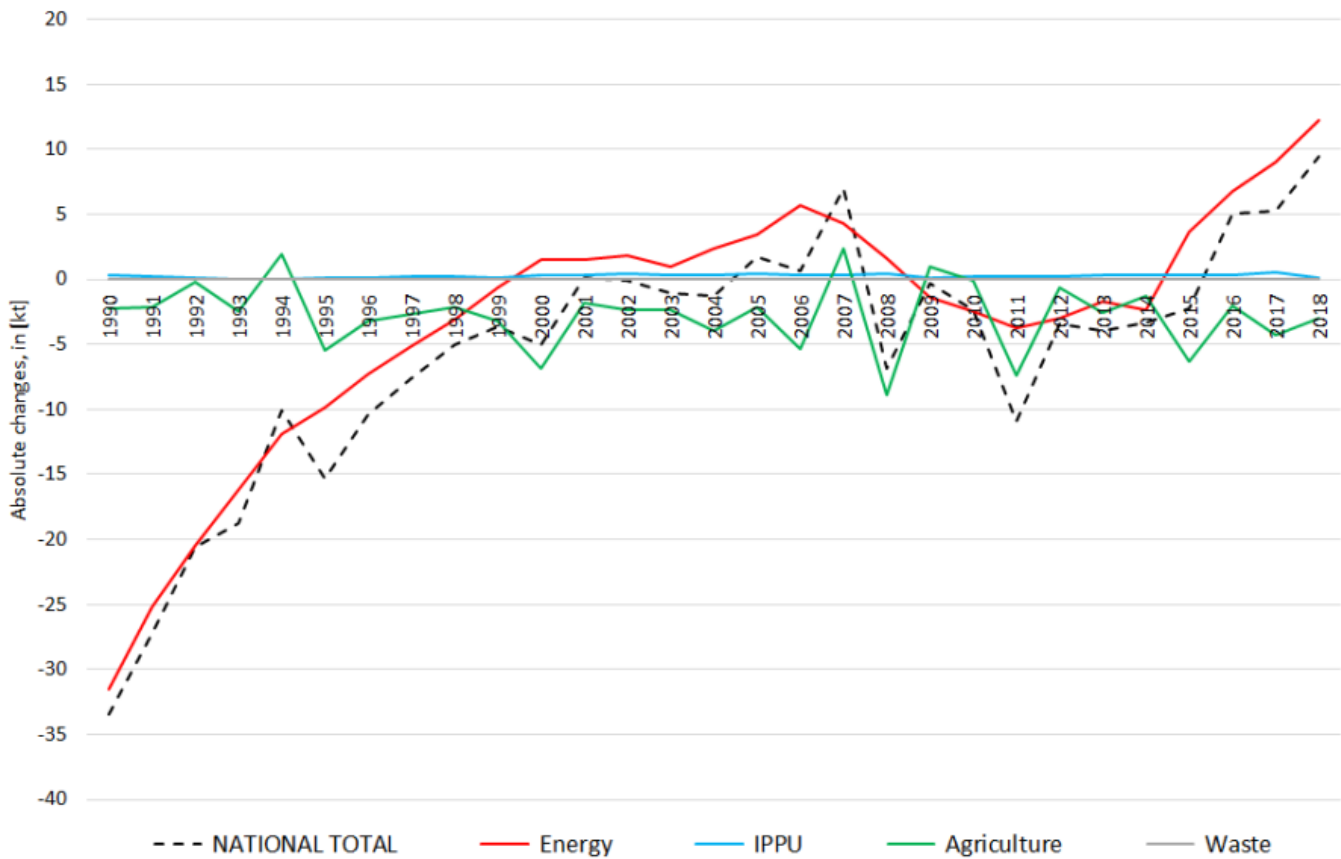
