EEA mapping of emission reporting code systems

Version 1

European Environment Agency

Acknowledgments

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1 Background

Assessing the state of the environment, pressures from human activities and their relation with policies implies drawing on numerous data sources. This includes, for example, data reported under the Convention on Long-Range Transboundary Air Pollution (reported via the Nomenclature For Reporting or NFR), under the Greenhouse-gas Monitoring Mechanism Regulation vie the Common Reporting Format (CRF; Regulation (EU) 525/2013) or under the European Pollutant Release and Transfer Register (Regulation (EC) 166/2006), to name a few. To-date, there was no common approach as to how each of the categories in these data sets is mapped to over-arching sectors, nor was there consensus on how these sectors should be called and defined by the EEA.

Reasons for this disconnect are manifold and include varying foci of the EEA groups on specific emission reporting code systems, issues around the aggregation of data at different levels across the code systems, regulatory thresholds but also specific definitions of sectors and activities therein. As a result, the scopes of e.g. "Manufacturing industry" or "Agriculture" were up to date defined in slightly different ways across the different EEA products.

The attached mapping is an attempt to overcome these inconsistencies in public-facing products published by the EEA. The starting point for this work was a mapping that the European Monitoring and Evaluation Programme (EMEP) Centre on Emission Inventories and Projections (CEIP) had drafted (see here). It is the result of a concerted effort by multiple content groups at EEA as well as the EIONET NRC on Industrial Pollution. Input was also received from the European Topic Centre Air Pollution and Climate Change Mitigation (ETC/ACM).

2 Code systems included

The following code systems are included in the current version of the mapping:

- UN Framework Convention on Climate Change Common Reporting Format or CRF
    o *Comment:* Third level CRF sectors (e.g. 1.A.1 – Energy industries) and down mapped only.
- Convention on Long-Range Transboundary Air Pollution Nomenclature for Reporting or NFR (EMEP/EEA air pollutant emission inventory guidebook 2016)
    o *Comment:* Fourth level NFR codes (e.g. 1A1a – Public electricity and heat production) and down mapped only.
- NFR Aggregation for Gridding or GNFR (EEA guidance - Spatial mapping of emissions)
- Statistical Classification of Economic Activities in the European Community or NACE
    o *Comment:* Level 1-4 mapped separately to allow application for different Eurostat environmental and economic statistics.
- Categories of activities in Annex I to the Industrial Emission Directive 2010/75/EU
    o *Comment:* Only activities mapped, not sectors.
- Activities listed in Annex I to the European Pollutant Release and Transfer Register Regulation (EC) No 166/2006
    o *Comment:* Only activities mapped, not sectors.
- Categories of activities in Annex I to the EU Emission Trading Scheme Directive 2003/87/EC

3 Approach

The approach taken for the mapping developed here differs from the one taken by EMEP/CEIP mentioned above. Instead of trying to map across all of the emission reporting code systems, the EEA simply mapped each one back to overarching sectors and sub-sectors. This approach was taken because the main aim was to

develop a mapping that fits a variety of purposes but essentially supports communication to/with the public. The EMEP/CEIP mapping on the other hand shows that a mapping across all relevant code systems to one-another is very complex and runs the risk of introducing double counting. The mapping developed here on the other hand delivers a readily available tool that can be used by the EEA, its stakeholders and others for data analysis and communication purposes.

Description of the EEA sectors and subsectors

Table 1 provides an overview of the EEA sectors and sub-sectors to which the different code systems were mapped. Each one is described in the following. Please refer to the mapping itself to find out more about which specific codes, activities and sectors are mapped to these overarching EEA sectors.

Energy supply

The energy supply sector contains a number of activities including refineries, electricity and heat production (e.g. thermal power stations), fuel processing (e.g. coke ovens) and others (e.g. fugitive emissions from the distribution of fuels).

Extractive industries

Extractive industries comprises raw material mining and quarrying activities including that of oil, gas, coal and other fuels.

