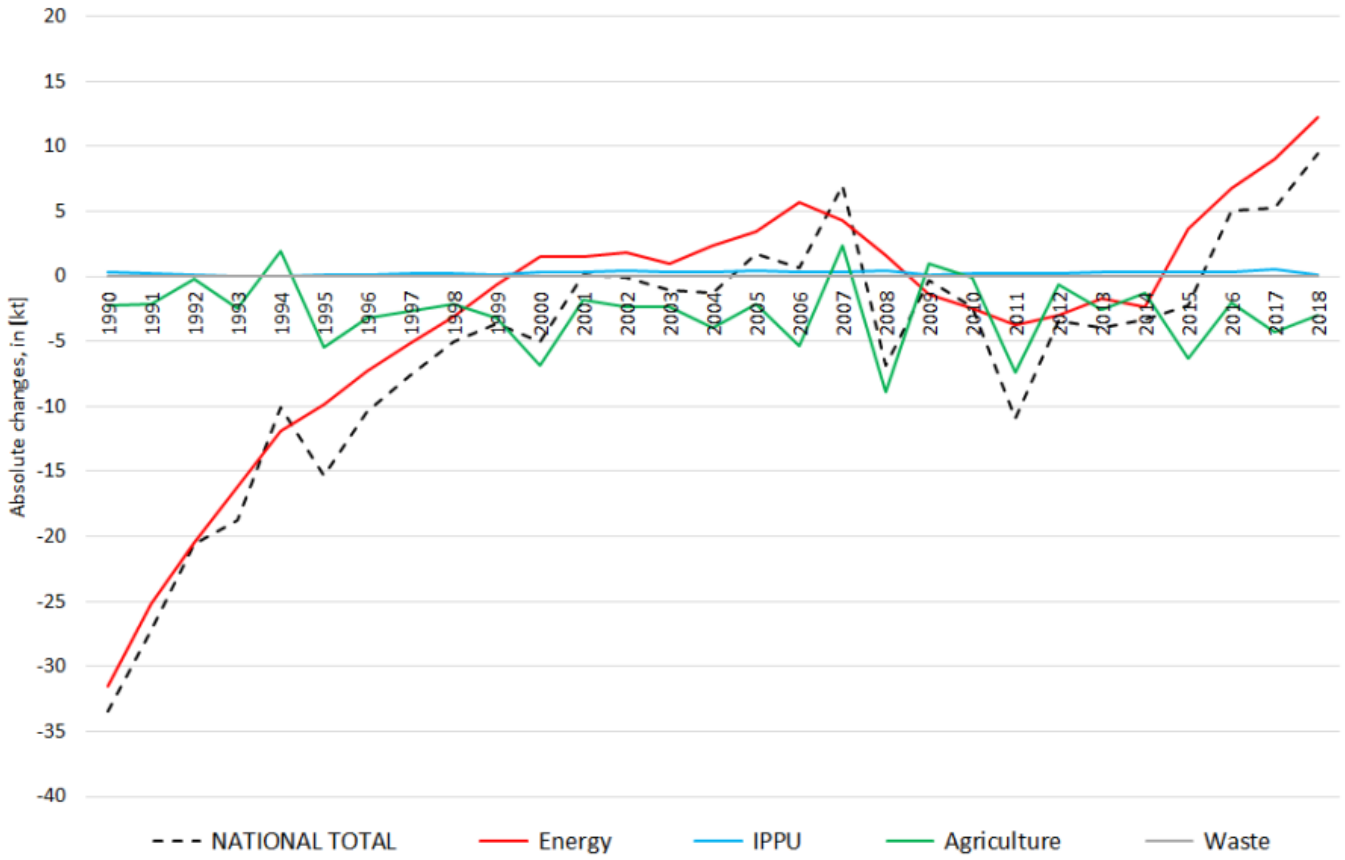
