

CEA Explanatory notes

Version of: 20/07/2022

| EP/RM | # | Level | Title | Description | It includes | It excludes | Definitions | Operational rules | Guidance notes | Notes/Comments | Correspondence with current version of CEPA CREMA classifications |
|-------|-------|-------|--|--|---|--|--|---|----------------|----------------|---|
| EP/RM | 1 | 1 | Air, climate and energy | Activities, measures and products aimed at reducing air emissions and/or concentration of air pollutants, production of energy from renewables and to energy savings. | It includes activities and measures related to reduction and control of air emissions (see CEA 1.1), to the production of renewable energy (see CEA 1.2) and to energy savings (see CEA 1.3) | It excludes activities and measures related to climate change adaptation | For definitions of mitigation and adaptation, please refer to IPCC, 2018: Annex I: Glossary [Matthews, J.B.R. (ed.)] | <p>Production of biogas and biofuels from waste is reported under CEA1.2. When different data sources and consequently different classifications are used, issues of double counting may arise.</p> <p>In this specific case double counting occurs if:</p> <ul style="list-style-type: none"> • waste management output is estimated based on NACE classification (38.1+38.2 NACE groups) and • production of biogas and biofuels from waste is estimated based on CPA. <p>Double counting occurs because NACE 38.2 already covers production of biogas from waste. To avoid double counting, production of biogas and biofuels has to be deducted from total waste management output in CEA3.1</p> <p>Production of energy through incineration of waste is reported under CEA1.2. When different data sources and consequently different classifications are used issues of double counting may arise.</p> <p>In this specific case double counting occurs if</p> <ul style="list-style-type: none"> • waste management output is estimated based on NACE classification (38.1+38.2 NACE groups) and • production of energy from incineration of waste is estimated based on CPA. <p>Double counting occurs because NACE 38.2 covers incineration of waste regardless of whether energy is produced. To avoid double counting, production of energy from waste (biodegradable and non-biodegradable) has to be deducted from total waste management output in CEA 3.1.</p> | | | CEPA1, CREMA13A, CREMA13B |
| EP | 1.1 | 2 | Reduction and control of air emissions (excluding energy related measures) | Activities, measures and products aimed at reducing emissions into the ambient air or reducing concentrations of air pollutants. | It includes measures and activities aimed at the control of emissions of greenhouse gases, air pollutants and gases that adversely affect the stratospheric ozone layer, such as: <ul style="list-style-type: none"> • preventing air emissions through cleaner production processes and products • treatment of air emissions through end of pipe processes and equipment • monitoring air emissions • all other activities aimed at reducing air emissions including education, training, information provision and general administration (ETIGA) activities | It excludes: <ul style="list-style-type: none"> • measures undertaken for energy saving reasons (see CEA 1.3); • climate change adaptation measures (e.g. disaster prevention activities dedicated to extreme weather events such as storms, heat waves, droughts, flood, etc.); • measures related to renewable energy (see CEA 1.2) | | | | | CEPA 1 |
| EP | 1.1.1 | 3 | Prevention of pollution | Activities, measures and products aiming to eliminate or reduce the air emissions and pollutants through In-Process Modifications (IPMs) through: <ul style="list-style-type: none"> • cleaner production processes and other technologies (cleaner technologies); • cleaner (adapted) products. | It includes: <ul style="list-style-type: none"> • production and installation of processes designed to reduce the generation of air pollutants during production, storage or transportation, e.g.: <ul style="list-style-type: none"> o fuel combustion improvement; o recovery of solvents; o prevention of spills and leaks through improving air-tightness of equipment, etc. • modifying or adapting production process or facilities to enable either the substitution of raw materials, energy, catalysts and other inputs by non- (or less) polluting products, or the treatment of raw materials prior to their use in order to make them less polluting. • electric and hybrid cars, buses and other cleaner and more efficient vehicles, including components (as specified in the Eurostat Guidance Note); • charging stations and other essential infrastructure for recharging electric road vehicles; | | | Guidance note – Reporting of electric and more resource-efficient transport equipment in EPEA and EGSS accounts | | CEPA 1.1 | |
| EP | 1.1.2 | 3 | Treatment | Activities, measures and products involving the installation, maintenance and operation of end-of-pipe equipment for the removal and/or reduction of air emissions and pollutants either from the combustion of fuels or from processes. | It includes: <ul style="list-style-type: none"> • Exhaust gas and air treatment for solids and liquids particulate: dry processes (through fabric filters, separators, dust collectors), wet processes (scrubbers, washing twers) • Exhaust gas and air treatment for gaseous and vaporous materials through absorption processes, condensation processes, catalytic exhaust purification, biological exhaust gas cleaning (biowashers), post combustion • Carbon capture and storage (CCS) & carbon capture (CCU) and use related infrastructure and systems operation; • Activities aiming to increase the dispersion of gases so as to reduce concentrations of air pollutants. | | Exhaust gases are emissions into the air, usually through exhaust pipes, stacks or chimneys. Ventilation air refers to the exhaust from air conditioning systems of industrial facilities. | | | CEPA 1.2 | |
| EP | 1.1.3 | 3 | Monitoring, measurement and similar | Activities, measures and products aimed at monitoring air emissions and pollutant concentrations | It includes: <ul style="list-style-type: none"> • measurement services of air quality • measurement services of exhaust gases from vehicles and heating systems • monitoring related to the ozone depleting substances, greenhouse gases and air pollutants • manufacturing and installation of monitoring and measurement equipment | It excludes: <ul style="list-style-type: none"> • activities of weather stations | | | | CEPA 1.3 | |
| EP | 1.1.4 | 3 | Other activities | All other activities, measures and products aimed at reducing air emissions and/or concentration of air pollutants. | It includes: <ul style="list-style-type: none"> • education, training, information provision and general administration (ETIGA) activities | | | ETIGA activities should be reported here when they can be separated from other activities belonging to CEA 1.1 and from similar activities related to other CEA-domains | | CEPA 1.4 | |

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|----|-------|--|--|---|--|---|---|--------------------|
