

Recalculations - Sulphur Oxides

Revision of SO_x 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

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

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

NFR Code	Submission 2020	Submission 2021	Difference		Reasoning
	[kt]		absolute	relative	
NATIONAL TOTAL	288,97	291,78	2,81	0,97%	see description and reasoning in: sub-category chapters
NFR 1 - Energy	219,59	222,08	2,49	1,13%	sub-category chapters
1.A.1.a	120,87	123,03	2,16	1,78%	here
1.A.1.b	31,02	32,70	1,68	5,42%	here
1.A.1.c	7,98	9,54	1,56	19,61%	here
1.A.2.a	5,08	5,01	-0,07	-1,33%	here
1.A.2.b	0,40	0,39	-0,01	-3,38%	here
1.A.2.e	0,74	0,80	0,05	7,03%	here
1.A.2.g vii	0,0169	0,0182	0,00	7,64%	here
1.A.2.g viii	29,41	26,44	-2,97	-10,11%	here
1.A.3.a i(i)	0,67	0,65	-0,02	-2,40%	here
1.A.3.a ii(i)	0,15	0,16	0,01	9,19%	here
1.A.3.b i	0,506	0,515	0,01	1,75%	here
1.A.3.b ii	0,059	0,060	0,001	0,97%	here
1.A.3.b iii	0,25	0,24	-0,01	-3,36%	here

	Submission 2020	Submission 2021	Difference		Reasoning
NFR Code	[kt]		relative	see description and reasoning in:	
NATIONAL TOTAL	288,97	291,78	2,81	0,97%	sub-category chapters
NFR 1 - Energy	219,59	222,08	2,49	1,13%	sub-category chapters
1.A.3.b iv	0,0070	0,0069	-0,0001	-1,19%	here
1.A.3.c	0,2251	0,2246	-0,0005	-0,23%	here
1.A.3.d ii	0,6685	0,6782	0,01	1,45%	here
1.A.3.e i	0,00332	0,00334	0,00002	0,45%	1.A.3.e i - Pipeline Transport]
1.A.4.a i	1,06	1,01	-0,05	-5,06%	here
1.A.4.a ii	0,00493	0,00402	0,00	-18,48%	here
1.A.4.b i	11,92	12,12	0,20	1,64%	here
1.A.4.c i	2,38	2,32	-0,06	-2,56%	here
1.A.4.c ii	0,0220	0,0213	-0,0006	-2,90%	here
1.A.4.c iii	0,1068	0,1097	0,0029	2,70%	here
1.A.5.a	0,02647	0,02651	0,00004	0,16%	here
1.A.5.b	0,0229	0,0230	0,0001	0,32%	here
1.B.1.b	0,811	0,806	-0,005	-0,62%	here
NFR 2 - IPPU	69,24	69,57	0,32	0,47%	sub-category chapters
2.A.3	10,24	10,22	-0,02	-0,19%	here
2.C.7.a	2,01	2,37	0,36	17,72%	here
2.G	0,14	0,13	-0,01	-9,46%	here
NFR 3 - Agriculture	NA				
NFR 5 - Waste	0,14	0,14	0,00	0,00%	
NFR 6 - Other	NA				

	=				
	= Submission 2019	= Submission 2020	= Difference	= Reasoning	
= NFR Code	= absolute, in [kt]		= relative	< see description and reasoning in:	
~ NATIONAL TOTAL	> 315.48	> 301.72	> -13.76	> -4.36%	< sub-category chapters
NFR 1 - Energy	> 235.50	> 231.00	> -4.50	> -1.91%	< sub-category chapters
1.A.1.a	> 130.92	> 128.76	> -2.16	> -1.65%	< here]
1.A.1.b	> 33.25	> 33.39	> 0.14	> 0.41%	< here]
1.A.1.c	> 8.12	> 8.14	> 0.02	> 0.31%	< here]
1.A.2.a	> 5.18	> 5.15	> -0.03	> -0.59%	< here]
1.A.2.b	> 0.80	> 0.42	> -0.38	> -47.48%	< here]
1.A.2.e	> 0.76	> 0.75	> -0.01	> -1.79%	< here]
1.A.2.g vii	> 0.0182	> 0.0181	> -0.0001	> -0.58%	< here]
1.A.2.g viii	> 33.86	> 29.35	> -4.51	> -13.32%	< here]
1.A.3.a i(i)	> 0.14	> 0.65	> 0.51	> 361%	< here]
1.A.3.a ii(i)	> 0.04	> 0.15	> 0.11	> 293%	< here]
1.A.3.b i	> 0.523	> 0.527	> 0.004	> 0.77%	< here]
1.A.3.b ii	> 0.04	> 0.06	> 0.02	> 47.56%	< here]
1.A.3.b iii	> 0.27	> 0.25	> -0.02	> -6.66%	< here]
1.A.3.b iv	> 0.0073	> 0.0071	> -0.0001	> -1.91%	< here]
1.A.3.c	> 0.226	> 0.225	> -0.001	> -0.36%	< here]
1.A.3.d ii	> 0.6293	> 0.6287	> -0.0005	> -0.08%	< here]
1.A.4.a i	> 0.93	> 1.11	> 0.18	> 19.28%	< here]
1.A.4.a ii	> 0.00512	> 0.00514	> 0.00002	> 0.33%	< here]
1.A.4.b i	> 12.90	> 12.43	> -0.47	> -3.64%	< here]
1.A.4.b ii	> 0.001620	> 0.001619	> -0.000001	> -0.04%	< here]
1.A.4.c i	> 3.80	> 2.49	> -1.31	> -34.43%	< here]
1.A.4.c ii	> 0.02338	> 0.02341	> 0.00003	> 0.14%	< here]
1.A.4.c iii	> 0.05144	> 0.05143	> -0.00001	> -0.02%	< here]

1.A.5.a	> 0.0304	> 0.0301	> -0.0003	> -1.06%	< here]
1.A.5.b	> 0.0277	> 0.0276	> -0.0001	> -0.22%	< here]
1.B.2.a iv	> 0.0003	> 4.5051	> 4.5049	> 1,642,148%	< here]
1.B.2.c	> 2.13	> 1.03	> -1.09	> -51.49%	< here]
NFR 2 - IPPU	> 79.84	> 70.58	> -9.26	> -11.60%	< sub-category chapters
2.A.1	> 6.53	> 6.53	> 0.00	> 0.00%	< here]
2.A.2	> 0.8818	> 0.8814	> -0.0004	> -0.04%	< here]
2.A.6	> 1.41	> 1.20	> -0.20	> -14.51%	< here]
2.B.10.a	> 20.26	> 11.08	> -9.18	> -45.30%	< here]
2.G	> 0.13	> 0.13	> 0.01	> 5.30%	< here]
2.H.1	> 0.51	> 0.63	> 0.12	> 22.45%	< here]
NFR 3 - Agriculture					= NA
NFR 5 - Waste	> 0.13	> 0.13	> 0.00	> 0.00%	<
NFR 6 - Other					= NA