

## 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                   |  |
| <b>NFR 1 - Energy</b> |  |                                       |                            |  |
| 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 and construction: Non-ferrous metals                     |                                       | ?                          | no indication                                      |
| 1.A.2.c               | Stationary combustion in manufacturing industries and construction: Chemicals                              |                                       |                            |  |
| 1.A.2.d               | Stationary combustion in manufacturing industries and construction: Pulp, Paper and Print                  |                                       |                            |  |
| 1.A.2.e               | Stationary combustion in manufacturing industries and construction: Food processing, beverages and tobacco | x                                     |                            |  |
| 1.A.2.f               | Stationary combustion in manufacturing industries and construction: Non-metallic minerals                  |                                       |                            |  |
| 1.A.2.g vii           | Mobile combustion in manufacturing industries and construction (please specify in the IIR)                 | x <sup>&lt;sup&gt;1&lt;/sup&gt;</sup> |                            | country-specific EF likely to include condensables |
| 1.A.2.g viii          | Stationary combustion in manufacturing industries and construction: Other (please specify in the IIR)      |                                       | 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>&lt;sup&gt;1&lt;/sup&gt;</sup> |                            | country-specific EF likely to include condensables |
| 1.A.3.b ii            | Road transport: Light duty vehicles  | x <sup>&lt;sup&gt;1&lt;/sup&gt;</sup> |                            | country-specific EF likely to include condensables |
| 1.A.3.b iii           | Road transport: Heavy duty vehicles and buses  | x <sup>&lt;sup&gt;1&lt;/sup&gt;</sup> |                            | country-specific EF likely to include condensables |
| 1.A.3.b iv            | Road transport: Mopeds & motorcycles   | x <sup>&lt;sup&gt;1&lt;/sup&gt;</sup> |                            | country-specific EF likely to include condensables |
| 1.A.3.b v             | Road transport: Gasoline evaporation   | NA                                    |                            |  |
| 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>&lt;sup&gt;1&lt;/sup&gt;</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>&lt;sup&gt;1&lt;/sup&gt;</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>&lt;sup&gt;1&lt;/sup&gt;</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                |
| 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                            |
| <b>NFR 2 - IPPU</b> |  |              |   |   |
| 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       |

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