| RM | 1.2 | 2 Energy from renewable sources | Activities, measures and products related to renewable energy. | It includes: • the production of renewable energy, supporting services for renewable energy, monitoring, measurement and similar activities | | | | CReMA13A |
| RM | 1.2.1 | 3 Production of energy from renewable sources | It concerns activities, measures and products related to the production of energy from renewable sources. | It includes: • production of electricity, heat and fuels (including H2) from renewable sources. For example: production of electricity from wind, production of heat from aerothermal, hydrothermal and geothermal sources, production of biofuels for transport, production of biogas and biofuels from waste etc., fuel wood production, wood pellets and other wood or vegetal based energy products, biofuels from recycled materials (cooking oil), • production of renewable energy as non-market output for own use by households and as secondary output by producers classified in other industries; • production of energy through incineration of biodegradable waste; • production of energy from cogeneration plants using renewable fuels for this purpose; | It excludes: • waste incineration without energy recovery (see CEA 3); • waste incineration with energy recovery from non-biodegradable waste (see CEA 1.3); • activities aimed at the use of renewable energy (e.g. distribution); • production of biogas from sewage sludge (see CEA 2) • production of biomass to be further processed into biofuels | - According to Directive 2018/2001 of the European Parliament and of the Council of 11 December 2018, sources for the production of renewable energy are: • Wind • Solar • Aero-thermal • Geothermal • Hydrothermal and ocean energy • Hydropower, excluding pump storage stations (which is to be recorded under CEA 1.3.1) • Biomass (including biogas and biofuels) • Landfill gas • Sewage treatment plant gas and biogas - Biomass is defined as the biodegradable fraction of products, waste and residues of biological origin from nature, agriculture (including vegetal and animal substances), forestry and related industries including fisheries and aquaculture, as well as the biodegradable fraction of industrial and municipal waste. Biomass includes biofuel and biogas | The production of energy from renewable sources can be further detailed at 4th level by type of renewable energy or split into three categories (renewable with and without CO2 emissions and non carbon based fuels) to have coherence with air emissions accounts | CReMA 13A, part of |
| RM | 1.2.2 | 3 Equipment and technologies for renewable energy | Specific equipment for the production of energy from renewable sources. | It includes: • equipment for producing energy from renewable sources (solar panels, photovoltaic cells, hydraulic turbines, wind turbines, fire wood and other biomass boilers, etc.); • energy storage technology associated with renewable energy source (e.g. compressed air storage power stations, sensitive heat storage systems, latent heat storage system, hydrogen storage, power to gas i.e. storage of wind power in the form of hydrogen/methane); | | | | CReMA 13A, part of |
| RM | 1.2.3 | 3 Supporting services for renewable energy | Activities, measures and products related to the construction, installation and maintenance of renewable energy | It includes: • engineering and architectural services related to renewable energy | | | | CReMA 13A, part of |
| RM | 1.2.4 | 3 Monitoring, measurement and similar | Activities, measures and products aimed at monitoring renewable energy | It includes: • inventories of renewable energy • assessments of the potential for renewable energy production | | | | CReMA 13A, part of |
| RM | 1.2.5 | 3 Other activities | All other activities, measures and products related to renewable energy. | It includes: • education, training, information provision and general administration (ETIGA) activities | | ETIGA activities should be reported here when they can be separated from other activities belonging to CEA 1.2 and from similar activities related to other CEA-domains | | CReMA 13A, part of |
| RM | 1.3 | 2 Energy savings and management | Activities, measures and products aiming at reducing energy use such as in-process modifications, reduction of losses, etc. | It includes: • activities and measures aiming at providing energy savings through IPMs; • activities and products aiming at minimising heat and energy losses and maximisation of energy recovery. • activities and products concerning M&M related to energy saving. • ETIGA linked to the management and saving of heat and energy. | It excludes: • the production of energy, both from renewable sources and fossil fuels (CEA1.2); operation of cogeneration plants that use renewable fuels as a specific example of production of energy from renewable sources • activities mainly aimed at reducing air pollution (CEA 1.1.1). | | | CReMA13B |
| RM | 1.3.1 | 3 Energy savings through in process modifications | Activities, measures and products aiming at minimising the consumption of energy through IPMs. These activities are often carried out as ancillary or own-final-use activities. | It includes: • Replacement or adjustment of production processes (including energy production processes); • Manufacturing and installation of heat recovery equipment; • Production of (non-renewable) energy from cogeneration plants; • Production of energy through incineration of non-biodegradable waste; • Equipment for heat and electricity cogeneration from non-renewable sources, manufacturing and installation of cogeneration plants and their components; • Reducing losses in energy transportation; • Pumped-storage hydropower (PSHS); • Certain elements of smart grids, such as smart meters and specific software; • The manufacturing and installing of all equipment used for energy storage (including PSHS), other than the ones specifically developed for the purpose of storing energy produced from renewable sources. | It excludes: • activities related to the production of renewable energy from cogeneration plants (CEA 1.2.1) | | | CReMA 13B, part of |
| RM | 1.3.2 | 3 Energy efficient buildings; other efficient energy-demand technologies | Activities, measures and products aiming at minimising the consumption of energy through the renovation of existing buildings and construction of energy efficient buildings as well as the use of other efficient energy-demand technologies. | It includes: • energetic refurbishment activities; • construction of new energy efficient buildings; • production of insulating materials and triple-glassed windows; • energy efficient appliances and machinery. | | Standards for renovation of the existing building stock and for construction of new buildings are set at the EU level. Check with the Directive amending the Energy Performance of Buildings Directive (2018/844/EU) for the definition of standards for efficient renovation and definition of new energy efficient buildings. | Guidance note – Reporting of energetic refurbishment and construction of new energyefficient buildings in EGSS accounts | CReMA 13B, part of |

