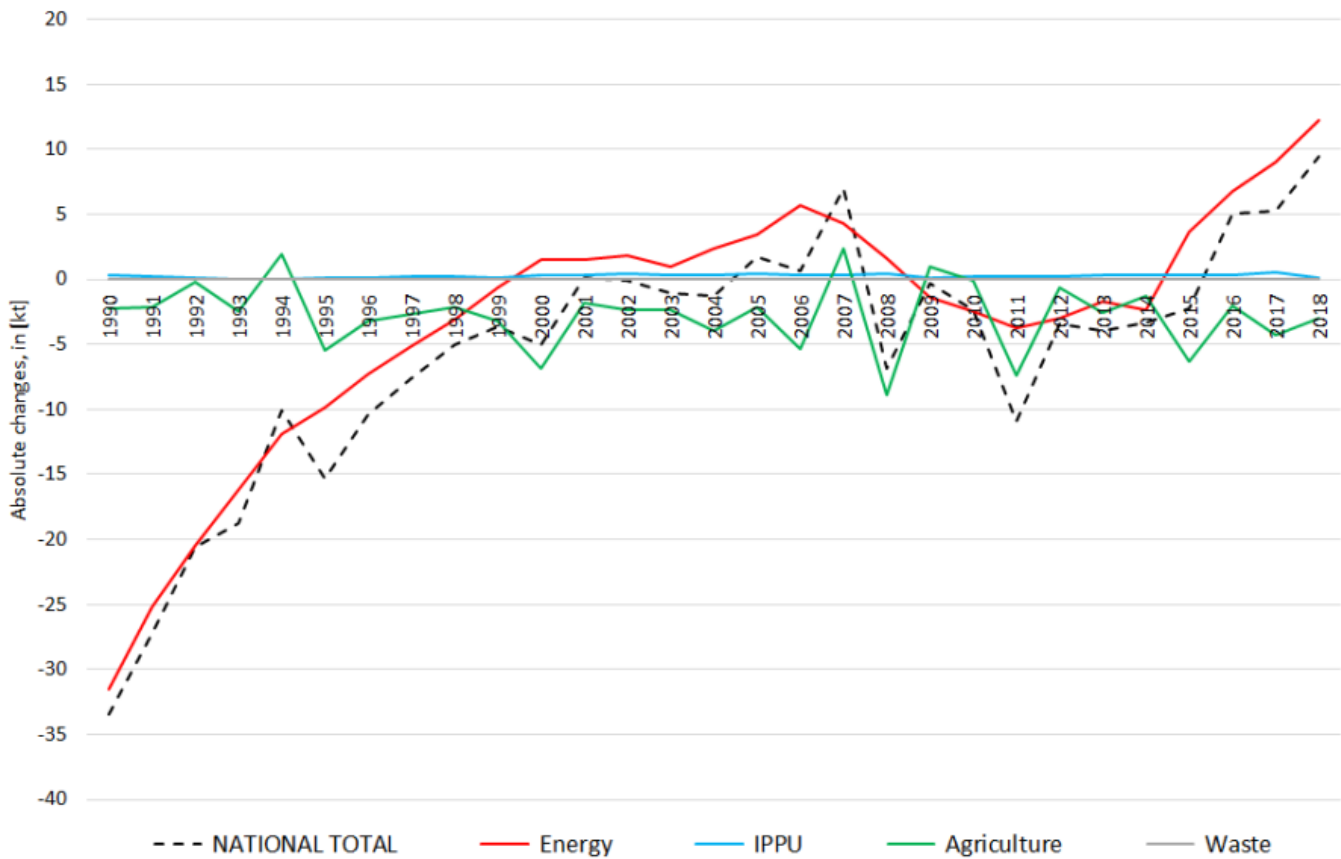