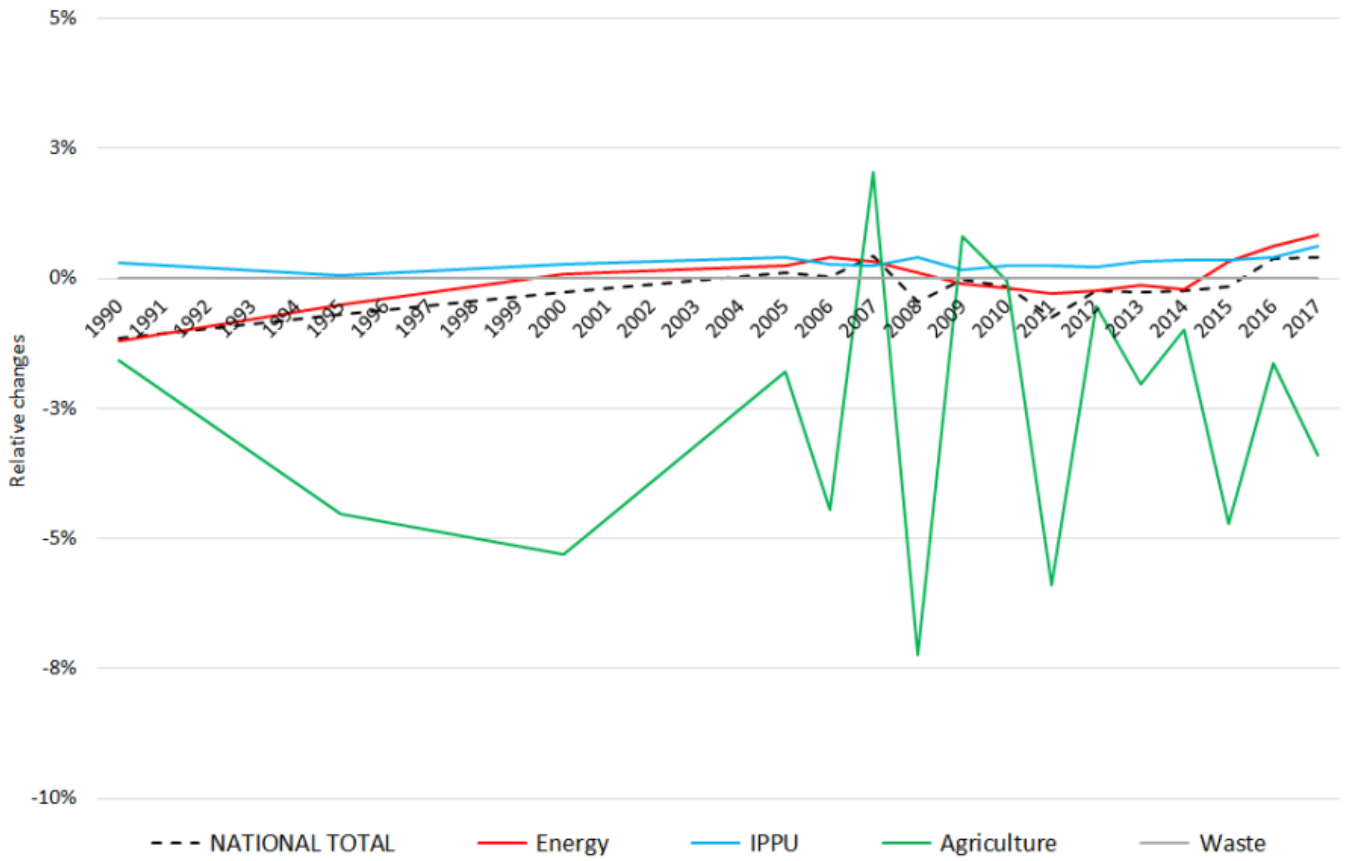
Recalculations - Nitrogen Oxides