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| RM | 1.3.3 | 3 Monitoring, measurement and similar | Activities, measures and products aimed at monitoring energy performances with the view of increasing energy efficiency | It includes: <ul style="list-style-type: none"> • audits, production of energy performance certificates and assessments of energy savings potentials; | | CReMA 13B, part of |
| RM | 1.3.4 | 3 Other activities | All other Activities, measures and products related to energy savings and management. | It includes: <ul style="list-style-type: none"> • education, training, information provision and general administration (ETIGA) activities | ETIGA activities should be reported here when they can be separated from other activities belonging to CEA 1.3 and from similar activities related to other CEA-domains | CReMA 13B, part of |

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|---------|-------|---|--|---|--|--|--|----------------|-----------------------------|---|
| EP, RM | 3 | 1 Waste management and materials recovery and saving | Activities, measures and products aimed at managing waste (CEA 3.1) and at reducing the use of materials (CEA 3.2) | | | | | | | |
| EP | 3.1 | 2 Waste management | Activities, measures and products which prevent the generation of waste and reduce the harmful effects of waste on the environment. | It includes: <ul style="list-style-type: none"> prevention of waste collection, transport, treatment and disposal of waste including low-level radioactive waste; monitoring activities; education, training, information provision and general administration (ETGA) activities street cleaning and the collection of public litter goods specifically aimed at waste management (e.g. bins, containers, trucks for waste collection) | It excludes: <ul style="list-style-type: none"> slaw and ice removal; materials recovery including processing of waste into secondary raw materials (see CEA 3.2); production of biogas and biofuels from waste (see CEA 1.2); production of energy through incineration of waste (see CEA 1.2, from biodegradable waste or CEA 1.3, from non-biodegradable waste and where biodegradable and non-biodegradable waste fractions cannot be separated); environmental protection measures and activities related to discharging of waste materials directly into ambient water (included in CEA 2.1 or CEA 4.1) or air (included in CEA 1.5); collection and treatment of high level radioactive waste (included in CEPA 5.2). | Waste is any substance or object which the holder discards or intends or is required to discard (Directive 2008/98/EC Article 3(1)). Waste may be generated during the extraction of raw materials, during the processing of raw materials to intermediate and final products, during the consumption of final products, and during any other human activity. | <p>Production of biogas and biofuels from waste is reported under CEA 1.2. When different data sources and consequently different classifications are used, issues of double counting may arise. In this specific case double counting occurs if:</p> <ul style="list-style-type: none"> waste management output is estimated based on NACE classification (B1.1-B1.2 NACE groups) and production of biogas and biofuels from waste is estimated based on CPA. <p>Double counting occurs because NACE 30.2 already covers production of biogas from waste. To avoid double counting, production of biogas and biofuels has to be deducted from total waste management output in CEA 3.1.</p> <p>Production of energy through incineration of waste is reported under CEA 1.2. When different data sources and consequently different classifications are used issues of double counting may arise. In this specific case double counting occurs if:</p> <ul style="list-style-type: none"> waste management output is estimated based on NACE classification (B1.1-B1.2 NACE groups) and production of energy from incineration of waste is estimated based on CPA. <p>Double counting occurs because NACE 30.2 covers incineration of waste regardless of whether energy is produced. To avoid double counting, production of energy from waste (biodegradable and non-biodegradable) has to be deducted from total waste management output in CEA 3.1.</p> <p>Materials recovery activities can be allocated at the third level split by type of material. If for some "residual" materials recovery activities no information is available to estimate the split by type of material, they should be distributed by convention according to the shares of recovery activities already allocated. If no materials recovery activities can be assigned to a specific material (wood/plastic/inert/brick/etc.) and there is no information in available sources for the calculation of relevant shares, the total value of the materials recovery activities has to be reported by convention under CEA 3.2.5. This rule applies only if no additional information can provide a proxy for a split between the pertinent CEA subcategories.</p> | | | |
| EP | 3.1.1 | 3 Prevention of waste generation | Activities, measures and products aimed at eliminating or reducing the generation of solid waste through IPMA through: <ul style="list-style-type: none"> cleaner and more efficient production processes and other technologies (cleaner technologies); cleaner (adapted) products | It includes: <ul style="list-style-type: none"> replacing an existing production process by a new process such that the toxicity or volume of waste produced is reduced. This includes separation and reprocessing (cleaner technologies) modifying or adapting the production processes or facilities to enable substitution of raw materials, catalysts and other intermediate inputs with new, "adapted" inputs whose use produces less waste or less hazardous waste (cleaner products). | | Following the WFD (Directive 2008/98/EC) "prevention" means measures taken before a substance, material or product has become waste, that reduce: <ol style="list-style-type: none"> the quantity of waste, including through the re-use of products or the extension of the life span of products; the adverse impacts of the generated waste on the environment and human health; the content of hazardous substances in materials and products; | | | CEPA 3.1 | |
| EP | 3.1.2 | 3 Collection and transport | Collection of waste, either by municipal services or similar institutions or by public or private corporations, and its transport to the place of treatment or disposal. | It includes: <ul style="list-style-type: none"> the separate collection and transport of waste fractions to facilitate recovery, collection and transport of hazardous waste; collection and transport of demolition waste; the part of street cleaning involving litter and collection of garbage. | It excludes: <ul style="list-style-type: none"> winter services, i.e. snow and ice removal services to ensure roads are passable in winter; | WFD (Directive 2008/98/EC) "collection" means the gathering of waste, including the preliminary sorting and preliminary storage of waste for the purposes of transport to a waste treatment facility. | | | CEPA 3.2 | |