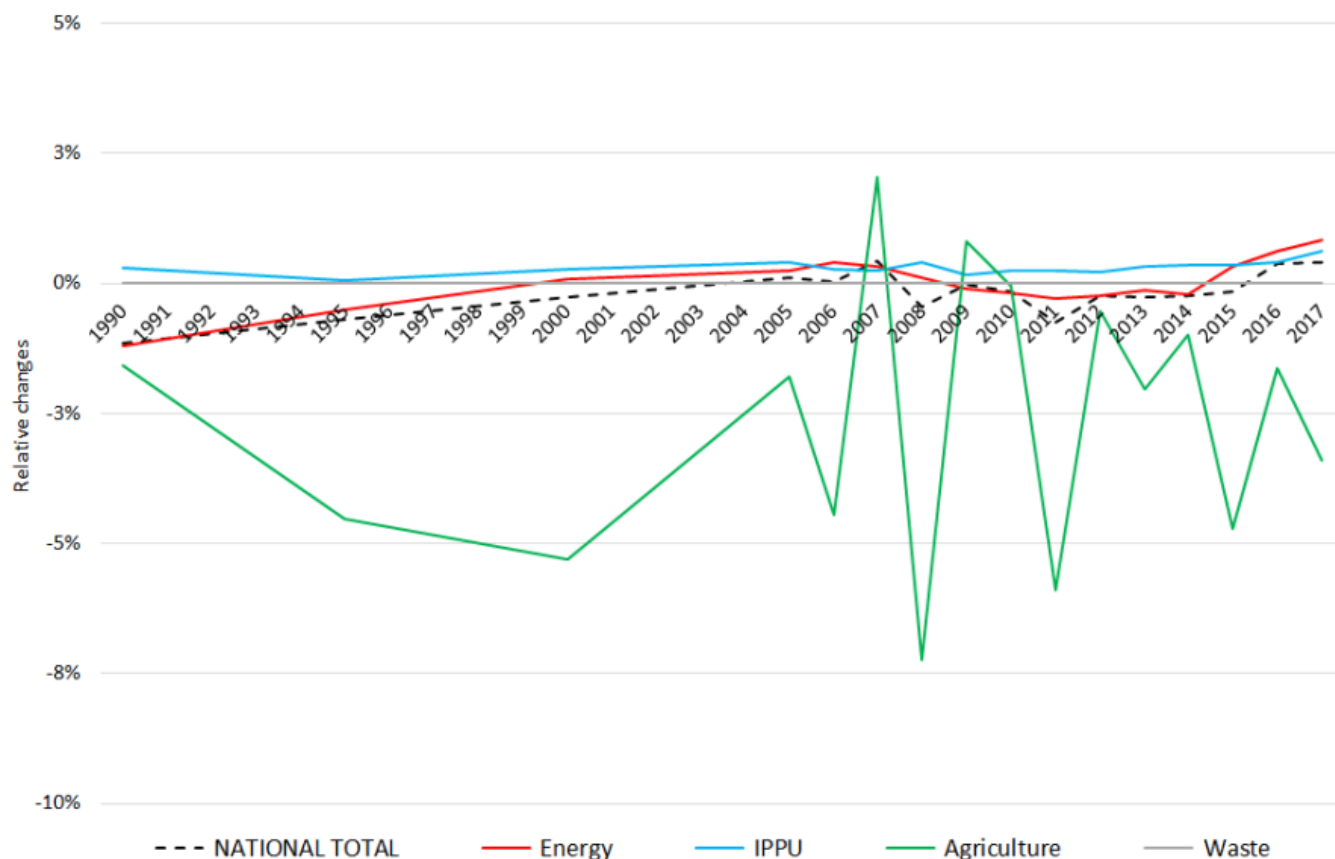


