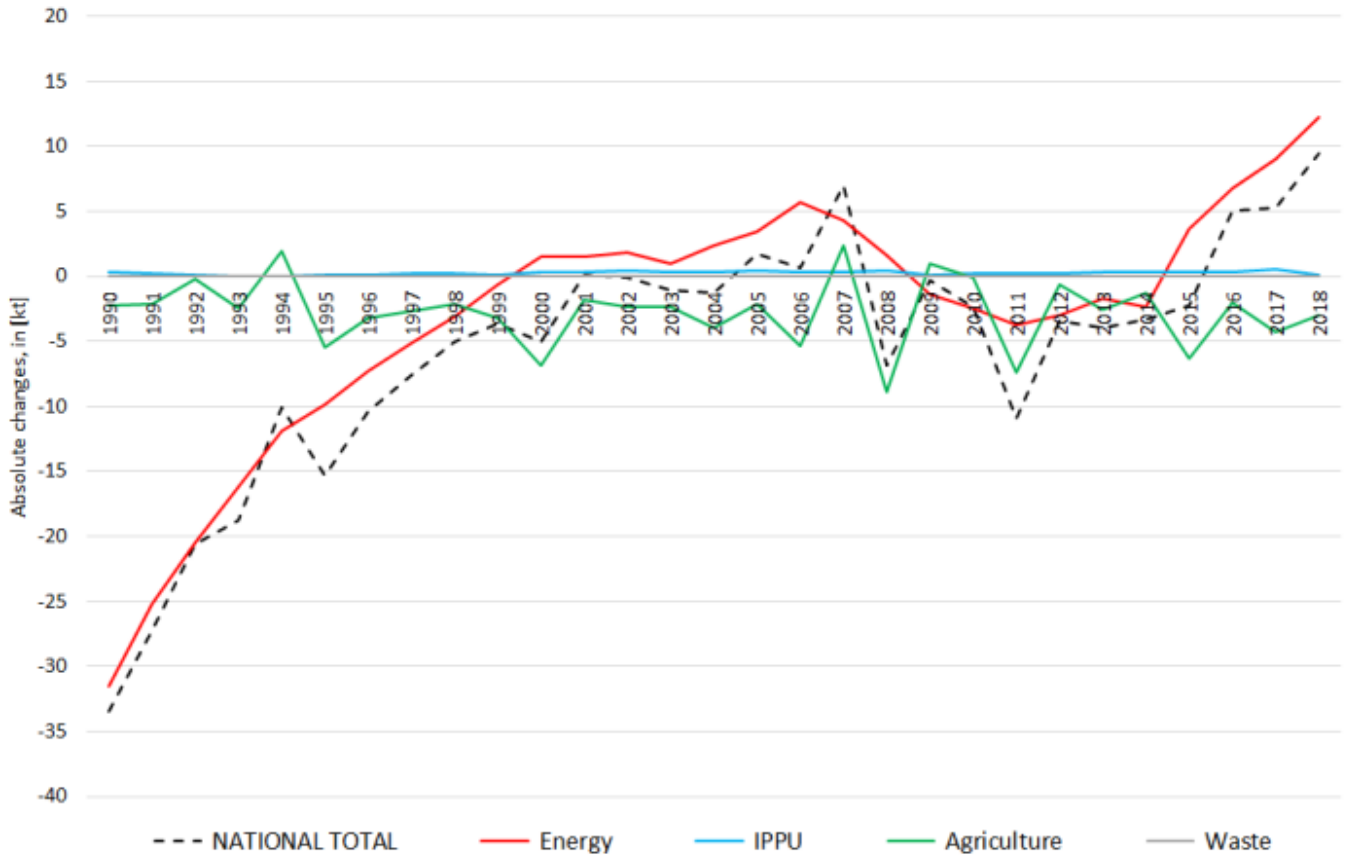
