

## Recalculations - Carbon monoxide (CO)

The significant changes in the **National Total** reported for **1990 (-125 kt or -1 %)** are dominated by a revision in NFR **1.A.2.f** (-159 kt) together with re-allocated estimates for NFR **2.A.2** (IE -> 15.4 kt). Furthermore, emissions from NFR **2.B.6** have been estimated for the first time (NE -> 19.5 kt).

Additional smaller changes occur throughout NFRs 1 and 2.

Table 1: Changes in emission estimates for 1990

| NFR Sector                 | Submission 2021  | Submission 2022  | Difference     |               | Reasoning   |
|----------------------------|------------------|------------------|----------------|---------------|---|
|                            | [kt]             |                  | absolute       | relative      |   |
| <b>NATIONAL TOTAL</b>      | <b>13.171,06</b> | <b>13.046,02</b> | <b>-125,04</b> | <b>-0,95%</b> | see description and reasoning in: sub-category chapters |
| <b>NFR 1 - Energy</b>      | <b>11.934,21</b> | <b>11.772,32</b> | <b>-161,88</b> | <b>-1,36%</b> | sub-category chapters                                   |
| 1.A.2.f                    | 168,35           | 9,15             | -159,20        | -94,57%       | <a href="#">here</a>                                    |
| 1.A.3.a i(i)               | 3,81             | 3,64             | -0,17          | -4,53%        | <a href="#">here</a>                                    |
| 1.A.3.a ii(i)              | 8,47             | 6,31             | -2,16          | -25,50%       | <a href="#">here</a>                                    |
| 1.A.3.b iii                | 135,43           | 135,46           | 0,02           | 0,02%         | <a href="#">here</a>                                    |
| 1.A.3.c                    | 11,34            | 12,54            | 1,20           | 10,58%        | <a href="#">here</a>                                    |
| 1.A.3.d ii                 | 12,54            | 13,32            | 0,78           | 6,19%         | <a href="#">here</a>                                    |
| 1.A.4.b ii                 | 56,25            | 54,00            | -2,25          | -4,00%        | <a href="#">here</a>                                    |
| 1.A.4.c iii                | 0,08             | 0,04             | -0,04          | -51,14%       | <a href="#">here</a>                                    |
| 1.A.5.b                    | 117,04           | 116,99           | -0,06          | -0,05%        | <a href="#">here</a>                                    |
| <b>NFR 2 - IPPU</b>        | <b>1.211,81</b>  | <b>1.248,66</b>  | <b>36,85</b>   | <b>3,04%</b>  | sub-category chapters                                   |
| 2.A.2                      | IE               | 15,38            | 15,38          |               | <a href="#">here</a>                                    |
| 2.A.3                      | IE               | 1,72             | 1,72           |               | <a href="#">here</a>                                    |
| 2.B.1                      | NA               | 0,27             | 0,27           |               | <a href="#">here</a>                                    |
| 2.B.6                      | NE               | 19,48            | 19,48          |               | <a href="#">here</a>                                    |
| <b>NFR 3 - Agriculture</b> |                  | <b>NA</b>        |                |               |   |
| <b>NFR 5 - Waste</b>       | <b>25,04</b>     | <b>25,04</b>     | <b>0,00</b>    | <b>0,00%</b>  |   |
| <b>NFR 6 - Other</b>       |                  | <b>NA</b>        |                |               |   |

The remarkable changes in the **National Total** reported for **2019 (-132 kt | -4.60 %)** result mainly from a revision within **NFR 1.A.2.f (-141 kt)** together with other more or less significant revisions in NFRs 1, 2, 3 and 5.