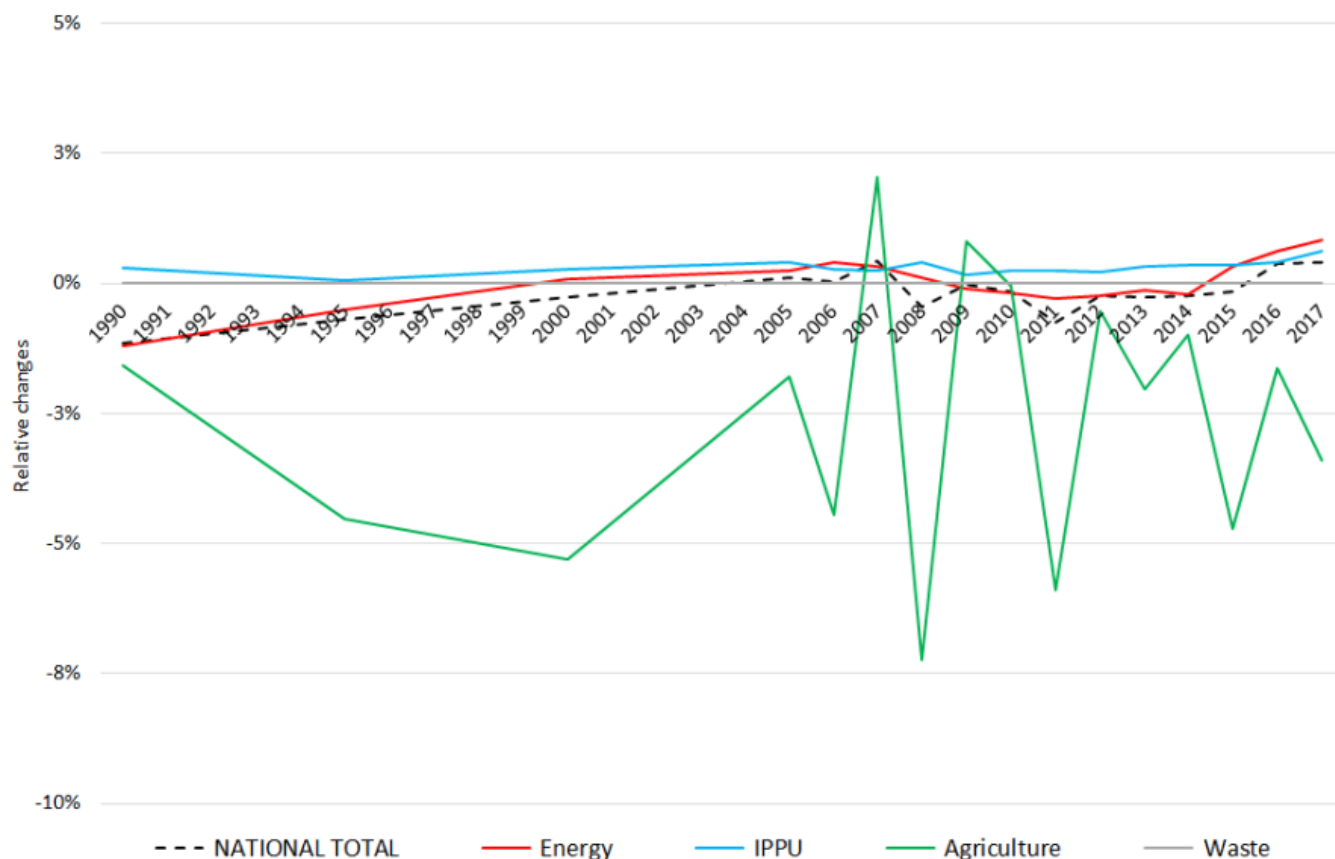