| EP | 3.1.3 | 3 Treatment (incl. preparatory and disposal of hazardous waste) | Activities, measures and products which change the physical, chemical, or biological character or composition of waste to render it non-hazardous, safer for transport, amenable for recovery or storage, or to reduce its volume as well as operations of final disposal. A particular waste may undergo more than one treatment process. | It includes: <ul style="list-style-type: none"> incineration treatment of low-level radioactive waste, defined as waste which does not require shielding during normal handling and transportation due to its low radioactivity content; physical/chemical, thermal and biological treatment, including the construction of specific facilities; conditioning of wastes, and any other relevant treatment method; incineration (with or without energy recovery) including waste gasification and pyrolysis; landfill; contaminant; underground disposal, and any other relevant disposal method excluding dumping at sea. | It excludes: <ul style="list-style-type: none"> activities related to high level radioactive waste (see CEA 5.2) activities aimed at materials recovery (CEA 3.2) | "Separate collection" means the collection where a waste stream is kept separately by type and nature so as to facilitate a specific physical treatment of hazardous waste. Hazardous waste is waste which poses a substantial actual or potential hazard to human health or living organisms due to its toxic, infectious, radioactive, flammable or other character as defined by Annex II of EU Directive 2008/98/EC. Physical treatment of hazardous waste means the waste in an inert, impervious matrix via phase separation and solidification. Chemical treatment is used both to effect the complete breakdown of hazardous waste into non-toxic gases and, more usually, to modify the chemical properties of the waste, e.g. to reduce water solubility or to neutralise acidity or alkalinity. Thermal treatment of hazardous waste converts hazardous waste into gases and incombustible solid residues via high-temperature oxidation. The flue gases are released into the atmosphere and any slag or ash product is deposited in the landfill. The main technologies used in the incineration of hazardous waste are the rotary kiln, fluid bed incinerator, incinerator grate, multiple chamber incinerators, and fluidised bed incinerators. Residues from hazardous waste incineration may themselves be regarded as hazardous waste. The resulting thermal energy may or may not be used for the production of steam, hot water, or electricity. Disposal of waste is the final disposition of waste above or underground in controlled or uncontrolled fashion, in accordance with the sanitary, environmental or security requirements. Landfill refers to final disposal of hazardous waste or air land in a controlled way, which meets specific geological and technical criteria. Underground disposal refers to temporary storage or final disposal in a cavern or in a borehole. Thermal treatment of waste during which chemically inert matter is transformed into thermal energy. Combustible compounds are transformed into combustion gases leaving the system as flue gases. Incombustible inorganic matters remain in the form of slag and fly ash. | | CEPA 3.3 | | |
| EP | 3.1.4 | 3 Treatment (incl. preparatory and disposal of non-hazardous waste) | Activities, measures and products which change the physical, chemical, or biological character or composition of waste to render it amenable for recovery or storage, or to reduce its volume as well as operations of final disposal. | It includes: <ul style="list-style-type: none"> treatment of non-hazardous waste: physical/chemical treatment, biological treatment and any other treatment method (such as composting), including the construction of specific facilities; disposal of non-hazardous waste: incineration in the case of non-energy use, landfill and any other disposal method, including the construction of specific facilities (e.g. waste disposal sites) | It excludes: <ul style="list-style-type: none"> backfilling using demolition waste (see CEA 3.2) activities aimed at materials recovery (CEA 3.2) | | <p>Production of energy through incineration of waste is reported under CEA 1.2 (from bio-degradable waste) and CEMA 1.3 (from non-biodegradable waste). When different data sources and consequently different classifications are used issues of double counting may arise. In this specific case double counting occurs if:</p> <ul style="list-style-type: none"> waste management output is estimated based on NACE classification (B1.1-B1.2 NACE groups) and production of energy from incineration of waste is estimated based on CPA. <p>Double counting occurs because NACE 30.2 covers incineration of waste regardless of whether energy is produced. To avoid double counting, production of energy from waste (biodegradable and non-biodegradable) has to be deducted from total waste management output in CEA 3.</p> | | CEPA 3.4 | |
| EP | 3.1.5 | 3 Monitoring, measurement and similar | Activities, measures and products aimed at monitoring waste and waste management, for example the generation and storage of waste, their toxicity, etc. | | | | | | | CEPA 3.5 |
| EP | 3.1.6 | 3 Other activities | All other activities, measures and products aimed at waste management, including ETGA activities specific to CEA 3.1 when they can be separated from other activities belonging to CEA 3.1 and from similar activities related to other environmental objectives (see CEPA 3.1.1). | It includes: <ul style="list-style-type: none"> education, training, information provision and general administration (ETGA) activities, as for example: e.g. campaigns to inform and encourage waste reduction, implementation of guidelines for waste prevention, etc. | | | | | | CEPA 3.6 |
| RM | 3.2 | 2 Minimisation of the intake of materials | Activities, measures and products aiming at minimising the intake of natural resources through increased efficiency, substitution, recovery and reuse of materials | It includes: <ul style="list-style-type: none"> activities aiming at minimising the intake of natural resources per unit of output through IPMA; recovery from waste streams reuse of products; activities and products concerning M&M and similar related to the reduction material use; ETGA activities linked to the management of natural resources. | It excludes: <ul style="list-style-type: none"> activities related to the management of biological natural resources (CEA 4.2 and 4.3) and water (CEA 1.2); activities related to the management of fossil energy resources. | Restoration of materials found in the waste stream to a beneficial use which may be for purposes other than the original use (IEA Glossary). | | | CRMA 11B, CRMA 14, CRMA 13C | |
