

## Appendix 2.1 - Reporting of PM emissions

Table A2.1: Inclusion/exclusion of the condensable component from PM<sub>10</sub> and PM<sub>2.5</sub> emission factors (NOTE: NFR categories with no reported activity or PM emissions (notation keys 'NO' or 'NA' in the NFR tables) are excluded here!)

| NFR code       | Source / sector name   | condensable component |          | EF reference and/or comments                       |
|----------------|--|-----------------------|----------|--|
|                |  | included              | excluded |  |
| NFR 1 - Energy |  |                       |          |  |
| 1.A.1.a        | Public electricity and heat production   |                       | x        |  |
| 1.A.1.b        | Petroleum refining   |                       | x        |  |
| 1.A.1.c        | Manufacture of solid fuels and other energy industries   |                       | x        |  |
| 1.A.2.a        | Stationary combustion in manufacturing industries and construction: Iron and steel                     |                       | x        |  |
| 1.A.2.b        | Stationary combustion in manufacturing industries & construction: Non-ferrous metals                   | ?                     |          | no indication                                      |
| 1.A.2.c        | Stationary combustion in manufacturing industries & construction: Chemicals                            |                       |          |  |
| 1.A.2.d        | Stationary combustion in manufacturing industries & construction: Pulp, Paper & Print                  |                       |          |  |
| 1.A.2.e        | Stationary combustion in manufacturing industries & construction: Food processing, beverages & tobacco |                       | x        |  |
| 1.A.2.f        | Stationary combustion in manufacturing industries & construction: Non-metallic minerals                |                       |          |  |
| 1.A.2.g vii    | Mobile combustion in manufacturing industries & construction   | x <sup>1</sup>        |          | country-specific EF likely to include condensables |
| 1.A.2.g viii   | Stationary combustion in manufacturing industries & construction                                       |                       | x        |  |
| 1.A.3.a i(i)   | International aviation LTO (civil)   | ?                     |          | country-specific EF without clear indication       |
| 1.A.3.a ii(i)  | Domestic aviation LTO (civil)  | ?                     |          | country-specific EF without clear indication       |
| 1.A.3.b i      | Road transport: Passenger cars   | x <sup>1</sup>        |          | country-specific EF likely to include condensables |
| 1.A.3.b ii     | Road transport: Light duty vehicles  | x <sup>1</sup>        |          | country-specific EF likely to include condensables |
| 1.A.3.b iii    | Road transport: Heavy duty vehicles and buses  | x <sup>1</sup>        |          | country-specific EF likely to include condensables |
| 1.A.3.b iv     | Road transport: Mopeds & motorcycles   | x <sup>1</sup>        |          | country-specific EF likely to include condensables |
| 1.A.3.b v      | Road transport: Gasoline evaporation   | NA                    |          | no PM emissions from this source category          |
| 1.A.3.b vi     | Road transport: Automobile tyre and brake wear   |                       | x        |  |
| 1.A.3.b vii    | Road transport: Automobile road abrasion   |                       | x        |  |
| 1.A.3.c        | Railways   | x <sup>1</sup>        |          | country-specific EF likely to include condensables |
| 1.A.3.d i(ii)  | International inland waterways   | IE                    |          | included in NFR 1.A.3.d ii                         |
| 1.A.3.d ii     | National navigation (shipping)   | x <sup>1</sup>        |          | country-specific EF likely to include condensables |
| 1.A.3.e i      | Pipeline transport   |                       | x        |  |
| 1.A.4.a i      | Commercial/Institutional: Stationary   |                       | x        |  |
| 1.A.4.a ii     | Commercial/Institutional: Mobile   | x <sup>1</sup>        |          | country-specific EF likely to include condensables |
| 1.A.4.b i      | Residential: Stationary  | x                     |          |  |
| 1.A.4.b ii     | Residential: Household and gardening (mobile)  | ?                     |          | country-specific EF without clear indication       |
| 1.A.4.c i      | Agriculture/Forestry/Fishing: Stationary   |                       | x        |  |
| 1.A.4.c ii     | Agriculture/Forestry/Fishing: Off-road vehicles and other machinery                                    | x <sup>1</sup>        |          | country-specific EF likely to include condensables |