Recalculations - Nitrogen Oxides

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: sub-category chapters			
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							

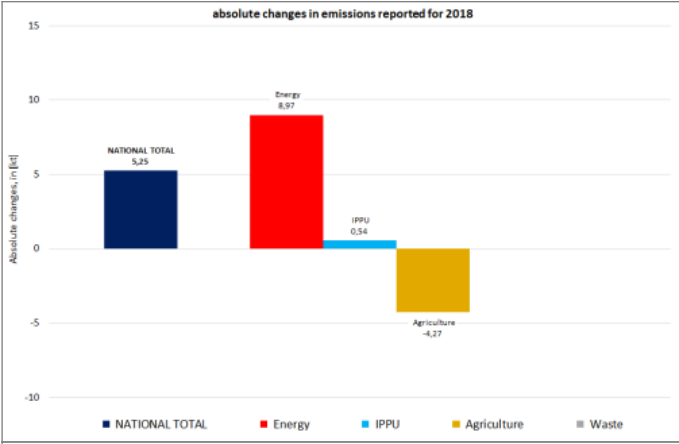
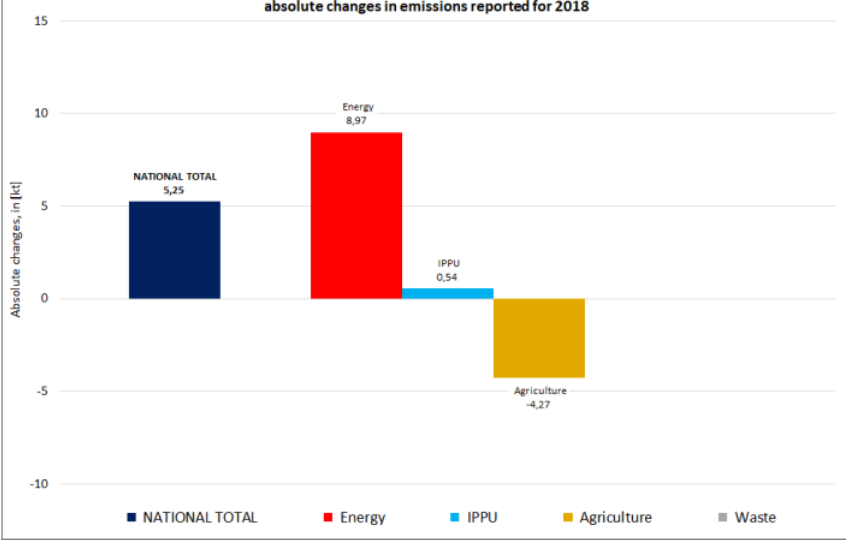
The changes within the **National Total** reported for 2017 (+100.56 kt | +8.47 %) are dominated by changes in **NFRs 1.A.3.b i, 1.A.3.b ii and 1.A.3.b iii** together with less significant revisions throughout NFRs 1, 2 and 3.

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 ■ NATIONAL TOTAL ■ Energy ■ IPPU ■ Agriculture ■ Waste					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	
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	
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!		

absolute changes in emissions reported for 2018 Y-axis: Absolute changes in [kt] Legend: NATIONAL TOTAL (dark blue), Energy (red), IPPU (light blue), Agriculture (yellow), Waste (grey) Data: NATIONAL TOTAL: 5.25, Energy: 8.97, IPPU: 0.34, Agriculture: -4.27	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
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
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

	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
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				
	=				
	= Submission 2019	= Submission 2020	= Difference	= Reasoning	
= NFR Code		= [kt]	= relative	< see description and reasoning in:	
~ NATIONAL TOTAL	> 1,187.50	> 1,288.07	> 100.56	> 8.47%	< sub-category chapters
NFR 1 - Energy	> 972.26	> 1,073.00	> 100.74	> 10.36%	< sub-category chapters
1.A.1.a	> 257.85	> 251.15	> -6.69	> -2.60%	< here]
1.A.1.b	> 16.88	> 14.64	> -2.24	> -13.26%	< here]
1.A.1.c	> 12.51	> 12.24	> -0.27	> -2.17%	< here]
1.A.2.a	> 4.26	> 4.21	> -0.05	> -1.10%	< here]
1.A.2.b	> 1.25	> 1.00	> -0.24	> -19.61%	< here]
1.A.2.e	> 0.22	> 0.19	> -0.02	> -11.33%	< here]
1.A.2.g vii	> 13.44	> 13.47	> 0.03	> 0.25%	< here]
1.A.2.g viii	> 75.07	> 72.79	> -2.28	> -3.04%	< here]
1.A.3.a i(i)	> 10.98	> 11.44	> 0.46	> 4.17%	< here]
1.A.3.a ii(i)	> 2.81	> 2.36	> -0.45	> -15.87%	< here]
1.A.3.b i	> 244.99	> 313.87	> 68.88	> 28.12%	< here]
1.A.3.b ii	> 32.64	> 65.78	> 33.14	> 102%	< here]