| RM | 3.2.1 | 3 Wood and paper | Activities, measures and products aiming at minimising the intake of wood through increased efficiency, substitution, recovery and reuse of materials | It includes: <ul style="list-style-type: none"> activities aiming at minimising the intake of timber resources per unit of output through IPMA, for example: wood saving saw, more efficient wood stores and furnaces; recovery of wood and paper (including cardboard) from waste streams reuse forest products and by-products, for example: reuse of timber products; activities and products concerning M&M and similar related to the reduction of wood and paper use; ETGA activities linked to the management of forest resources. | It excludes: <ul style="list-style-type: none"> the collection, transportation and sorting of waste (CEA 3.1); the production of energy from waste (CEA 1.2 and CEA 1.3); | | | | CRMA11B | |
| RM | 3.2.2 | 3 Minerals | Activities, measures and products aiming at minimising the intake of minerals (metallic and non-metallic) through increased efficiency, substitution, recovery and reuse of materials | It includes: <ul style="list-style-type: none"> activities aimed at minimising the intake of minerals through IPMA, for example: all the kinds of replacement or adjustment of production processes aiming at reducing the use of mineral resources; backfilling using demolition waste; activities that aim at substituting mineral-based materials by wood-based materials (or materials made of other abundant, renewable resource) for construction; activities aimed at reducing scrap and the recovery of mineral based materials from waste streams. This includes the processing of metallic and non-metallic mineral materials waste and scrap and end-of-life products into secondary raw materials, for example: <ul style="list-style-type: none"> mechanical crushing or reduction of metal waste from used cars, washing machines, bikes, railway wagons etc.; smelting of metal waste, and of fire vehicles, dismantling of vessels, etc.; physical-chemical and thermal processes for recovery especially for metals; or other methods of mechanical treatment as cutting, grinding to reduce the volume; recycling metals out of photographic waste, e.g. film solution or photographic films and paper; recycling of spent batteries and accumulators; crushing, cleaning and sorting of glass; crushing, cleaning and sorting of other waste such as demolition waste to obtain secondary raw materials; activities and products concerning M&M and similar related to the reduction of minerals use; ETGA activities linked to the management of minerals. | It excludes: <ul style="list-style-type: none"> exploitation of mineral resource stocks (including exploration and discovery of new reserves); measures and activities that improve the efficiency of mineral resources extraction; the collection, transportation and sorting of waste (CEA 3.1); the production of energy from waste (CEA 1.2 and CEA 1.3); | | | | CRMA14 | |
| RM | 3.2.3 | 3 Plastic | Activities, measures and products aiming at minimising the intake of fossil fuels resources for non energy uses through increased efficiency, substitution, recovery and reuse of materials | It includes: <ul style="list-style-type: none"> activities aiming at the minimisation of the intake of fossil energy resources for uses other than energy production (e.g. the production of plastics, chemicals, rubber) through IPMA, for example: replacement or adjustment of technologies; recovery of materials made from fossil energy resources, for example: processing of petro-based waste into secondary raw materials (plastic recovery through mechanical/chemical processes); recovery of bottles (from petrochemical materials), recycled inkjet and toner cartridges for printers; production of substitutes for materials made of fossil fuels, for example: bio-based sacks and bags, including paper bags, for replacing plastic bags; other bio-based plastics, composites, lubricants, solvents, detergents, paints, lacquers, varnishes and packaging, etc. which replace comparable and commonly used fossil-fuel based products; activities and products concerning M&M related to the reduction of the use of fossil fuel for use other than energy production; ETGA activities linked to the management and saving of fossil resources used as an input for production processes other than energy production. | It excludes: <ul style="list-style-type: none"> the collection, transportation and sorting of waste (CEA 3.1); the production of energy from waste (CEA 1.2 and CEA 1.3); | | | | CRMA13C | |
| RM | 3.2.4 | 3 Textiles | Activities, measures and products aiming at minimising the intake of natural resources for producing textiles through increased efficiency, substitution, recovery and reuse of materials | It includes: <ul style="list-style-type: none"> activities aiming at the minimisation of the intake of natural resources for producing textiles through IPMA; recovery of textiles: of clothing (made of wool, cotton and similar), household textiles (bed linen, towels and similar), home textiles (carpets, curtains and similar), technical textiles (medical textiles, textiles in vehicle construction and building industry); activities and products concerning M&M related to the recovery of textiles; | It excludes: <ul style="list-style-type: none"> the collection, transportation and sorting of waste (CEA 3.1); the production of energy from waste (CEA 1.2 and CEA 1.3); | | | | No direct correspondent | |
| RM | 3.2.5 | 3 Other materials | Activities, measures and products aiming at minimising the intake of other natural resources through increased efficiency, substitution, recovery and reuse of materials | It includes: <ul style="list-style-type: none"> activities aiming at the minimisation of the intake of other natural resources through IPMA; recovery of other materials; activities and products concerning M&M related to the recovery of other materials; ETGA activities linked to recovery of other materials. | It excludes: <ul style="list-style-type: none"> the collection, transportation and sorting of waste (CEA 3.1); the production of energy from waste (CEA 1.2 and CEA 1.3); | | | | No direct correspondent | |
| RM | 3.2.6 | 3 Monitoring, measurement and similar | Activities, measures and products aimed at measuring and monitoring the reduction of the use of natural resources used as materials | | | | | | | CRMA11B, 13C, 15 |
| RM | 3.2.7 | 3 Other activities (related to the recovery of materials) | All other activities, measures and products related to the reduction of intake of natural resources used as materials. | It includes: <ul style="list-style-type: none"> ETGA activities linked to recovery of other materials all other activities related to material recovery | | | | | | CRMA11B, 13C, 16 |

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|-------|-------|-------|--|---|---|---|--|-------------------|----------------|---|---|-----------|
| EP/RM | 4 | 1 | Soil, surface and groundwater, biodiversity and forest | Activities, measures and products aimed at protection and remediation of soil and water, biodiversity and forests | | | | | | | CEPA6 + CREMA12, CREMA 11A | |