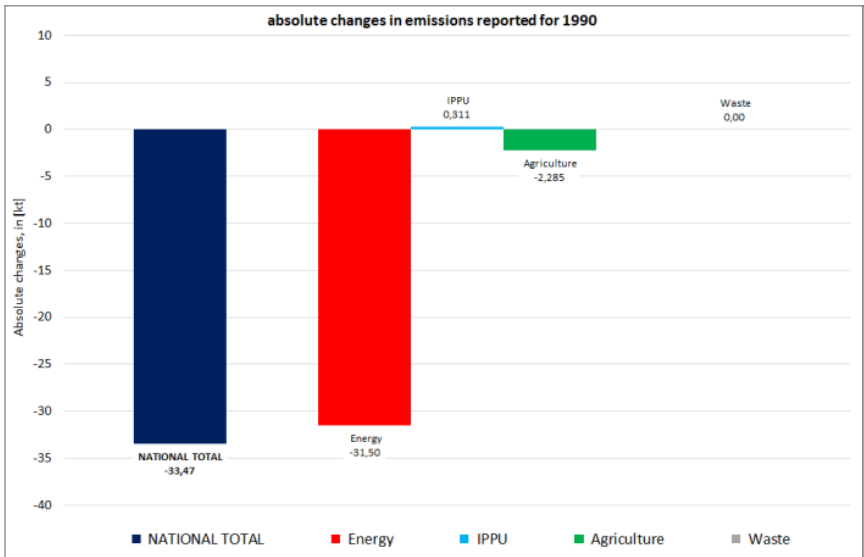
Revision of NO_x emissions over time



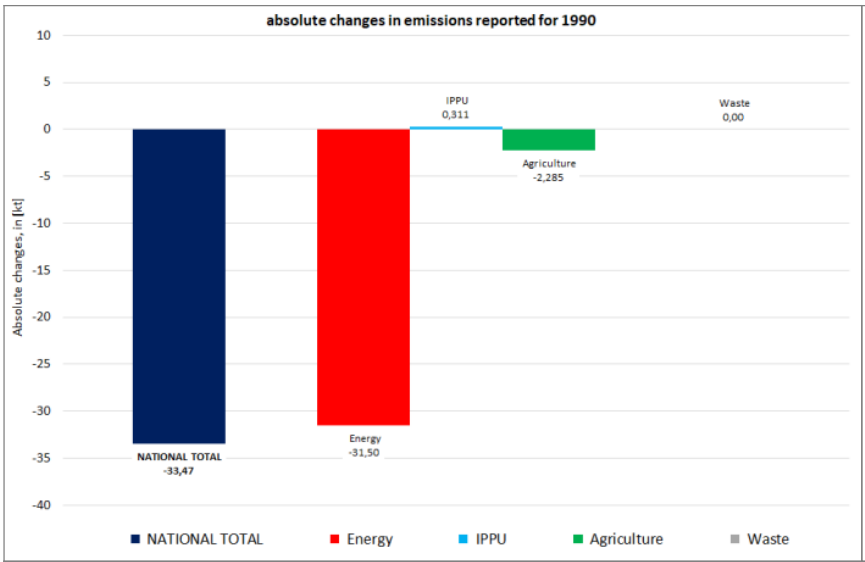


> The changes within the **National Total reported for 1990 (-34 kt | -1.19 %)** are dominated by changes in **NFRs 1.A.3.b i, 1.A.3.b ii and 1.A.3.b iii** together with less significant revisions throughout NFRs 1, 2 and 3.
> Here, the strongest relative change occurs for **NFR 2.G with minus 58 %**.