1.A.3.b iii	> 122.05	> 140.10	> 18.05	> 14.79%	< here]
1.A.3.b iv	> 2.74	> 1.74	> -1.00	> -36.58%	< here]
1.A.3.c	> 11.78	> 9.30	> -2.47	> -21.00%	< here]
1.A.3.d ii	> 27.06	> 26.11	> -0.95	> -3.52%	< here]
1.A.4.a i	> 19.34	> 21.31	> 1.96	> 10.15%	< here]
1.A.4.a ii	> 10.32	> 10.34	> 0.02	> 0.17%	< here]
1.A.4.b i	> 57.94	> 55.04	> -2.90	> -5.01%	< here]
1.A.4.b ii	> 0.5137	> 0.5135	> -0.0002	> -0.04%	< here]
1.A.4.c i	> 9.54	> 6.38	> -3.16	> -33.10%	< here]
1.A.4.c ii	> 30.65	> 30.82	> 0.16	> 0.54%	< here]
1.A.4.c iii	> 1.3267	> 1.3264	> -0.0003	> -0.02%	< here]
1.A.5.a	> 0.27	> 0.26	> -0.01	> -2.14%	< here]
1.A.5.b	> 3.44	> 3.36	> -0.08	> -2.43%	< here]
1.B.2.a iv	> 0.0001	> 0.7674	> 0.7673	> 824.150%	< here]
1.B.2.c	> 0.33	> 0.43	> 0.10	> 29.02%	< here]
NFR 2 - IPPU	> 88.67	> 88.68	> 0.01	> 0.02%	< sub-category chapters
2.A.2	> 4.123	> 4.122	> -0.002	> -0.04%	< here]
2.A.6	> 2.49	> 2.13	> -0.36	> -14.51%	< here]
2.G	> 0.434	> 0.435	> 0.001	> 0.13%	< here]
2.H.1	> 2.78	> 3.01	> 0.23	> 8.27%	< here]
NFR 3 - Agriculture	> 125.79	> 125.60	> -0.20	> -0.16%	< sub-category chapters
3.B.1.a	> 0.523	> 0.522	> -0.001	> -0.19%	< here]
3.B.1.b	> 0.574	> 0.581	> 0.007	> 1.15%	< here]
3.B.2	> 0.011	> 0.011	> 0.000	> 0.00%	< here]
3.B.3	> 0.3468	> 0.3464	> -0.0004	> -0.11%	< here]
3.B.4.g i	> 0.0171	> 0.0176	> 0.0005	> 3.06%	< here]
3.B.4.g ii	> 0.0174	> 0.0177	> 0.0003	> 1.85%	< here]
3.B.4.g iii	> 0.0103	> 0.0109	> 0.0006	> 5.34%	< here]
3.B.4.g iv	> 0.0023	> 0.0020	> -0.0002	> -9.49%	< here]
3.D.a.2.a	> 40.38	> 40.45	> 0.07	> 0.17%	< here]
3.D.a.2.b	> 0.74	> 0.56	> -0.18	> -24.29%	< here]
3.D.a.2.c	> 11.91	> 11.72	> -0.20	> -1.64%	< here]
3.D.a.3	> 5.64	> 5.75	> 0.11	> 1.88%	< here]
3.I	> 0.178	> 0.176	> -0.002	> -1.23%	<
NFR 5 - Waste	> 0.79	> 0.79	> 0.00	> 0.00%	<
NFR 6 - Other					= NA