| EP | 4.1 | 2 | Protection of soil, surface and groundwater | Activities, measures and products aimed at the prevention of pollutant infiltration, cleaning up of soil and water bodies and the protection of soil from erosion and other physical degradation including salinisation. | It includes: <ul style="list-style-type: none"> prevention of pollutant infiltration cleaning up of soil and water bodies protection from erosion prevention and remediation of soil and groundwater salinity monitoring of soil and groundwater pollution activities for protection and remediation of marine environment | It excludes: <ul style="list-style-type: none"> wastewater management activities (see CEA 2.1). activities aimed at the protection of biodiversity and landscape (see CEA 4.2). | | | | | CEPA6 | |
| EP | 4.1.1 | 3 | Prevention of pollutant infiltration | Activities, measures and products aimed at reducing or eliminating the penetration of polluting substances into soil and water. | It includes: <ul style="list-style-type: none"> activities related to sealing of soils of industrial plants; installation of catchment for pollutant run-offs and leaks; strengthening of storage facilities; organic farming as well as agricultural and grazing practices less harmful for soils and water bodies; transportation of pollutant products. | | | | | | CEPA4.1 | |
| EP | 4.1.2 | 3 | Cleaning up of soil and water bodies | Activities, measures and products to reduce the quantity of pollutants in soil and water bodies either in situ or in appropriate installations. | It includes: <ul style="list-style-type: none"> soil decontamination at former industrial sites, landfills and other black spots, with activities consisting of for example: measures for separating, containing and recovering deposits, extraction of buried casks and containers, dewatering and re-storage, installation of off-gas and liquid effluent drainage networks, soil washing by means of desiccation, pumping of pollutants, removal and treatment of polluted soil, biotechnological methods capable of intervening without affecting the site (use of enzymes, bacteria, etc.); physical and chemical techniques such as pervaporation and extraction using supercritical fluids, injection of neutral gases or bases to stifle internal fermentation, etc. cleaning up of pollutants from water bodies (rivers, lakes, estuaries, etc.); decontamination and cleaning up of surface water following accidental pollution e.g. through collection of pollutants or through application of chemicals; the cleaning up of oil spills on land, inland surface waters and seas – including coastal areas. | It excludes: <ul style="list-style-type: none"> soil protection services; the liming of lakes and artificial oxygenation of water bodies (see CEA 4.2). | | | | | CEPA 4.2 | |
| EP | 4.1.3 | 3 | Protection from erosion and other physical degradation of soil and water | Activities, measures and products aimed at protecting soil from erosion and other physical and chemical degradation of soil and water (compacting, encrusting, marine water contamination, etc.). | It includes: <ul style="list-style-type: none"> activities tending to restore the protective vegetal cover of soils; construction of anti-erosion walls; control of eutrophication and growth of green algae organic aquaculture. | It excludes: <ul style="list-style-type: none"> conventional agricultural production; protection of settlements against natural hazards such as landslides. | Soil erosion is the detachment and movement of topsoil or soil material from the upper part of the profile by the action of wind or running water especially as a result of changes brought about by human activity (such as unsuitable or mismanaged agricultural methods). | | | | CEPA4.3 | |
| EP | 4.1.4 | 3 | Prevention and remediation of soil and groundwater salinity | Activities, measures and products aimed at preventing salinisation or reducing salinity. Concrete actions will depend on climatic, geological and other country specific factors. | It includes, if undertaken for an explicit purpose of prevention and remediation of soil and groundwater salinity: <ul style="list-style-type: none"> actions to increase groundwater tables, e.g. through increased freshwater infiltration to avoid infiltration of seawater into groundwater bodies; lowering of groundwater tables (when groundwater contains high levels of salt) through long-term re-vegetation programmes, changes in irrigation practices, etc. | It excludes: <ul style="list-style-type: none"> measures that respond to economic purposes (conventional agricultural production, reclamation of land from the sea, etc.). | | | | | CEPA 4.4 | |
| EP | 4.1.5 | 3 | Monitoring, measurement and similar | All activities, measures and products aimed at monitoring the quality and pollution of soils, groundwater and surface water, measuring the extent of soil erosion and salinisation etc. | It includes: <ul style="list-style-type: none"> the operation of monitoring systems; inventories of "black spots"; maps and databases of groundwater and surface water quality, soil pollution, erosion and salinity, etc. | | | | | | CEPA 4.5 | |
| EP | 4.1.6 | 3 | Other activities | All other activities, measures and products aimed at protecting and remediating soil, groundwater, surface water and marine waters. It includes ETGA activities specific to the CEA 4.1, when they can be separated from other activities belonging to CEA 4.2 and from similar activities related to other environmental protection classes. | | | | | | | CEPA 4.6 | |
| EP | 4.2 | 2 | Protection of biodiversity and landscape | Activities, measures and products aimed at protecting and replenishment of wild fauna and flora, safeguarding and restoring their habitats, ecosystems of which they are part, natural or semi-natural landscapes. Such activities, measures and products are included regardless of the type of areas involved (terrestrial, aquatic incl. wetlands, and marine areas) and whether they occur in areas which are classified as protected areas. | It includes: <ul style="list-style-type: none"> the environmental rehabilitation of abandoned mining and quarrying sites and related expenditure; the protection and rehabilitation of historic monuments or predominantly built-up landscapes; the control of weeds for agricultural purposes; the recreational structures and spaces such as urban parks and gardens, golf courses and other sports facilities; management of zoos, oceanarium, aquarium, and of city greenery; establishment and maintenance of green spaces along roads; 'restoration' activities, such as 'burning' or 'thinning'; activities related to soil cleaning are to be reported under CEA 4.1. | It excludes: <ul style="list-style-type: none"> farming and gardening activities (outside the scope of CEA classification with the exception of organic farming included under CEA 4.1); the protection and rehabilitation of historic monuments or predominantly built-up landscapes; the control of weeds for agricultural purposes; the recreational structures and spaces such as urban parks and gardens, golf courses and other sports facilities; management of zoos, oceanarium, aquarium, and of city greenery; establishment and maintenance of green spaces along roads; 'restoration' activities, such as 'burning' or 'thinning'; activities related to soil cleaning are to be reported under CEA 4.1. | | | | CEPA6 + CREMA12 (consolidated in the current version of CEPA & CREMA) | | |
