

## 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 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        |                              |  |  |

| <b>NFR code</b>  | <b>Source / sector name</b>   | <b>condensable component</b> |                | <b>EF reference and/or comments</b>                |  |  |
|------------------|---|------------------------------|----------------|--|--|--|
| 1.A.2.f          | Stationary combustion in manufacturing industries and construction: Non-metallic minerals             |                              |                |  |  |  |
| 1.A.2.g<br>vii   | Mobile combustion in manufacturing industries and construction (please specify in the IIR)            | x <sup>1</sup>               |                | country-specific EF likely to include condensables |  |  |
| 1.A.2.g<br>viii  | Stationary combustion in manufacturing industries and construction: Other (please specify in the IIR) |                              |                | x  |  |  |
| 1.A.3.a<br>i(i)  | International aviation LTO (civil)  | ?                            |                | country-specific EF without clear indication       |  |  |
| 1.A.3.a<br>ii(i) | Domestic aviation LTO (civil)   |                              |                | ?  |  | country-specific EF without clear indication       |
| 1.A.3.b<br>i     | Road transport: Passenger cars  |                              | x <sup>1</sup> |  | country-specific EF likely to include condensables |  |
| 1.A.3.b<br>ii    | Road transport: Light duty vehicles   | x <sup>1</sup>               |                | country-specific EF likely to include condensables |  |  |
| 1.A.3.b<br>iii   | Road transport: Heavy duty vehicles and buses   | x <sup>1</sup>               |                | country-specific EF likely to include condensables |  |  |
| 1.A.3.b<br>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   |  |  |
| 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<br>1.A.3.d ii |  |
|---------------------|---|---------------------------------|-------------------------------|--|
| 1.A.3.d ii          | National navigation (shipping)  | <b>x&lt;sup&gt;1&lt;sup&gt;</b> |                               | country-specific EF<br>likely to include<br>condensables |
| 1.A.3.e i           | Pipeline transport  |                                 | x                             |  |
| 1.A.4.a i           | Commercial/Institutional:<br>Stationary                                     |                                 | x                             |  |
| 1.A.4.a ii          | Commercial/Institutional:<br>Mobile   | <b>x&lt;sup&gt;1&lt;sup&gt;</b> |                               | country-specific EF<br>likely to include<br>condensables |
| 1.A.4.b i           | Residential: Stationary   |                                 | x                             |  |
| 1.A.4.b ii          | Residential: Household and<br>gardening (mobile)                            |                                 | ?                             | country-specific EF<br>without clear<br>indication       |
| 1.A.4.c i           | Agriculture/Forestry/Fishing:<br>Stationary                                 |                                 | x                             |  |
| 1.A.4.c ii          | Agriculture/Forestry/Fishing:<br>Off-road vehicles and other<br>machinery   | <b>x&lt;sup&gt;1&lt;sup&gt;</b> |                               | country-specific EF<br>likely to include<br>condensables |
| 1.A.4.c iii         | Agriculture/Forestry/Fishing:<br>National fishing                           |                                 | ?                             | country-specific EF<br>without clear<br>indication       |
| 1.A.5.a             | Other stationary (including<br>military)                                    |                                 | x                             |  |
| 1.A.5.b             | Other, Mobile (including<br>military, land based and<br>recreational boats) | <b>x&lt;sup&gt;1&lt;sup&gt;</b> |                               | country-specific EF<br>likely to include<br>condensables |
| 1.B.1.a             | Fugitive emission from solid<br>fuels: Coal mining and<br>handling          |                                 | x                             |  |
| 1.B.1.b             | Fugitive emission from solid<br>fuels: Solid fuel<br>transformation         |                                 | x                             |  |
| 1.B.2.c             | Venting and flaring (oil, gas,<br>combined oil and gas)                     |                                 | ?                             | EMEP GB 2016 EF<br>without any<br>indication             |
| <b>NFR 2 - IPPU</b> |   |                                 |                               |  |
| 2.A.1               | Cement production   |                                 | ?                             | country-specific EF<br>without any<br>indication         |
| 2.A.2               | Lime production   |                                 | ?                             | country-specific EF<br>without any<br>indication         |
| 2.A.3               | Glass production  |                                 | ?                             | country-specific EF<br>without any<br>indication         |
| 2.A.5.a             | Quarrying and mining of<br>minerals other than coal                         |                                 | ?                             | EMEP GB 2016 EF<br>without any<br>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       |