

2.H.2 - Food & Beverages Industry

| Category Code | Method | | | | | AD | | | | | EF | | | | |
|---------------|-----------------|-----------------|-----------------|--------|----|----|----|----|----|------|-----|-----|-----|------------------|-------------------|
| 2.H.2 | T1 | | | | | NS | | | | | CS | | | | |
| Key Category | SO ₂ | NO _x | NH ₃ | NM VOC | CO | BC | Pb | Hg | Cd | Diox | PAH | HCB | TSP | PM ₁₀ | PM _{2.5} |
| 2.H.2 | - | - | - | -/- | - | - | - | - | - | - | - | - | -/- | -/- | -/- |

T = key source by Trend **L** = key source by Level

| Methods | |
|-----------|---------------------------------|
| D | Default |
| RA | Reference Approach |
| T1 | Tier 1 / Simple Methodology * |
| T2 | Tier 2* |
| T3 | Tier 3 / Detailed Methodology * |
| C | CORINAIR |
| CS | Country Specific |
| M | Model |

* as described in the EMEP/CORINAIR Emission Inventory Guidebook - 2007, in the group specific chapters.

| AD - Data Source for Activity Data | |
|------------------------------------|--------------------------------------|
| NS | National Statistics |
| RS | Regional Statistics |
| IS | International Statistics |
| PS | Plant Specific data |
| AS | Associations, business organisations |
| Q | specific questionnaires, surveys |
| EF - Emission Factors | |
| D | Default (EMEP Guidebook) |
| C | Confidential |
| CS | Country Specific |
| PS | Plant Specific data |

Emissions occurring in this sector in Germany derive from the following production processes which are analogous to the IPCC category (Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories, Reference Manual (Volume 3)):

Alcoholic beverages

- Wine
- Beer
- Spirits

Bread and other foods

- Meat, fish and poultry
- Sugar
- Margarine as well as hard and hardened fats
- Cake, cookies and breakfast cereals
- Bread
- Animal feedstuffs
- Coffee roasting

Following pollutants are reported:

- volatile organic compounds (NMVOC),
- particulate matter (PM_{2.5}, PM₁₀ and TSP).

Pursuant to the 1993 Classification of Economic Activities (WZ 93), the food and beverage industry is divided into nine groups and a total of 33 classes. Governmental statistical evaluations are oriented to this classification. The German food industry includes an especially large number of small and medium-sized enterprises (SMEs); nearly 80 percent of its

companies have fewer than 100 employees, and only 3 per cent have more than 500 employees (BpB, 2002, p.51).

Energy related emissions from the sugar industry are reported under category 1.A.2.e.

Methodology

Activity data

xx

Emission factors

Table 1: Overview of applied emission factors

| Pollutant | Name of Category | EF | Unit | Trend |
|-------------------------|-------------------------|--------------|-------------|----------------|
| NO_x | clinker burning | 0.5 | kg/t | falling |
| SO₂ | clinker burning | 0.25 | kg/t | falling |
| NM VOC | clinker burning | 0.046 | kg/t | constant |
| NH₃ | clinker burning | 0.044 | kg/t | falling |
| Hg | clinker burning | 0.022 | g/t | falling |
| Pb | clinker burning | 0.016 | g/t | falling |
| Cd | clinker burning | 0.004 | g/t | falling |
| PCB | clinker burning | 28.0 | µg/t | constant |
| PCDD | clinker burning | 0.040 | µg/t | constant |
| B(a)P | clinker burning | 1.0 | mg/t | constant |
| PAH | clinker burning | 240 | mg/t | constant |
| TSP | <i>clinker grinding</i> | <i>0.046</i> | <i>kg/t</i> | <i>falling</i> |
| PM₁₀ | <i>clinker grinding</i> | <i>0.041</i> | <i>kg/t</i> | <i>falling</i> |
| PM_{2.5} | <i>clinker grinding</i> | <i>0.037</i> | <i>kg/t</i> | <i>falling</i> |

Trends in emissions

All trends in emissions correspond to trends of emission factors in table above. No rising trends are to identify.

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Emission trends in NFR 2.H.2

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

For purposes of updating the EF project has started in 2020, but results are planned not before 2021 ¹⁾.

¹⁾ ReFoPlan FKZ - xx: „yy“