| NFR code     | Source / sector name   |  |    |                     | condensable component   |   | EF reference and/or comments                       |
|--------------|--|--|----|---------------------|---|---|--|
| 1.A.4.c iii  | Agriculture/Forestry/Fishing: National fishing                                   |  |    |                     | ?   |   | country-specific EF without clear indication       |
| 1.A.5.a      | Other stationary (including military)  |  |    |                     |   | x   |  |
| 1.A.5.b      | Other, Mobile (including military, land based and recreational boats)            |  |    |                     | x <sup>1</sup>  |   | country-specific EF likely to include condensables |
| 1.B.1.a      | Fugitive emission from solid fuels: Coal mining and handling                     |  |    | x                   |   |   |  |
| 1.B.1.b      | Fugitive emission from solid fuels: Solid fuel transformation                    |  |    | x                   |   |   |  |
| 1.B.2.c      | Venting and flaring (oil, gas, combined oil and gas)                             |  |    |                     | ?   | EMEP GB 2016 EF without any indication                            |  |
| NFR 2 - IPPU |  |  |    |                     |   |   |  |
| 2.A.1        | Cement production  |  |    |                     | ?   | country-specific EF without any indication                        |  |
| 2.A.2        | Lime production  |  |    |                     | ?   | country-specific EF without any indication                        |  |
| 2.A.3        | Glass production   |  |    |                     | ?   | country-specific EF without any indication                        |  |
| 2.A.5.a      | Quarrying and mining of minerals other than coal                                 |  |    |                     | ?   | EMEP GB 2016 EF without any indication                            |  |
| 2.A.5.b      | Construction and demolition  |  |    |                     | ?   | EMEP GB 2016 EF without any indication                            |  |
| 2.A.5.c      | Storage, handling and transport of mineral products                              |  | IE | included in NFR 2.L |   |   |  |
| 2.A.6        | Other mineral products (please specify in the IIR)                               |  |    |                     | ?   | country-specific EF without any indication                        |  |
| 2.B.3        | Adipic acid production   |  |    | NE                  | no EF in EMEP GB 2019   |   |  |
| 2.B.5        | Carbide production   |  |    |                     | ?   | country-specific EF without any indication                        |  |
| 2.B.7        | Soda ash production  |  |    |                     | ?   | country-specific EF without any indication                        |  |
| 2.B.10.a     | Chemical industry: Other (please specify in the IIR)                             |  |    |                     | ?   | carbon black: country-specific EF without any indication          |  |
| 2.B.10.a     | Chemical industry: Other (please specify in the IIR)                             |  |    |                     | ?   | fertilizer production: country-specific EF without any indication |  |
| 2.B.10.b     | Storage, handling and transport of chemical products (please specify in the IIR) |  | IE | included in NFR 2.L |   |   |  |
| 2.C.1        | Iron and steel production  |  |    |                     | ?   | country-specific EF without any indication                        |  |
| 2.C.2        | Ferroalloys production   |  |    |                     | ?   | country-specific EF without any indication                        |  |
| 2.C.3        | Aluminium production   |  |    |                     | ?   | country-specific EF without any indication                        |  |
| 2.C.4        | Magnesium production   |  |    | NE                  | no primary magnesium production; emission for secondary magnesium production allocated in 1.A.2.b |   |  |
| 2.C.5        | Lead production  |  |    |                     | ?   | country-specific EF without any indication                        |  |
| 2.C.6        | Zinc production  |  |    |                     | ?   | country-specific EF without any indication                        |  |
| 2.C.7.a      | Copper production  |  |    |                     | ?   | country-specific EF without any indication                        |  |
| 2.C.7.c      | Other metal production (please specify in the IIR)                               |  |    |                     | ?   | no indication   |  |