Manufacturing industry

This sector contains a number of manufacturing activities including ferrous metal (e.g. pig iron production), non-ferrous metal (e.g. aluminium production), non-metallic minerals (e.g. the manufacture of glass), chemicals, pulp, paper and wood, food and drink (e.g. breweries) and a host of other manufacturing (e.g. textiles).

Waste

Waste includes the solid waste treatment (e.g. waste handling sites) as well as wastewater treatment (e.g. wastewater treatment plants).

Transport

Transport includes passenger cars, light duty vehicles, heavy duty vehicles and buses, mopeds and motorcycles, other types of road transport (e.g. taxis), domestic aviation, national navigation, railways and other transport (e.g. space transport). International aviation and navigation are also included here.

Residential, commercial and institutional

This sector covers a host of activities ranging from the heating of residences, to construction, retail, public administration and the military.

Agriculture

Agriculture includes activities around livestock (e.g. intensive rearing of pigs), crops (e.g. rice cultivation) and energy use in agriculture (e.g. in tractors).

LULUCF

Land use, land use change and forestry (LULUCF) includes emissions (positive and negative) from land conversion (e.g. to cropland or settlements or to wetlands) and forestry activities.

Other

This category only contains activities reported under 'other' to the UNFCCC and UNECE.

Table 1 EEA sectors and sub-sectors developed for the mapping.

EEA sectors	EEA sub-sectors
Energy supply	Refineries
	Fuel processing
	Electricity and heat production
	Other energy supply
Extractive industry	Extractive industry
Manufacturing industry	Ferrous metal
	Non-ferrous metal
	Non-metallic minerals
	Chemicals
	Pulp, paper and wood
	Food and drink
	Other manufacturing
Waste	Waste management
	Wastewater treatment
Transport	Passenger cars
	Light duty vehicles
	Heavy duty vehicles and buses
	Mopeds and motorcycles
	Other road transport
	Domestic aviation
	National navigation
	Railways
	Other transport
	International aviation
	International shipping
Residential, commercial & institutional	Residential, commercial & institutional
Agriculture	Livestock
	Crops
	Energy use
LULUCF	LULUCF
Other	Other

4   Structure of the mapping

The mapping is provided in the form of an Excel workbook. The workbook contains the eight tabs described in the following.

EEA sectors and sub-sectors
This tab contains a list of the EEA sectors and sub-sectors the various code systems are mapped to. It is meant to be informative and serves no further purpose.

CRF SBSTA 39
This tab represents the mapping of each CRF sector code to the EEA sectors and sub-sectors (where applicable). Users may use columns A or B to create a link to their own dataset. CRF sectors are provided in the same format as in the European Union Greenhouse Gas Inventory and most other publications and datasets relating to the official submissions to the UNFCCC.

NFR14
This tab contains the mapping from NFR14 to the EEA sectors and sub-sectors (where applicable). Users may again use columns A and B to link back to their respective datasets. The format corresponds to the one used in the dataset National emissions reported to the LRTAP Convention.

GNFR
This tab contains the mapping from GNFR to the EEA sectors provided in the first tab. Given the level of detail it does not contain a mapping to EEA sub-sectors. Column A may be used to create a link between existing datasets and the EEA sectors. The format corresponds to the one suggested in the EEA guidance - Spatial mapping of emissions.

E-PRTR
Here the mapping between E-PRTR activities as outlined in Annex I to the E-PRTR Regulation (EC) No 166/2006. Either columns A, B or C can be used to link to other datasets. The format used corresponds to the one in the official EEA E-PRTR dataset.

NACE Rev.2
This tab contains the mapping from each NACE level to the corresponding EEA sector and/or sub-sector (where applicable). Columns B or D may be used to link to other datasets. The format complied with corresponds to the one set out by Regulation (EC) 1893/2006.

IED
This tab shows the mapping from the IED activities to the EEA sectors and/or sub-sectors (where applicable). Columns A and B may be used to create links to other datasets. The notation corresponds to the one found in Annex I to the Industrial Emission Directive 2010/75/EU.

EU-ETS
The final tab provides the mapping from EU-ETS activities to EEA sectors and sub-sectors (where applicable). Either columns A or B may be used to link to other datasets. The format used corresponds to that in the EEA EU-ETS dataset.