

## Recalculations - Copper (Cu)

With negligibly small changes within NFRs 1 and 2 and re-allocations in sub-categories of 1.A.3.b, the **1990 National Total remains unaltered** compared to last year's submission.

However, the strongest percental change occurs in NFR **1.A.3.b ii with plus 26 %**.

Table 1: Changes in emission estimates for 1990

NFR Sector	Submission 2022	Submission 2023	Difference		Reasoning
	[t]		absolute	relative	see description and reasoning in:
<b>NATIONAL TOTAL</b>	<b>619,88</b>	<b>619,88</b>	<b>0,00</b>	<b>0,00%</b>	<b>sub-category chapters</b>
<b>NFR 1 - Energy</b>	<b>538,01</b>	<b>538,01</b>	<b>0,00</b>	<b>0,00%</b>	<b>sub-category chapters</b>
1.A.2.g vii	0,00653	0,00654	0,00001	0,17%	<a href="#">here</a>
1.A.3.b i	0,1656	0,1669	0,0013	0,76%	<a href="#">here</a>
1.A.3.b ii	0,0063	0,0080	0,0016	25,99%	<a href="#">here</a>
1.A.3.b iii	0,0609	0,0580	-0,0030	-4,87%	<a href="#">here</a>
1.A.3.b iv	0,0022	0,0023	0,0001	2,99%	<a href="#">here</a>
1.A.4.a ii	0,001041	0,001040	-0,000001	-0,09%	<a href="#">here</a>
1.A.4.b ii	0,5743	0,5744	0,0001	0,02%	<a href="#">here</a>
1.A.4.c ii	1,1130	1,1129	-0,0001	-0,01%	<a href="#">here</a>
<b>NFR 2 - IPPU</b>	<b>81,81</b>	<b>81,80</b>	<b>0,00</b>	<b>0,00%</b>	<b>sub-category chapters</b>
2.G	36,272	36,268	-0,004	-0,01%	<a href="#">here</a>
<b>NFR 3 - Agriculture</b>	<b>NA</b>				
<b>NFR 5 - Waste</b>	<b>0,07</b>	<b>0,07</b>	<b>0,00</b>	<b>0,00%</b>	
<b>NFR 6 - Other</b>	<b>NA</b>				

The changes in the **National Total** reported for **2020 (+5.13 t and +1 %)** are dominated by opposing revisions in **NFRs 1.A.3.b vi (-1.52 t) and 1.A.3.c (+6.77 t)** where annual mileage and, hence, abrasive emissions were revised for 2020.

The significant percental change occurring in NFR 1.A.3.b iii results from a data error that will be corrected with the next annual submission.

Table 2: Changes of emission estimates for 2020

NFR Sector	Submission 2022	Submission 2023	Difference		Reasoning
	[t]		absolute	relative	see description and reasoning in:
<b>NATIONAL TOTAL</b>	<b>524,59</b>	<b>529,72</b>	<b>5,13</b>	<b>0,98%</b>	<b>sub-category chapters</b>
<b>NFR 1 - Energy</b>	<b>469,12</b>	<b>474,36</b>	<b>5,24</b>	<b>1,12%</b>	<b>sub-category chapters</b>
1.A.1.a	5,85	5,81	-0,04	-0,67%	<a href="#">here</a>
1.A.1.b	3,84	3,73	-0,10	-2,72%	<a href="#">here</a>
1.A.1.c	0,058	0,054	-0,004	-7,46%	<a href="#">here</a>
1.A.2.g vii	0,0067	0,0069	0,0002	2,41%	<a href="#">here</a>
1.A.2.g viii	0,30	0,37	0,06	21,11%	<a href="#">here</a>
1.A.3.a i(i)	0,0000000991	0,0000000987	-0,0000000004	-0,42%	<a href="#">here</a>
1.A.3.a ii(i)	0,000002560	0,000002561	0,000000001	0,03%	<a href="#">here</a>
1.A.3.b i	0,1414	0,1420	0,0006	0,39%	<a href="#">here</a>
1.A.3.b ii	0,0214	0,0218	0,0005	2,17%	<a href="#">here</a>
1.A.3.b iii	0,0839	0,0286	-0,0553	-65,91%	<a href="#">here</a>
1.A.3.b iv	0,00196	0,00198	0,00002	1,11%	<a href="#">here</a>
1.A.3.b vi	358,94	357,42	-1,52	-0,42%	<a href="#">here</a>
1.A.3.b vii	0,03433	0,03432	-0,00002	-0,05%	<a href="#">here</a>
1.A.3.c	94,17	100,94	6,77	7,19%	<a href="#">here</a>
1.A.3.d ii	0,5810	0,5810	-0,0001	-0,01%	<a href="#">here</a>
1.A.4.a i	1,57	1,61	0,03	2,14%	<a href="#">here</a>
1.A.4.a ii	0,00083	0,00084	0,00001	0,89%	<a href="#">here</a>
1.A.4.b i	2,28	2,24	-0,03	-1,51%	<a href="#">here</a>