|   |   |    |  |  |
|---|---|----|--|--|
| 2.C.7.d   | Storage, handling and transport of metal products (please specify in the IIR)                                   | IE | included in NFR 2.L                        |  |
| 2.D.3.b   | Road paving with asphalt  | ?  |  | country-specific EF without any indication           |
| 2.G   | Other product use: Tobacco  | ?  |  | country-specific EF without any indication           |
| 2.G   | Other product use: Fireworks  | ?  |  | EMEP GB 2019 EF without any indication               |
| 2.G   | Other product use: Charcoal   | ?  |  | EF from 1.A.4 EMEP GB 2019 EF without any indication |
| 2.H.1   | Pulp and paper industry   | ?  |  | country-specific EF without any indication           |
| 2.H.2   | Food and beverages industry   | ?  |  | EMEP GB 2016 EF without any indication               |
| 2.I   | Wood processing   | ?  |  | country-specific EF without any indication           |
| 2.J   | Production of POPs  | NE |  |  |
| 2.L   | Other production, consumption, storage, transportation or handling of bulk products (please specify in the IIR) | ?  | country-specific EF without any indication |  |
| <b>NFR 3 - Agriculture</b>                                |   |    |  |  |
| 3.B.1.a   | Manure management - Dairy cattle  | ?  |  | EMEP GB 2016 EF without any indication               |
| 3.B.1.b   | Manure management - Non-dairy cattle  | ?  |  | EMEP GB 2016 EF without any indication               |
| 3.B.2   | Manure management - Sheep   | ?  |  | EMEP GB 2016 EF without any indication               |
| 3.B.3   | Manure management - Swine   | ?  |  | EMEP GB 2016 EF without any indication               |
| 3.B.4.a   | Manure management - Buffalo   | IE | EMEP GB 2016 EF without any indication     |  |
| 3.B.4.d   | Manure management - Goats   | ?  |  | EMEP GB 2016 EF without any indication               |
| 3.B.4.e   | Manure management - Horses  | ?  |  | EMEP GB 2016 EF without any indication               |
| 3.B.4.f   | Manure management - Mules and asses   | IE | EMEP GB 2016 EF without any indication     |  |
| 3.B.4.g i   | Manure management - Laying hens   | ?  |  | EMEP GB 2016 EF without any indication               |
| 3.B.4.g ii  | Manure management - Broilers  | ?  |  | EMEP GB 2016 EF without any indication               |
| 3.B.4.g iii   | Manure management - Turkeys   | ?  |  | EMEP GB 2016 EF without any indication               |
| 3.B.4.g iv  | Manure management - Other poultry   | ?  |  | EMEP GB 2016 EF without any indication               |
| 3.B.4.h   | Manure management - Other animals (please specify in the IIR)   | NE | EMEP GB 2016 EF without any indication     |  |
| 3.D.c   | Farm-level agricultural operations including storage, handling and transport of agricultural products           | ?  |  | EMEP GB 2016 EF without any indication               |
| <b>NFR 5 - Waste</b>                                      |   |    |  |  |
| 5.A   | Biological Treatment of Waste - Solid Waste Disposal on Land  | ?  |  | EMEP-GB 2019: EF without any indication              |
| 5.C.1.b v   | Cremation   | ?  |  | country-specific EF without any indication           |
| 5.E.2   | Other Waste: Building and Car Fires   | ?  |  | EMEP GB 2016 EF without any indication               |
| <b>MEMO ITEMS - NOT TO BE INCLUDED IN NATIONAL TOTALS</b> |   |    |  |  |
| 1.A.3.a i(ii)   | International aviation cruise (civil)   | ?  |  | country-specific EF without clear indication         |
| 1.A.3.a ii(ii)  | Domestic aviation cruise (civil)  | ?  |  | country-specific EF without clear indication         |
| 1.A.3.d i(i)  | International maritime navigation   | ?  |  | country-specific EF without clear indication         |
| 1.A.5.c   | Multilateral operations   | NE |  |  |
| 11.B  | Forest fires  | ?  |  | EMEP GB 2016 EF without any indication               |