Table 2: Changes in emission estimates for 2019

| NFR Sector            | Submission 2021 | Submission 2022 | Difference     |               | Reasoning   |
|-----------------------|-----------------|-----------------|----------------|---------------|---|
|                       | [kt]            |                 | absolute       | relative      |   |
| <b>NATIONAL TOTAL</b> | <b>2.882,74</b> | <b>2.750,27</b> | <b>-132,47</b> | <b>-4,60%</b> | see description and reasoning in: sub-category chapters |
| <b>NFR 1 - Energy</b> | <b>2.061,08</b> | <b>1.894,50</b> | <b>-166,59</b> | <b>-8,08%</b> | sub-category chapters                                   |
| 1.A.1.a               | 94,47           | 91,42           | -3,05          | -3,23%        | <a href="#">here</a>                                    |
| 1.A.1.b               | 2,15            | 2,14            | -0,01          | -0,43%        | <a href="#">here</a>                                    |
| 1.A.1.c               | 10,74           | 12,92           | 2,18           | 20,27%        | <a href="#">here</a>                                    |
| 1.A.2.a               | 32,14           | 29,16           | -2,98          | -9,27%        | <a href="#">here</a>                                    |
| 1.A.2.b               | 0,150           | 0,146           | -0,005         | -3,15%        | <a href="#">here</a>                                    |
| 1.A.2.e               | 0,081           | 0,077           | -0,005         | -5,62%        | <a href="#">here</a>                                    |
| 1.A.2.f               | 142,36          | 1,42            | -140,93        | -99,00%       | <a href="#">here</a>                                    |
| 1.A.2.g vii           | 126,74          | 124,61          | -2,13          | -1,68%        | <a href="#">here</a>                                    |
| 1.A.2.g viii          | 17,93           | 17,77           | -0,15          | -0,85%        | <a href="#">here</a>                                    |
| 1.A.3.a i(i)          | 6,56            | 6,26            | -0,30          | -4,53%        | <a href="#">here</a>                                    |
| 1.A.3.a ii(i)         | 6,23            | 2,91            | -3,33          | -53,37%       | <a href="#">here</a>                                    |
| 1.A.3.b i             | 796,91          | 778,21          | -18,70         | -2,35%        | <a href="#">here</a>                                    |
| 1.A.3.b ii            | 38,16           | 38,03           | -0,14          | -0,36%        | <a href="#">here</a>                                    |
| 1.A.3.b iii           | 38,78           | 38,89           | 0,10           | 0,27%         | <a href="#">here</a>                                    |
| 1.A.3.b iv            | 71,40           | 70,62           | -0,78          | -1,10%        | <a href="#">here</a>                                    |
| 1.A.3.c               | 1,06            | 1,17            | 0,11           | 10,48%        | <a href="#">here</a>                                    |

|                            | Submission 2021 | Submission 2022 | Difference     |                 | Reasoning                                |
|----------------------------|-----------------|-----------------|----------------|-----------------|--|
| <b>NFR Sector</b>          | <b>[kt]</b>     |                 |                | <b>relative</b> | <b>see description and reasoning in:</b> |
| <b>NATIONAL TOTAL</b>      | <b>2.882,74</b> | <b>2.750,27</b> | <b>-132,47</b> | <b>-4,60%</b>   | <b>sub-category chapters</b>             |
| <b>NFR 1 - Energy</b>      | <b>2.061,08</b> | <b>1.894,50</b> | <b>-166,59</b> | <b>-8,08%</b>   | <b>sub-category chapters</b>             |
| 1.A.3.d ii                 | 3,60            | 3,81            | 0,21           | 5,75%           | <a href="#">here</a>                     |
| 1.A.4.a i                  | 46,73           | 47,70           | 0,98           | 2,09%           | <a href="#">here</a>                     |
| 1.A.4.a ii                 | 2,375           | 2,372           | -0,003         | -0,12%          | <a href="#">here</a>                     |
| 1.A.4.b i                  | 424,49          | 427,59          | 3,10           | 0,73%           | <a href="#">here</a>                     |
| 1.A.4.b ii                 | 113,39          | 111,87          | -1,51          | -1,33%          | <a href="#">here</a>                     |
| 1.A.4.c i                  | 14,03           | 15,05           | 1,02           | 7,30%           | <a href="#">here</a>                     |
| 1.A.4.c ii                 | 52,76           | 52,24           | -0,52          | -0,99%          | <a href="#">here</a>                     |
| 1.A.4.c iii                | 0,05            | 0,03            | -0,02          | -33,19%         | <a href="#">here</a>                     |
| 1.A.5.a                    | 0,78            | 1,09            | 0,31           | 39,74%          | <a href="#">here</a>                     |
| 1.A.5.b                    | 11,49           | 11,44           | -0,05          | -0,46%          | <a href="#">here</a>                     |
| 1.B.1.b                    | 4,71            | 4,73            | 0,02           | 0,33%           | <a href="#">here</a>                     |
| 1.B.2.a iv                 | 0,3537          | 0,3538          | 0,0001         | 0,01%           |  |
| 1.B.2.c                    | 0,12009         | 0,12011         | 0,00002        | 0,01%           |  |
| <b>NFR 2 - IPPU</b>        | <b>803,293</b>  | <b>837,145</b>  | <b>33,85</b>   | <b>4,21%</b>    | <b>sub-category chapters</b>             |
| 2.A.2                      | IE              | 11,76           | 11,76          |                 | <a href="#">here</a>                     |
| 2.A.3                      | IE              | 0,87            | 0,87           |                 | <a href="#">here</a>                     |
| 2.B.1                      | NA              | 0,29            | 0,29           |                 | <a href="#">here</a>                     |
| 2.B.6                      | NE              | 20,93           | 20,93          |                 | <a href="#">here</a>                     |
| <b>NFR 3 - Agriculture</b> | <b>NA</b>       |                 |                |                 |  |
| <b>NFR 5 - Waste</b>       | <b>18,36</b>    | <b>18,62</b>    | <b>0,26</b>    | <b>1,44%</b>    | <b>sub-category chapters</b>             |
| 5.C.2                      | 18,27           | 18,53           | 0,26           | 1,44%           | <a href="#">here</a>                     |
| <b>NFR 6 - Other</b>       | <b>19,55</b>    | <b>19,55</b>    | <b>0,00</b>    | <b>0,00%</b>    |  |