	Submission 2022	Submission 2023	Difference		Reasoning
<b>NFR Sector</b>	<b>[t]</b>			<b>relative</b>	<b>see description and reasoning in:</b>
<b>NATIONAL TOTAL</b>	<b>524,59</b>	<b>529,72</b>	<b>5,13</b>	<b>0,98%</b>	<b>sub-category chapters</b>
<b>NFR 1 - Energy</b>	<b>469,12</b>	<b>474,36</b>	<b>5,24</b>	<b>1,12%</b>	<b>sub-category chapters</b>
1.A.4.b ii	0,33	0,26	-0,07	-21,39%	<a href="#">here</a>
1.A.4.c i	0,08384	0,08383	-0,00001	-0,01%	<a href="#">here</a>
1.A.4.c ii	0,80	1,01	0,20	25,47%	<a href="#">here</a>
<b>NFR 2 - IPPU</b>	<b>55,40068</b>	<b>55,29302</b>	<b>-0,10766</b>	<b>-0,19%</b>	<b>sub-category chapters</b>
2.A.3	0,05840	0,05845	0,00005	0,08%	<a href="#">here</a>
2.G	37,87183	37,76412	-0,10771	-0,28%	<a href="#">here</a>
<b>NFR 3 - Agriculture</b>	<b>NA</b>				
<b>NFR 5 - Waste</b>	<b>0,07</b>	<b>0,07</b>	<b>0,00</b>	<b>0,00%</b>	
<b>NFR 6 - Other</b>	<b>NA</b>				
	Submission 2021	Submission 2022	Difference		Reasoning
<b>NFR Sector</b>	<b>[t]</b>			<b>relative</b>	<b>see description and reasoning in:</b>
<b>NATIONAL TOTAL</b>	<b>587,38</b>	<b>591,28</b>	<b>3,91</b>	<b>0,67%</b>	<b>sub-category chapters</b>
<b>NFR 1 - Energy</b>	<b>517,86</b>	<b>517,93</b>	<b>0,07</b>	<b>0,01%</b>	<b>sub-category chapters</b>
1.A.1.a	7,00	7,11	0,11	1,50%	<a href="#">here</a>
1.A.1.b	4,05	3,94	-0,11	-2,74%	<a href="#">here</a>
1.A.1.c	0,058	0,056	0,00	-2,95%	<a href="#">here</a>
1.A.2.g vii	0,00646	0,00647	0,00001	0,08%	<a href="#">here</a>
1.A.2.g viii	0,329	0,326	-0,003	-0,89%	<a href="#">here</a>
1.A.3.a i(i)	0,0000011	0,0000002	-0,0000009	-83,52%	<a href="#">here</a>
1.A.3.a ii(i)	0,000024	0,000004	-0,000020	-83,69%	<a href="#">here</a>
1.A.3.b i	0,1616	0,1618	0,0001	0,08%	<a href="#">here</a>
1.A.3.b ii	0,0220	0,0217	-0,0002	-1,10%	<a href="#">here</a>
1.A.3.b iii	0,0868	0,0867	-0,0001	-0,15%	<a href="#">here</a>
1.A.3.b iv	0,00194	0,00192	-0,00002	-1,10%	<a href="#">here</a>
1.A.3.c	100,89	100,94	0,05	0,05%	<a href="#">here</a>
1.A.3.d ii	0,60	0,65	0,05	9,14%	<a href="#">here</a>
1.A.4.a ii	0,000810	0,000811	0,000001	0,18%	<a href="#">here</a>
1.A.4.b i	2,379	2,380	0,001	0,03%	<a href="#">here</a>
1.A.4.b ii	0,34	0,35	0,01	1,85%	<a href="#">here</a>
1.A.4.c ii	0,656	0,644	-0,012	-1,82%	<a href="#">here</a>
1.A.4.c iii	0,0105	0,0066	-0,0039	-37,07%	<a href="#">here</a>
1.A.5.b	0,012	0,004	-0,008	-68,89%	<a href="#">here</a>
<b>NFR 2 - IPPU</b>	<b>69,45</b>	<b>73,28</b>	<b>3,83</b>	<b>5,52%</b>	<b>sub-category chapters</b>
2.A.3	0,413	0,065	-0,35	-84,30%	<a href="#">here</a>
2.G	52,59	56,77	4,18	7,95%	<a href="#">here</a>
<b>NFR 3 - Agriculture</b>	<b>NA</b>				
<b>NFR 5 - Waste</b>	<b>0,07</b>	<b>0,07</b>	<b>0,00</b>	<b>0,00%</b>	
<b>NFR 6 - Other</b>	<b>NA</b>				