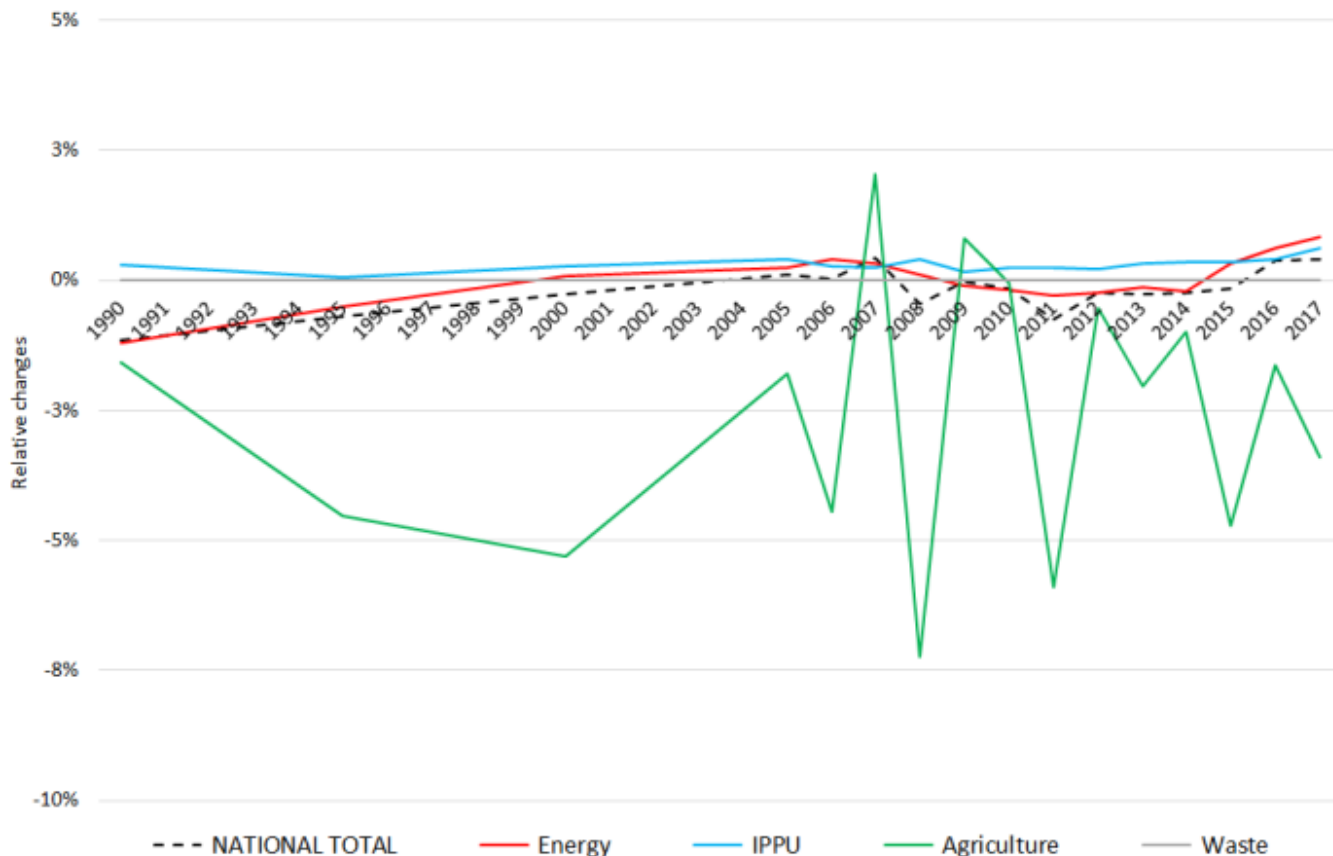