Recalculations - Nitrogen Oxides

Revision of NO_x emissions over time





The changes within the **National Total** reported for 1990 (-34 kt | -1.19 %) are dominated by changes in **NFRs 1.A.3.b i, 1.A.3.b ii and 1.A.3.b iii** together with less significant revisions throughout NFRs 1, 2 and 3.

Here, the strongest relative change occurs for **NFR 2.G** with minus 58 %.

Table 1: Changes of emission estimates 1990

absolute changes in emissions reported for 1990					Submission 2020	Submission 2021	Difference	Reasoning
Absolute changes, in [kt]								
NFR Code	[kt]			relative	see description and reasoning in			
NATIONAL TOTAL	2.884,38	2.850,05	-34,33	-1,19%	sub-category chapters			
NFR 1 - Energy	2.634,24	2.601,88	-32,36	-1,23%	sub-category chapters			
1.A.2.g vii	49,60	50,23	0,63	1,28%	here			
1.A.3.a i(i)	3,88	3,94	0,06	1,54%	here			
1.A.3.a ii(i)	2,85	2,80	-0,05	-1,90%	here			

absolute changes in emissions reported for 1990 Legend: NATIONAL TOTAL (dark blue), Energy (red), IPPU (light blue), Agriculture (green), Waste (grey)					Submission 2020	Submission 2021	Difference	Reasoning
NFR Code	[kt]			relative	see description and reasoning in:			
NATIONAL TOTAL	2.884,38	2.850,05	-34,33	-1,19%	sub-category chapters			
NFR 1 - Energy	2.634,24	2.601,88	-32,36	-1,23%	sub-category chapters			
1.A.3.b i	808,22	765,68	-42,54	-5,26%	here			
1.A.3.b ii	41,49	31,49	-10,00	-24,11%	here			
1.A.3.b iii	485,89	506,00	20,11	4,14%	here			
1.A.3.b iv	2,61	2,45	-0,16	-6,18%	here			
1.A.4.a ii	11,52	11,60	0,08	0,67%	here			
1.A.4.b ii	0,07	0,06	-0,01	-8,44%	here			
1.A.4.c ii	49,78	49,31	-0,475	-0,95%	here			
NFR 2 - IPPU	106,06	106,37	0,31	0,29%	sub-category chapters			
2.C.3	NA	0,74	0,74		here			
2.G	0,74	0,31	-0,43	-58,05%	here			
NFR 3 - Agriculture	143,55	141,27	-2,28	-1,59%	sub-category chapters			
3.B.1.a	0,72	0,67	-0,05	-7,07%	here			
3.B.1.b	0,79	0,70	-0,09	-11,65%	here			
3.B.4.g iii	0,00337	0,00339	0,00002	0,48%	here			
3.D.a.1	85,31	86,57	1,256	1,47%	here			
3.D.a.2.a	46,65	43,46	-3,19	-6,84%	here			
3.D.a.3	8,65	8,44	-0,21	-2,42%	here			
NFR 5 - Waste	0,53	0,53	0,00	0,00%				
NFR 6 - Other	NA							

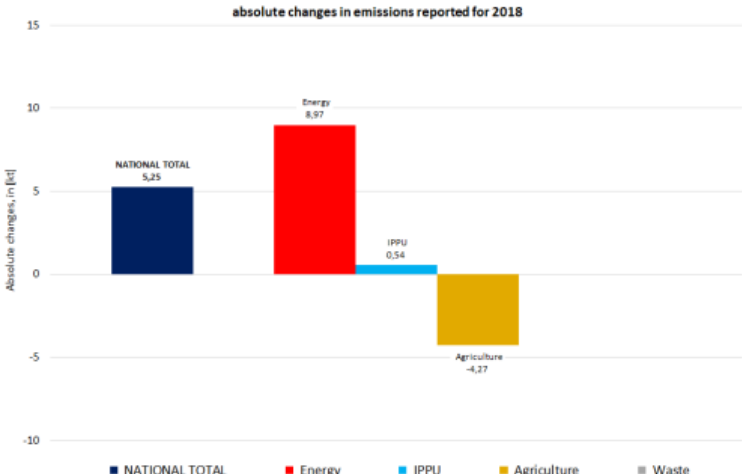
The changes within the **National Total** reported for 2017 (+100.56 kt | +8.47 %) are dominated by changes in **NFRs 1.A.3.b i, 1.A.3.b ii and 1.A.3.b iii** together with less significant revisions throughout NFRs 1, 2 and 3.

Here, the strongest relative change occurs for **NFR 1.B.2.a iv (+824,150 %)**.