| EP | 4.2.1 | 3 | Protection and rehabilitation of species and habitats | Activities, measures and products aimed at the conservation, reintroduction or recovery of wild fauna and flora (irrespective of whether threatened by extinction), the maintenance of their habitats, and the restoration, rehabilitation and reshaping of damaged habitats for the purpose of strengthening their natural functions. Activities aimed at the minimisation of the intake of wild flora and fauna for production purposes, through IPME, are also covered. | It includes: <ul style="list-style-type: none"> conserving genetic heritage, monitoring and restricting (placing bans on) exploitation, trade, etc. of specific animal and plant species, for protection purposes; creation of gene reserves or banks, improvement of linear infrastructures (e.g. underground passages or bridges for animals at highways or railways, the restoration of small-scale structures like hedges or orchards, green bridges etc.), feeding of the young, management of special natural reserves (botanical conservation areas, etc.); species conservation including re-introduction of locally extinct species and species repopulation; control of invasive alien species that pose a threat to native fauna, flora and habitats; control of native species with an intensive development that pose a threat to native fauna, flora and habitats (case of bear or deer); restoration activities (replenishment of wild flora and fauna stocks), for example: repopulation of stocks of wild fauna by introducing new individuals; activities for the restoration of water bodies as aquatic habitats: artificial oxygenation and lime neutralisation actions; restoration of river banks; land control: purchase of land for protection of species and habitats; production of fishing nets which reduce the by-catch, production of pesticides with no (lower) impact on the wild flora, algorithm to switch off the wind turbines, the installation of warning sounds to protect the bats; measures that protect plants or a stand of plants, like trees, from mechanical or chemical damage. | It excludes: <ul style="list-style-type: none"> activities aimed at the minimisation of the intake wild growing forest products (CEA 4.3.1). | | | | | CEPA 6.1 | |
| EP | 4.2.2 | 3 | Protection of natural and semi-natural landscapes | Activities, measures and products aimed at protecting natural and semi-natural landscapes to maintain and increase their ecological value. | It includes: <ul style="list-style-type: none"> the preservation of legally protected natural objects; environmental rehabilitation of abandoned mining and quarrying sites; burying electricity lines; maintenance of landscapes that are the result of traditional agricultural practices threatened by prevailing economic conditions, etc.; restoration of artificial lakes and bays; biodiversity and landscape protection related to agriculture. | It excludes: <ul style="list-style-type: none"> measures taken in order to protect historic monuments, measures to increase aesthetic values for economic purposes (e.g., re-landscaping to increase the value of real estate); protection of predominantly built-up landscapes. | | | | | CEPA 6.2 | |
| EP | 4.2.3 | 3 | Monitoring, measurement and similar | Monitoring, analysis and inspection activities, measures and products which are not classified under the preceding items. | It includes: <ul style="list-style-type: none"> for example: censuses, inventories, databases of flora and fauna. | | | | | | CEPA 6.3 | |
| EP | 4.2.4 | 3 | Other activities | All other activities, measures and products aimed at protecting species and habitats and landscapes. It includes ETGA activities specific to CEPA 6, when they can be separated from other activities belonging to CEPA 6 and from similar activities related to other environmental protection classes. | It includes: <ul style="list-style-type: none"> education, training, information provision and general administration (ETGA) activities, for example: general government activities for preserving stocks through the enforcement of quotas, regulation, monitoring, control (including police functions) for e.g. fishing activities, the management of wild game reserves which preserves resource functions; | | | | | | CEPA 6.4 | |
| RM | 4.3 | 2 | Management of forest resources | It includes activities, measures and products related to the preservation and replenishment of timber stocks and sustainable management of forests. The management of forest resources concerns all types of forests (planted, natural or naturally regenerated according to SFA classification) in both forests available for wood supply and forests not available for wood supply, but excluding the management of protected areas and nature conservation activities (CEA 4.2). | It includes: <ul style="list-style-type: none"> restoration, replenishment activities or development of new forest areas, for example: reforestation and afforestation, machinery for planting; the prevention and control of forest fires, biological and mechanical control of pests, for example: development of firewalls; forest-management-related land improvements, for example: soil conservation, fertilisation and liming to improve soil properties, terracing works to reduce erosion, reclamation of unproductive land and land from use for forestry; activities and products concerning M&M related to sustainable management of forests; ETGA activities linked to the sustainable management of forests. | It excludes: <ul style="list-style-type: none"> activities related to roundwood production (both industrial roundwood and fuelwood) and extraction of non-wood forest products (mushrooms, truffles, berries, nuts, balata and other rubber-like gums, cork, lac and resins, balsams, vegetable hair, odorous acorns, horse chestnut, mosses and lichens); afforestation, reforestation with invasive alien tree species or management of invasive alien tree species for timber production control of invasive alien tree species (CEA 4.2); pest control using chemical agents (of non-biological origin); buildings, unless serving exclusively forest-related environmental purposes; machinery associated with timber extraction and machinery associated with fire-protection unless serving exclusively to fight forest fire; activities of soil protection outside forest areas (CEA 4.1). | | | | | CREMA11A | |
| RM | 4.3.1 | 3 | Reforestation and afforestation | Activities, measures and products aimed at restoration, replenishment or development of new forest areas. | It includes: <ul style="list-style-type: none"> growing of standing timber: planting, replanting, transplanting, thinning and conserving of forests and timber tracts growing of coppice, pulpwood and fire wood operation of forest tree nurseries Manufacturing of equipment dedicated to silviculture | | | | | | | CREMA 11A |
