

## 2.C.7.a - Copper Production

### Short description

| Method | AD | EF    | Key Category Analysis             |
|--------|----|-------|-----------------------------------|
| T1     | AS | D, CS | <b>L&amp;T:</b> Cd / <b>L:</b> Pb |

Within this NFR sub-category, SO<sub>2</sub>, PM<sub>2.5</sub>, PM<sub>10</sub>, TSP, PCDD/F, HCB, As, Cd, Cu, Hg, and Pb emissions from the production of copper are reported.

### Methodology

#### Activity data

The yearly production figures were taken from the annual statistical report of the German association for non-ferrous metals <sup>1)</sup>.

#### Emission factors

The emission factors are either default values according to the 2016 EMEP/EEA air pollutant emission inventory guidebook or determined in several research projects. The EF for the heavy metals (HM) are taken from a research project <sup>2)</sup>.

Table 1: Tier1 emission factors applied for entire time series

| ~ Pollutant       | ~ EF    | ~ Unit |
|-------------------|---------|--------|
| HCB               | > 1     | mg/t   |
| PCDD/F            | > 2.9   | µg/t   |
| TSP               | > 0.100 | kg/t   |
| PM <sub>10</sub>  | > 0.085 | kg/t   |
| PM <sub>2.5</sub> | > 0.07  | kg/t   |
| SO <sub>2</sub>   | > 3.0   | kg/t   |
| As                | > 7     | g/t    |
| Cd                | > 15    | g/t    |
| Cu                | > 57    | g/t    |
| Hg                | > 0.031 | g/t    |
| Pb                | > 16    | g/t    |

### Recalculations

With activity data and emission factors remaining unrevised, no recalculations have been carried out compared to last year's submission.



For pollutant-specific information on recalculated emission estimates for Base Year and 2018, please see the pollutant specific recalculation tables following [chapter 8.1 - Recalculations](#).

### Planned improvements

No category specific improvements are planned.

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[bibliography](#) : 1: German association for non-ferrous metals (WirtschaftsVereinigung Metalle): Annual statistical report: <https://www.wvmetalle.de> : 2 : Ökopol, IER, IZT, IfG: Bereitstellung einer qualitätsgesicherten Datengrundlage für die Emissionsberichterstattung zur Umsetzung von internationalen Luftreinhalte- und Klimaschutzvereinbarungen für ausgewählte Industriebranchen Teilvorhaben 2: NE-Metallindustrie, Kalkindustrie, Gießereien. [bibliography](#)

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<sup>1)</sup> (bibcite 1)

<sup>2)</sup> (bibcite 2)