Table 2: Changes of emission estimates 2018

absolute changes in emissions reported for 2018 <table><thead><tr><th>Category</th><th>Value (kt)</th></tr></thead><tbody><tr><td>NATIONAL TOTAL</td><td>5.25</td></tr><tr><td>Energy</td><td>8.97</td></tr><tr><td>IPPU</td><td>0.54</td></tr><tr><td>Agriculture</td><td>-4.27</td></tr><tr><td>Waste</td><td>0.00</td></tr></tbody></table>					Category	Value (kt)	NATIONAL TOTAL	5.25	Energy	8.97	IPPU	0.54	Agriculture	-4.27	Waste	0.00	Submission 2020	Submission 2021	Difference	Reasoning
Category	Value (kt)																			
NATIONAL TOTAL	5.25																			
Energy	8.97																			
IPPU	0.54																			
Agriculture	-4.27																			
Waste	0.00																			
NFR Code	[kt]			relative	see description and reasoning in: sub-category chapters															
NATIONAL TOTAL	1.202,28	1.210,50	8,22	0,68%	sub-category chapters															
NFR 1 - Energy	996,11	1.007,16	11,05	1,11%	sub-category chapters															
1.A.1.a	239,65	241,73	2,08	0,87%	1.A.1.a - Public electricity and heat production															
1.A.1.b	13,03	16,16	3,13	24,04%	1.A.1.b - Petroleum refining															
1.A.1.c	12,04	13,06	1,02	8,50%	here															
1.A.2.a	4,10	4,17	0,07	1,75%	1.A.2.a - Stationary combustion in manufacturing industries and construction: Iron and Steel															
1.A.2.b	0,99	1,02	0,03	2,54%	1.A.2.b - Stationary combustion in manufacturing industries and construction: Non-ferrous Metals															
1.A.2.e	0,19	0,21	0,02	9,42%	1.A.2.e - Stationary combustion in manufacturing industries and construction: Food Processing, Beverages and Tobacco															
1.A.2.g vii	11,31	15,37	4,07	35,97%	here															
1.A.2.g viii	72,70	68,70	-4,00	-5,50%	1.A.2.g viii - Stationary Combustion in Manufacturing Industries & Construction: Other															
1.A.3.a i(i)	11,77	11,84	0,07	0,61%	here															
1.A.3.a ii(i)	2,31	2,67	0,35	15,27%	here															
1.A.3.b i	286,10	294,97	8,87	3,10%	here															

absolute changes in emissions reported for 2018 <table><thead><tr><th>Category</th><th>Value [kt]</th></tr></thead><tbody><tr><td>NATIONAL TOTAL</td><td>5,25</td></tr><tr><td>Energy</td><td>8,97</td></tr><tr><td>IPPU</td><td>0,54</td></tr><tr><td>Agriculture</td><td>-4,27</td></tr><tr><td>Waste</td><td>0</td></tr></tbody></table>					Category	Value [kt]	NATIONAL TOTAL	5,25	Energy	8,97	IPPU	0,54	Agriculture	-4,27	Waste	0	Submission 2020	Submission 2021	Difference	Reasoning
Category	Value [kt]																			
NATIONAL TOTAL	5,25																			
Energy	8,97																			
IPPU	0,54																			
Agriculture	-4,27																			
Waste	0																			
NFR Code	[kt]			relative	see description and reasoning in:															
NATIONAL TOTAL	1.202,28	1.210,50	8,22	0,68%	sub-category chapters															
NFR 1 - Energy	996,11	1.007,16	11,05	1,11%	sub-category chapters															
1.A.3.b ii	60,49	60,37	-0,12	-0,20%	here															
1.A.3.b iii	119,39	116,30	-3,09	-2,59%	here															
1.A.3.b iv	1,63	1,66	0,03	1,59%	here															
1.A.3.b v	NA	NA	#WERT!	#WERT!	here															
1.A.3.b vi	NA	NA	#WERT!	#WERT!	here															
1.A.3.b vii	NA	NA	#WERT!	#WERT!	here															
1.A.3.c	8,71	7,49	-1,23	-14,07%	here															
1.A.3.d i(ii)	IE	IE	#WERT!	#WERT!																
1.A.3.d ii	26,09	27,28	1,20	4,60%	here															
1.A.3.e i	1,50	1,50	0,01	0,45%	1.A.3.e i - Pipeline Transport]															
1.A.3.e ii	NA	NA	#WERT!	#WERT!	1.A.3.e ii - Other Transport: Other]															
1.A.4.a i	20,12	18,60	-1,52	-7,54%	here															
1.A.4.a ii	9,92	8,15	-1,77	-17,86%	here															
1.A.4.b i	52,65	54,48	1,83	3,49%	here															
1.A.4.b ii	0,4993	0,5009	0,0016	0,32%	here															
1.A.4.c i	6,07	5,84	-0,23	-3,80%	here															
1.A.4.c ii	27,29	27,43	0,14	0,51%	here															
1.A.4.c iii	2,6931	2,7658	0,0727	2,70%																
1.A.5.a	0,25	0,25	0,00	0,22%																
1.A.5.b	2,87	2,87	0,00	0,07%																
1.B.1.a	NA	NA	#WERT!	#WERT!	1.B.1 - Solid Fuels															
1.B.1.b	0,64	0,65	0,01	1,55%	1.B.1 - Solid Fuels															
1.B.1.c	NA	NA	#WERT!	#WERT!	1.B.1 - Solid Fuels															
1.B.2.a i	NA	NA	#WERT!	#WERT!																
1.B.2.a iv	0,7229	0,7227	-0,0001	0%																
1.B.2.a v	NA	NA	#WERT!	#WERT!																
1.B.2.b	0,03	0,03	0,00	0,00%																
1.B.2.c	0,38	0,38	0,00	0,00%																
1.B.2.d	NA	NA	#WERT!	#WERT!																
NFR 2 - IPPU	86,70	86,82	0,12	0,14%	sub-category chapters															
2.A.3	11,71	11,51	-0,20	-1,67%	2.A.3 - Glass Production															