# Recalculations - Nitrogen Oxides

## Revision of NO<sub>x</sub> emissions over time



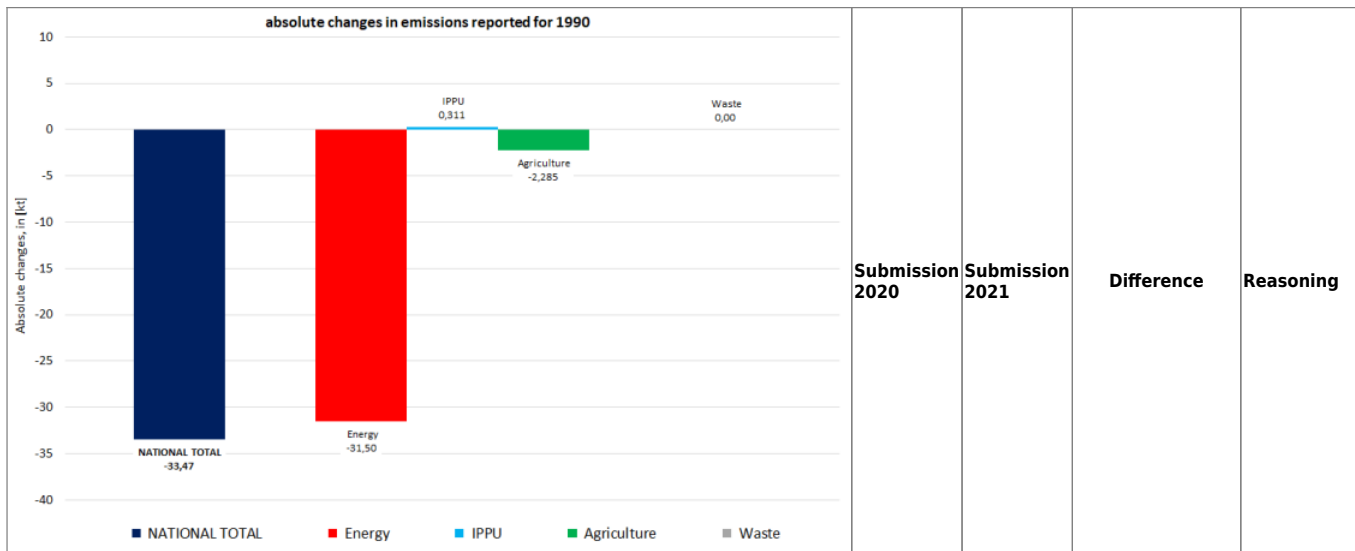


The small changes within the **National Total reported for 1990 (-4.38 kt | -0.15 %)** are dominated by changes in **NFRs 1.A.3.b i, 1.A.3.b ii and 1.A.3.b iii** together with less significant revisions throughout NFRs 1, 2 and 3. Here, the strongest relative change occurs for **NFR 1.B.2.a iv (+222,250 %)**.

Table 1: Changes of emission estimates 1990

NFR Code	absolute changes in emissions reported for 1990			Submission 2020	Submission 2021	Difference	Reasoning
	NATIONAL TOTAL	Energy	IPPU				
NATIONAL TOTAL	-33,47	-31,50	0,311	2.884,38	2.850,05	-34,334	-1,19%
NFR 1 - Energy				2.634,24	2.601,88	-32,360	-1,23%