Table 1: Changes of emission estimates 1990



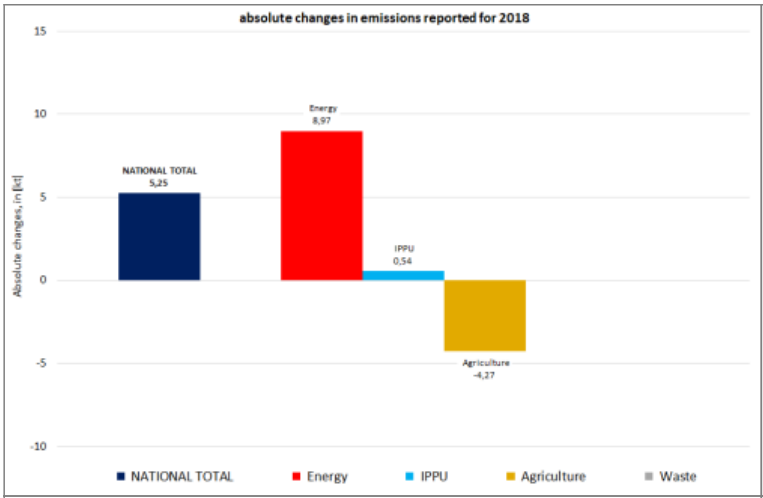
NFR Code	Submission 2020	Submission 2021	Difference		Reasoning
	[kt]			relative	see description and reasoning in:
NATIONAL TOTAL	**2.884,38**	**2.850,05**	**-34,33**	**-1,19%**	**sub-category chapters**
NFR 1 - Energy	**2.634,24**	**2.601,88**	**-32,36**	**-1,23%**	**sub-category chapters**
1.A.2.g vii	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



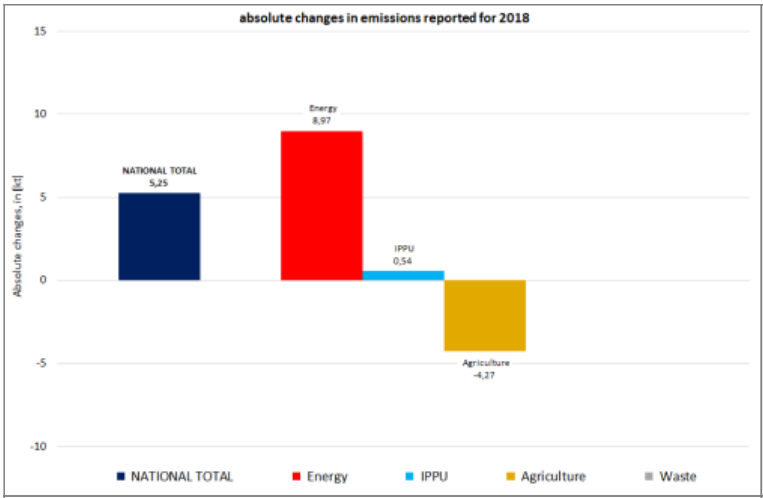
NFR Code	Submission 2020 [kt]	Submission 2021 [kt]	Difference [kt]	Difference relative	Reasoning: see description and reasoning in:
NATIONAL TOTAL	**2.884,38**	**2.850,05**	**-34,33**	**-1,19%**	**sub-category chapters**
NFR 1 - Energy	**2.634,24**	**2.601,88**	**-32,36**	**-1,23%**	**sub-category chapters**
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 %)**.

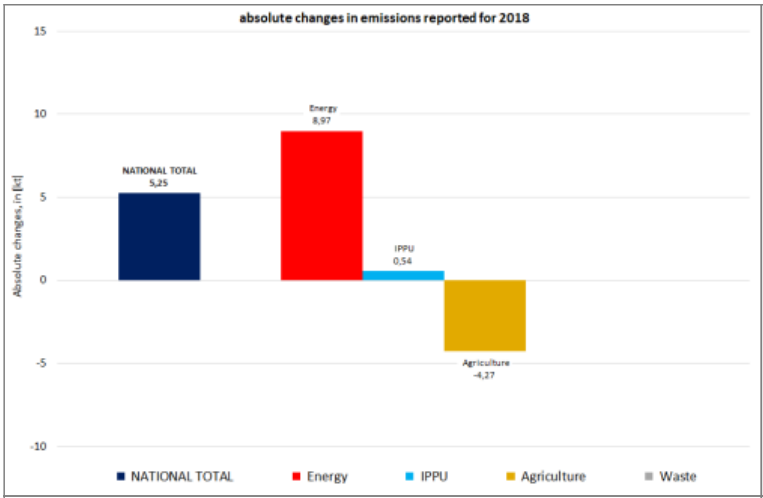
Table 2: Changes of emission estimates 2018



	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



	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.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**				