

# Recalculations - Sulphur Oxides

## Revision of SO<sub>x</sub> emissions over time



The marginal changes in the **National Total reported for 1990 (+1.51 kt | +0.03 %)** result almost entirely from revised emission estimates in **NFR 2.C.7.a** together with less significant changes throughout NFRs 1 and 2.

Table 1: Changes in emission estimates for 1990

|                            | Submission<br>2020 | Submission<br>2021 | Difference  |              | Reasoning                         |
|----------------------------|--------------------|--------------------|-------------|--------------|-----------------------------------|
| NFR Code                   | [kt]               |                    | relative    |              | see description and reasoning in: |
| <b>NATIONAL TOTAL</b>      | <b>5.472,91</b>    | <b>5.474,42</b>    | <b>1,51</b> | <b>0,03%</b> | <b>sub-category chapters</b>      |
| <b>NFR 1 - Energy</b>      | <b>5.297,93</b>    | <b>5.297,93</b>    | <b>0,00</b> | <b>0,00%</b> | <b>sub-category chapters</b>      |
| 1.A.2.g vii                | 3,78               | 3,84               | 0,06        | 1,63%        | <a href="#">here</a>              |
| 1.A.3.a i(i)               | 0,27               | 0,26               | -0,01       | -3,10%       | <a href="#">here</a>              |
| 1.A.3.a ii(i)              | 0,17               | 0,18               | 0,01        | 6,27%        | <a href="#">here</a>              |
| 1.A.3.b i                  | 33,25              | 33,07              | -0,18       | -0,53%       | <a href="#">here</a>              |
| 1.A.3.b ii                 | 3,60               | 2,34               | -1,26       | -35,09%      | <a href="#">here</a>              |
| 1.A.3.b iii                | 35,10              | 36,55              | 1,45        | 4,14%        | <a href="#">here</a>              |
| 1.A.3.b iv                 | 0,24               | 0,22               | -0,01       | -6,18%       | <a href="#">here</a>              |
| 1.A.4.a ii                 | 0,62               | 0,63               | 0,01        | 0,94%        | <a href="#">here</a>              |
| 1.A.4.c ii                 | 4,55               | 4,49               | -0,07       | -1,48%       | <a href="#">here</a>              |
| <b>NFR 2 - IPPU</b>        | <b>174,88</b>      | <b>176,39</b>      | <b>1,51</b> | <b>0,86%</b> | <b>sub-category chapters</b>      |
| 2.C.7.a                    | 1,43               | 2,94               | 1,51        | 106%         | <a href="#">here</a>              |
| 2.G                        | 0,0542             | 0,0546             | 0,0003      | 0,62%        | <a href="#">here</a>              |
| <b>NFR 3 - Agriculture</b> | <b>NA</b>          |                    |             |              |                                   |
| <b>NFR 5 - Waste</b>       | <b>0,11</b>        | <b>0,11</b>        | <b>0,00</b> | <b>0,00%</b> |                                   |
| <b>NFR 6 - Other</b>       | <b>NA</b>          |                    |             |              |                                   |

The significant changes in the **National Total reported for 2017 (-13.76 kt | -4.36 %)** result mainly from revisions in **NFRs 1.A.2.g viii (-4.51 kt), 1.B.2.a iv (+ 4.51 kt) and 2.B.10.a (-9.18 kt)** together with less significant changes throughout NFRs 1 and 2.

However, the strongest relative changes occur for **NFR 1.B.2.a iv (+1,642,148 %)**, followed by **NFRs 1.A.3.a i(i) (+361 %) and 1.A.3.a ii(i) (+293 %)**.

