation status of natural and semi-natural habitats and species, or preventing their deterioration where they already have favourable conservation status, and	<i>CEP 0502 Protection of biodiversity and landscape (fully included). Monitoring and measurement (CEP 050203) and education, training and other activities (CEP 050299) for protection of biodiversity and landscape are included.</i>
Sustainable land use (including sustainable agricultural practices), management, protection and restoration of terrestrial, marine and other aquatic ecosystems	<p>Protection of soil biodiversity, land degradation neutrality and the remediation of contaminated sites.</p> <p>Protection and restoration of terrestrial, marine and other aquatic ecosystems (in order to improve their condition and enhance their capacity to provide ecosystem services).</p> <p>Practices that contribute to enhancing biodiversity or to halting or preventing the degradation of soils and other ecosystems, deforestation and habitat loss.</p>	<i>CEP 0501 Protection of soil, surface and groundwater (fully included). Monitoring and measurement (CEP 050105) and education, training and other activities (CEP 050299) for protection of biodiversity and landscape are included.</i>
Sustainable forest management	Practices and uses of forests and forest land that contribute to enhancing biodiversity or to halting or preventing degradation of ecosystems, deforestation and habitat loss.	<i>CEP 0503 Management of forest resources (fully included). Monitoring and measurement (CEP 050303) and education, training and other activities (CEP 050399) for management of forest resources are included.</i>