| RM | 4.3.2 | 3 | Protection against forest fires | Activities, measures and products aimed at the prevention and control of forest fires | It includes: <ul style="list-style-type: none"> manufacturing and installing of firebreaks; other activities linked to the control of forest fires | | | | | | | CREMA 11A |
| RM | 4.3.3 | 3 | Monitoring, measurement and similar | Activities, measures and products aimed at monitoring the management of the forest resources | It includes: <ul style="list-style-type: none"> forestry inventories forest management consulting services timber evaluation forest and control | | | | | | CREMA 11A | |
| RM | 4.3.4 | 3 | Others activities | All other activities, measures and products aimed at sustainable management of forest resources | It includes: <ul style="list-style-type: none"> education, training, information provision and general administration (ETGA) activities related to sustainable management of forests; all other activities related to sustainable management of forests | | | | | | CREMA 11A | |

| EP/RM | # | Level | Title | Description | It includes | It excludes | Definitions | Operational rules | Guidance notes | Notes/Comments | Correspondence with current version of CEPA CReMA classifications |
|--------|-----|-------|---|---|---|-------------|---|---|----------------|----------------|--|
| EP, RM | 6 | 1 | Research and development | R&D for developing the stock of knowledge related to the prevention and elimination of all forms of pollution and the preservation of natural resources stocks. This includes the conception of new applications of available knowledge in the field of environmental pollution and resource management | It includes: • Identification and analysis of sources of pollution (incl. climate change, mechanisms of dispersion of pollutants in the environment as well as their effects on human beings and the biosphere. • Resource management oriented R & D. • R&D oriented towards equipment and instruments for pollution/resource use, incl. treatment, abatement, measurement and analysis. | | Research and development (R&D) comprises "creative and systematic work undertaken in order to increase the stock of knowledge... and to devise new applications of available knowledge" (see Frascati manual, OECD 2015) in the field of environmental protection. Environmental R&D is classified in accordance with the 2007 NABIS (Nomenclature for the Analysis and Comparison of Scientific Programmes and Budgets). | When separable, all R&D activities even when referring to a specific class have to be classified under CEA 6. | | | CEPA 8, CReMA 15 |
| EP, RM | 6.1 | 2 | R&D for air, climate and energy (CEA1) | R&D related to the reduction of air emissions and/or concentration of air pollutants | It includes R&D related to renewable energy and energy savings and management such as: • R&D related to electromobility • R&D related to the development of carbon capture and storage processes • R&D related to methanation and hydrogen upgrading processes. | | | | | | CEPA 8.1, CReMA15 |
| EP, RM | 6.2 | 2 | R&D for wastewater and water resources (CEA2) | R&D related to treating wastewater (up to environmental standards or quality norms) and at safeguarding stocks of water | It includes: • R&D related to membrane technology for wastewater and water treatment | | | | | | CEPA 8.3, CReMA15 |
| EP, RM | 6.3 | 2 | R&D for waste and materials recovery (CEA3) | R&D related to waste management and materials recovery | | | | | | | CEPA 8.2, CReMA15 |
| EP, RM | 6.4 | 2 | R&D for soil, surface and groundwater, biodiversity and forest (CEA4) | R&D related to the protection and remediation of soil and water, biodiversity and forests | | | | | | | CEPA 8.4, 8.6, CReMA15 |
| EP, RM | 6.5 | 2 | R&D for noise and radiation (CEA5) | R&D related to the reduction and abatement of industrial and transport noise and the reduction or elimination of the negative consequences of particle radiation emitted from any source. | | | | | | | CEPA 8.5, 8.7, CReMA 15 |

| EP/RM | # | Level | Title | Description | It includes | It excludes | Definitions | Operational rules | Guidance notes | Notes/Comments | Correspondence with current version of CEPA CReMA classifications |
|--------|-----|-------|---|---|---|-------------|-------------|-------------------|---|----------------|---|
| EP, RM | 7 | 1 | Cross-cutting and other activities | All ETIGA activities, measures and products related to environmental protection and resource management in the case that they cannot be classified in CEA 1-5. | <p>It includes:</p> <ul style="list-style-type: none"> • activities aimed at the general support of decisions taken in the context of resource management activities by government or non-government bodies, for example: preparation of declarations or requests for permission, internal resource management, environmental certification processes (ISO 14000, environmental management), activities of units specialised in consultancy, supervision and analysis, regulation; • education, training and information, for example: high school programs, university degrees or special courses specifically aimed at training for resource management; • international financial aid where it may be difficult for the donor countries to attribute related expenditure to individual CEA classes. | | | | | | CEPA 9, CReMA 16 |
| EP, RM | 7.1 | 2 | General environmental administration, management, regulation, dissemination and consultancy | Administration, management and support to decisions regarding environmental protection and resource management by government and non-government bodies | <p>It includes:</p> <ul style="list-style-type: none"> • regulation by the government • preparation of declarations or requests for permission; • internal environmental management; • environmental certification processes (ISO 14000, environmental management); • activities of units specialised in environmental consultancy, supervision and analysis; | | | | | | CEPA 9.1, CReMA16 |
| EP, RM | 7.2 | 2 | Environmental education and training | Activities, measures and products aimed at providing general environmental education or training and disseminating environmental information not elsewhere classified. | <p>It includes:</p> <ul style="list-style-type: none"> • high school programs related to environmental protection and resource management; • university degrees or special courses specifically aimed at training for environmental protection and resource management; • continuing education programmes aimed at training for environmental protection and resource management • environmental reports, environmental training tools (including web sites or platforms) | | | | | | CEPA 9.2, CReMA16 |
| EP, RM | 7.3 | 2 | Environmental activities not elsewhere classified | This position groups together all environmental protection and resource management activities, measures and products that cannot be classified under other CEA classes. | International financial aid due to difficulties in attributing international aid to individual classes. | | | | If international aid is important in volume and/or of specific political interest, a separate 3-digit heading under CEA 7 could be adequate for national purposes | | CEPA 9.4, CReMA16 |