Table 2: Changes in emission estimates for 2018

|                            | Submission<br>2020 | Submission<br>2021 | Difference  |              | Reasoning                                        |
|----------------------------|--------------------|--------------------|-------------|--------------|--------------------------------------------------|
| NFR Code                   | [kt]               |                    |             | relative     | see description and reasoning in:                |
| <b>NATIONAL TOTAL</b>      | <b>288,97</b>      | <b>291,78</b>      | <b>2,81</b> | <b>0,97%</b> | <b>sub-category chapters</b>                     |
| <b>NFR 1 - Energy</b>      | <b>219,59</b>      | <b>222,08</b>      | <b>2,49</b> | <b>1,13%</b> | <b>sub-category chapters</b>                     |
| 1.A.1.a                    | 120,87             | 123,03             | 2,16        | 1,78%        | <a href="#">here</a>                             |
| 1.A.1.b                    | 31,02              | 32,70              | 1,68        | 5,42%        | <a href="#">here</a>                             |
| 1.A.1.c                    | 7,98               | 9,54               | 1,56        | 19,61%       | <a href="#">here</a>                             |
| 1.A.2.a                    | 5,08               | 5,01               | -0,07       | -1,33%       | <a href="#">here</a>                             |
| 1.A.2.b                    | 0,40               | 0,39               | -0,01       | -3,38%       | <a href="#">here</a>                             |
| 1.A.2.e                    | 0,74               | 0,80               | 0,05        | 7,03%        | <a href="#">here</a>                             |
| 1.A.2.g vii                | 0,0169             | 0,0182             | 0,00        | 7,64%        | <a href="#">here</a>                             |
| 1.A.2.g viii               | 29,41              | 26,44              | -2,97       | -10,11%      | <a href="#">here</a>                             |
| 1.A.3.a i(i)               | 0,67               | 0,65               | -0,02       | -2,40%       | <a href="#">here</a>                             |
| 1.A.3.a ii(i)              | 0,15               | 0,16               | 0,01        | 9,19%        | <a href="#">here</a>                             |
| 1.A.3.b i                  | 0,506              | 0,515              | 0,01        | 1,75%        | <a href="#">here</a>                             |
| 1.A.3.b ii                 | 0,059              | 0,060              | 0,001       | 0,97%        | <a href="#">here</a>                             |
| 1.A.3.b iii                | 0,25               | 0,24               | -0,01       | -3,36%       | <a href="#">here</a>                             |
| 1.A.3.b iv                 | 0,0070             | 0,0069             | -0,0001     | -1,19%       | <a href="#">here</a>                             |
| 1.A.3.c                    | 0,2251             | 0,2246             | -0,0005     | -0,23%       | <a href="#">here</a>                             |
| 1.A.3.d ii                 | 0,6685             | 0,6782             | 0,01        | 1,45%        | <a href="#">here</a>                             |
| 1.A.3.e i                  | 0,00332            | 0,00334            | 0,00002     | 0,45%        | <a href="#">1.A.3.e i - Pipeline Transport J</a> |
| 1.A.4.a i                  | 1,06               | 1,01               | -0,05       | -5,06%       | <a href="#">here</a>                             |
| 1.A.4.a ii                 | 0,00493            | 0,00402            | 0,00        | -18,48%      | <a href="#">here</a>                             |
| 1.A.4.b i                  | 11,92              | 12,12              | 0,20        | 1,64%        | <a href="#">here</a>                             |
| 1.A.4.c i                  | 2,38               | 2,32               | -0,06       | -2,56%       | <a href="#">here</a>                             |
| 1.A.4.c ii                 | 0,0220             | 0,0213             | -0,0006     | -2,90%       | <a href="#">here</a>                             |
| 1.A.4.c iii                | 0,1068             | 0,1097             | 0,0029      | 2,70%        | <a href="#">here</a>                             |
| 1.A.5.a                    | 0,02647            | 0,02651            | 0,00004     | 0,16%        | <a href="#">here</a>                             |
| 1.A.5.b                    | 0,0229             | 0,0230             | 0,0001      | 0,32%        | <a href="#">here</a>                             |
| 1.B.1.b                    | 0,811              | 0,806              | -0,005      | -0,62%       | <a href="#">here</a>                             |
| <b>NFR 2 - IPPU</b>        | <b>69,24</b>       | <b>69,57</b>       | <b>0,32</b> | <b>0,47%</b> | <b>sub-category chapters</b>                     |
| 2.A.3                      | 10,24              | 10,22              | -0,02       | -0,19%       | <a href="#">here</a>                             |
| 2.C.7.a                    | 2,01               | 2,37               | 0,36        | 17,72%       | <a href="#">here</a>                             |
| 2.G                        | 0,14               | 0,13               | -0,01       | -9,46%       | <a href="#">here</a>                             |
| <b>NFR 3 - Agriculture</b> | <b>NA</b>          |                    |             |              |                                                  |
| <b>NFR 5 - Waste</b>       | <b>0,14</b>        | <b>0,14</b>        | <b>0,00</b> | <b>0,00%</b> |                                                  |
| <b>NFR 6 - Other</b>       | <b>NA</b>          |                    |             |              |                                                  |