					Submission 2020	Submission 2021	Difference		Reasoning
NFR Code	[kt]			relative	see description and reasoning in				
NATIONAL TOTAL	1.202,28	1.210,50	8,22	0,68%	sub-category chapters				
NFR 1 - Energy	996,11	1.007,16	11,05	1,11%	sub-category chapters				
2.C.3	NA	0,53	0,53		here				
2.G	0,436	0,222	-0,214	-49,14%	here				
NFR 3 - Agriculture	118,64	115,69	-2,95	-2,49%	sub-category chapters				
3.B.1.a	0,520	0,488	-0,032	-6,21%	here				
3.B.1.b	0,566	0,497	-0,070	-12,31%	here				
3.B.3	0,3340	0,3352	0,0013	0,38%	here				
3.B.4.g i	0,0180	0,0178	-0,0001	-0,65%	here				
3.B.4.g ii	0,0180	0,0180	0,0000	-0,20%	here				
3.B.4.g iii	0,0108	0,0108	-0,0001	-0,67%	here				
3.B.4.g iv	0,0020	0,0020	0,0000	-0,72%	here				
3.D.a.1	59,01	59,11	0,10	0,17%	here				
3.D.a.2.a	39,94	37,80	-2,14	-5,35%	here				
3.D.a.2.b	0,56	0,51	-0,05	-8,55%	here				
3.D.a.2.c	11,77	11,55	-0,22	-1,91%	here				
3.D.a.3	5,66	5,13	-0,54	-9,47%	here				
3.I	0,177	0,172	-0,005	-2,68%					
NFR 5 - Waste	0,830	0,830	0,000	0,00%					
NFR 6 - Other	NA								

absolute changes in emissions reported for 2018 Absolute changes, in [kt] ■ NATIONAL TOTAL ■ Energy ■ IPPU ■ Agriculture ■ Waste		=
		= Submission 2019
= NFR Code		
~ NATIONAL TOTAL		> 1,187.50
NFR 1 - Energy		> 972.26
1.A.1.a		> 257.85
1.A.1.b		> 16.88
1.A.1.c		> 12.51
1.A.2.a		> 4.26
1.A.2.b		> 1.25
1.A.2.e		> 0.22
1.A.2.g vii		> 13.44
1.A.2.g viii		> 75.07
1.A.3.a i(i)		> 10.98
1.A.3.a ii(i)		> 2.81
1.A.3.b i		> 244.99
1.A.3.b ii		> 32.64
1.A.3.b iii		> 122.05
1.A.3.b iv		> 2.74
1.A.3.c		> 11.78
1.A.3.d ii		> 27.06
1.A.4.a i		> 19.34
1.A.4.a ii		> 10.32
1.A.4.b i		> 57.94
1.A.4.b ii		> 0.5137
1.A.4.c i		> 9.54
1.A.4.c ii		> 30.65
1.A.4.c iii		> 1.3267
1.A.5.a		> 0.27
1.A.5.b		> 3.44
1.B.2.a iv		> 0.0001

1.B.2.c	> 0.33
NFR 2 - IPPU	> 88.67
2.A.2	> 4.123
2.A.6	> 2.49
2.G	> 0.434
2.H.1	> 2.78
NFR 3 - Agriculture	> 125.79
3.B.1.a	> 0.523
3.B.1.b	> 0.574
3.B.2	> 0.011
3.B.3	> 0.3468
3.B.4.g i	> 0.0171
3.B.4.g ii	> 0.0174
3.B.4.g iii	> 0.0103
3.B.4.g iv	> 0.0023
3.D.a.2.a	> 40.38
3.D.a.2.b	> 0.74
3.D.a.2.c	> 11.91
3.D.a.3	> 5.64
3.I	> 0.178
NFR 5 - Waste	> 0.79
NFR 6 - Other	