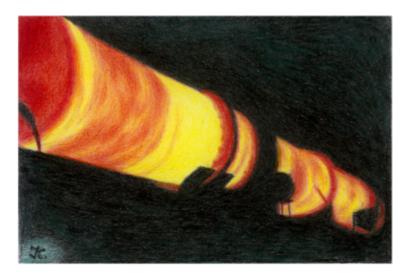
# 1.A.2.f - Stationary Combustion in Manufacturing Industries and Construction: Non-Metallic Minerals

## **Short Description**

Sub-category 1.A.2.f - Non Ferrous Metals refers to emissions from fuel consumption for burning processes in energy-intensive mineral industries.

	NFR Code				Met	hod				AD	1		EF	
	1.A.2.f				T1 NS CS									
Meth	od(s) ap	plied												
	D				Default									
	T1				Tier 1 / Simple Methodology *									
	T2				Tier 2*									
	Т3				Tier 3 / Detailed Methodology *									
	С				CORINAIR									
	CS				Country Specific									
	M				Model									
* as c	described	in the	EMER	P/EEA E	missio	n Inve	ntor	y Gui	debo	ok -	2019	), in cated	ory cha	pters.
(sou	rce for) A	ctivi	ty Da	ta										
	NS				National Statistics									
	RS				Regional Statistics									
	IS				International Statistics									
	PS				Plant Specific									
	As				Associations, business organisations									
	Q				specific Questionnaires (or surveys)									
M				_	Model / Modelled									
С					Confidential									
(sou	rce for) E		ion F											
D					Default (EMEP Guidebook)									
CS					Country Specific									
PS					Plant Specific									
M					Model / Modelled									
С				Con	Confidential									
NO <sub>x</sub>	NMVOC	SO <sub>2</sub>	NΗ <sub>3</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	TSP	ВС	СО	РВ	Cd	Hg	PCDD/F	PAHs	нсв
-/-	-/-	-/-	-/-	-	-	-/-	-	-/-	-	-	-	-	-	-

NO <sub>x</sub> NMVOC SO <sub>2</sub> NH <sub>3</sub> P	M <sub>2.5</sub> PM <sub>10</sub> TSP BC CO PB Cd Hg PCDD/F PAHs HCB								
Method(s) applied									
D	Default								
T1	Tier 1 / Simple Methodology *								
T2	Tier 2*								
Т3	Tier 3 / Detailed Methodology *								
С	CORINAIR								
CS	Country Specific								
M	Model								
* as described in the EMEP/E	* as described in the EMEP/EEA Emission Inventory Guidebook - 2019, in category chapters.								
(source for) Activity Data									
NS	National Statistics								
RS	Regional Statistics								
IS	International Statistics								
PS	Plant Specific								
As	Associations, business organisations								
Q	specific Questionnaires (or surveys)								
M	Model / Modelled								
С	Confidential								
(source for) Emission Factors									
D	Default (EMEP Guidebook)								
CS	Country Specific								
PS	Plant Specific								
M	Model / Modelled								
С	Confidential								



In order of significance relating energy use and emissions, the covered industries are:

- burning of cement clinker,
- burning of quicklime,
- melting of glass,
- burning of ceramics.

### **Method**

Regarding the burning processes emissions can allocated to the use of fuels or to the production process. Current allocation is regarding the main importance of the production process.

#### **Activity data**

The key source of all conventional fuel data is the national energy balance. Moreover the use of additional statistical data is necessary in order to disaggregate data. Data source for fuel inputs for energy-related process combustion in cement industry are manufacturing-sector statistics (Statistik des produzierenden Gewerbes); reporting number (Melde-Nr.) 23.51, Cement production. Furthermore the cement industry uses significant amounts of substitute fuels that do not appear in national statistics and in the Energy Balance. Relevant production figures and fuel-use amounts have been taken from statistics of the VDZ cement-industry association. The fuel-input data for ceramics production has also been taken from manufacturing industry statistics (Statistik des produzierenden Gewerbes); reporting no. (Melde-Nr.) 23.32, brickworks (Ziegelei), production of other construction ceramics. The same statistic is also used as source for fuel input of glass (reporting number: 23.1, Production of glass and glassware) and lime production (reporting number: 23.52, Lime).

#### **Emissions**

Due to allocating emissions to process part we have removed most of time series inconsistencies. The current situation is the following:

Table 1: relevance of emission sources regarding the fuel use due to burning processes in 1.A.2.f

	SO <sub>x</sub>	NO <sub>x</sub>	СО	NMVOC	NH <sub>3</sub>	TSP	ВС
cement	IE <sup>1</sup>	IE <sup>1</sup>	medium	IE <sup>1</sup>	IE <sup>1</sup>	IE <sup>2</sup>	NE
lime	IE <sup>1</sup>	IE <sup>1</sup>	IE <sup>1</sup>	IE <sup>1</sup>	low	IE <sup>2</sup>	NE
glass	IE <sup>2</sup>	IE <sup>1</sup>	IE <sup>1</sup>	IE <sup>1</sup>	IE <sup>1</sup>	IE <sup>2</sup>	NE
ceramics	IE <sup>3</sup>	IE <sup>3</sup>	low	IE <sup>1</sup>	IE <sup>1</sup>	IE <sup>1</sup>	NE

<sup>&</sup>lt;sup>1</sup> Included in process related emissions, in all cases it is the link to complementary source category.

The entire appraisal of the emissions situation succeeds only in connection with the process related emissions. Especially further relevant pollutants as heavy metals or persistent organics are shown as process related generally.

#### Recalculations

Recalculations were necessary due to the implementation of the now revised National Energy Balance.



For pollutant-specific information on recalculated emission estimates for Base Year and 2022, please see the recalculation tables following chapter 8.1 - Recalculations.

## **Planned improvements**

At the moment, no category-specific improvements are planned.

<sup>&</sup>lt;sup>2</sup> Some artifacts occur for 1990 emissions that cannot be shifted.

<sup>&</sup>lt;sup>3</sup> Inclusion in process related emissions occurs from different time points onwards.