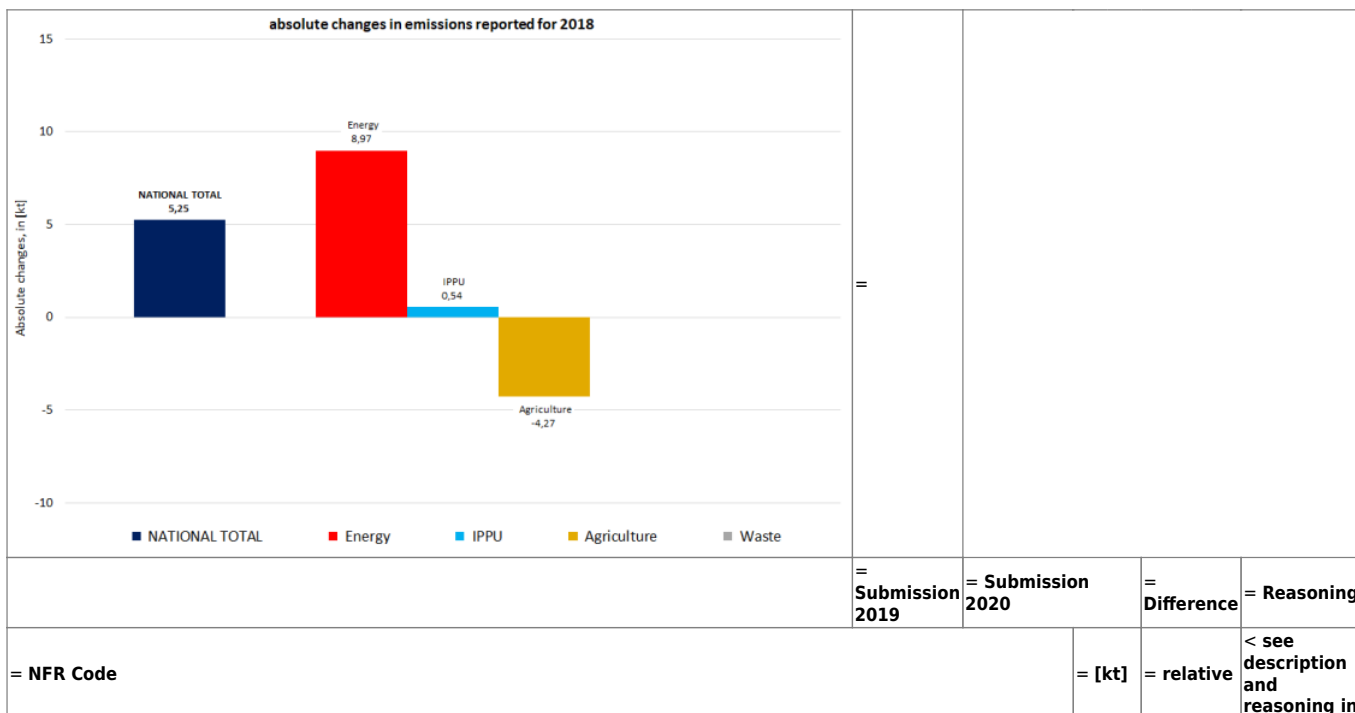
absolute changes in emissions reported for 1990					Submission 2020	Submission 2021	Difference	Reasoning
NFR Code	[kt]			relative	see description and reasoning in:			
1.A.2.g vii	49,60	50,23	0,633	1,28%	1.A.2.g vii - Mobile Combustion in Manufacturing Industries & Construction ]			
1.A.3.a i(i)	3,88	3,94	0,060	1,54%	1.A.3.a i (i) - International Civil Aviation: LTO ]			
1.A.3.a ii(i)	2,85	2,80	-0,054	-1,90%	1.A.3.a ii (i) - Domestic Civil Aviation: LTO ]			
1.A.3.b i	808,22	765,68	-42,539	-5,26%	1.A.3.b i - Road Transport: Passenger Cars ]			
1.A.3.b ii	41,49	31,49	-10,006	-24,11%	1.A.3.b ii - Road Transport: Light duty vehicles ]			
1.A.3.b iii	485,89	506,00	20,111	4,14%	1.A.3.b iii - Road Transport: Heavy duty vehicles ]			
1.A.3.b iv	2,61	2,45	-0,162	-6,18%	1.A.3.b iv - Road Transport: Mopeds & Motorcycles ]			
1.A.4.a ii	11,52	11,60	0,077	0,67%	1.A.4.a ii - Commercial & Institutional: Mobile ]			
1.A.4.b ii	0,07	0,06	-0,006	-8,44%	1.A.4.b ii - Households: Mobile ]			
1.A.4.c ii	49,78	49,31	-0,475	-0,95%	1.A.4.c ii - Agriculture / Forestry / Fishery: Mobile ]			
<b>NFR 2 - IPPU</b>	106,06	106,37	0,311	0,29%	<b>sub-category chapters</b>			
2.C.3	NA	0,74	0,74		2.C.3 - Aluminum Production ]			
2.G	0,74	0,31	-0,429	-58,05%	2.G - Other Product Use ]			
<b>NFR 3 - Agriculture</b>	143,55	141,27	-2,28	-1,59%	<b>sub-category chapters</b>			
3.B.1.a	0,72	0,67	-0,051	-7,07%	3.B - Manure Management ]			
3.B.1.b	0,7876	0,6958	-0,0918	-11,65%	3.B - Manure Management ]			



NFR Code	[kt]			relative	see description and reasoning in:
	Submission 2020	Submission 2021	Difference		
3.B.4.g iii	0,0033688	0,0033850	0,0000162	0,48%	3.B - Manure Management ]
3.D.a.1	85,31	86,57	1,256	1,47%	3.D - Agricultural Soils ]
3.D.a.2.a	46,65	43,46	-3,189	-6,84%	3.D - Agricultural Soils ]
3.D.a.3	8,65	8,44	-0,209	-2,42%	3.D - Agricultural Soils ]
<b>NFR 5 - Waste</b>	0,53	0,53	0,00	0,00%	
<b>NFR 6 - Other</b>	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 2017



= NFR Code	= Submission 2019	= Submission 2020	= [kt]	= Difference	= Reasoning

~ NATIONAL TOTAL	> 1,187.50	> 1,288.07	> 100.56	> 8.47%	< sub-category chapters
<b>NFR 1 - Energy</b>	> 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 ]
<b>NFR 2 - IPPU</b>	> 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 ]
<b>NFR 3 - Agriculture</b>	> 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%	< here ]
<b>NFR 5 - Waste</b>	> 0.79	> 0.79	> 0.00	> 0.00%	< here ]
<b>NFR 6 - Other</b>					= NA