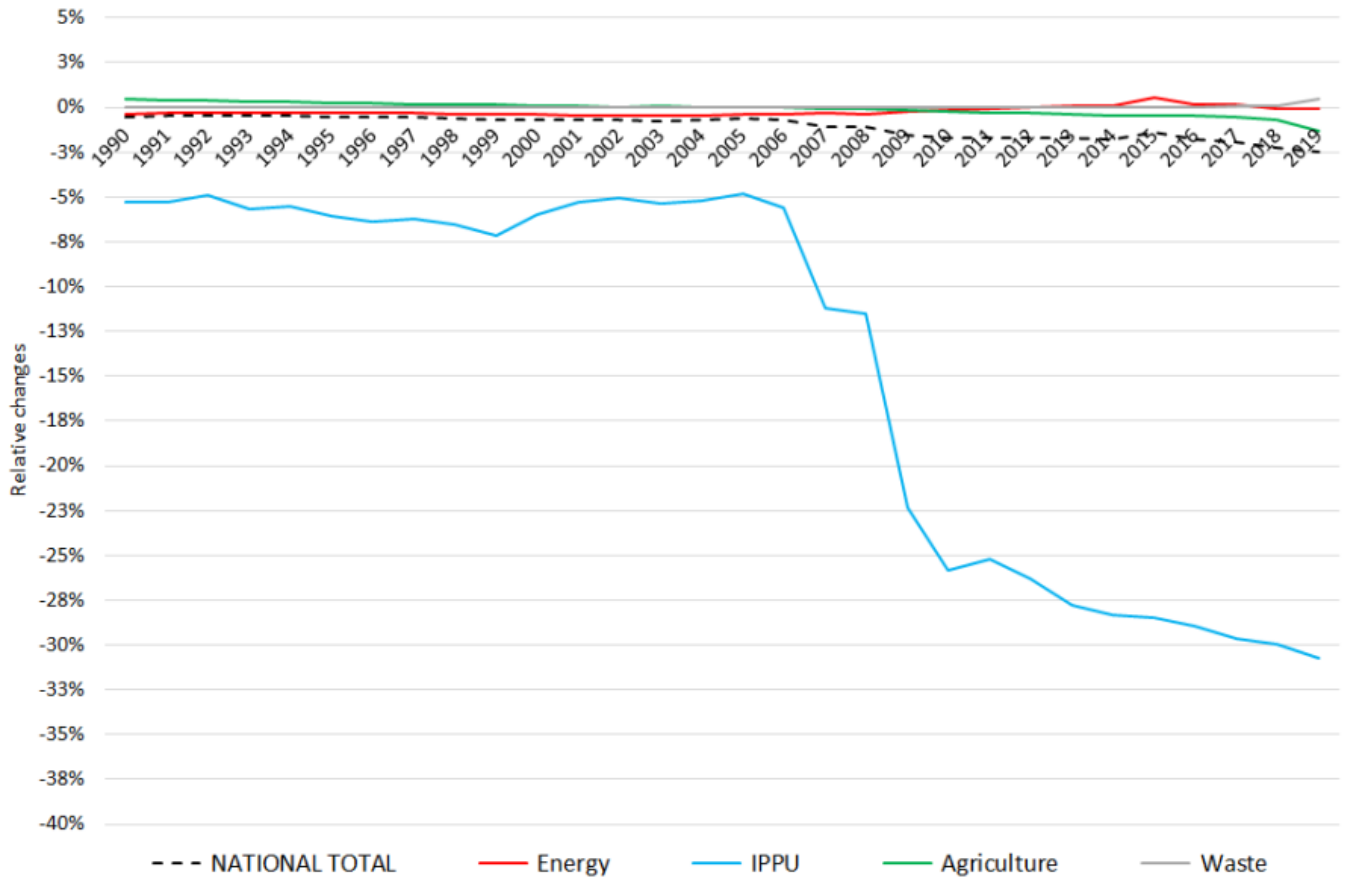
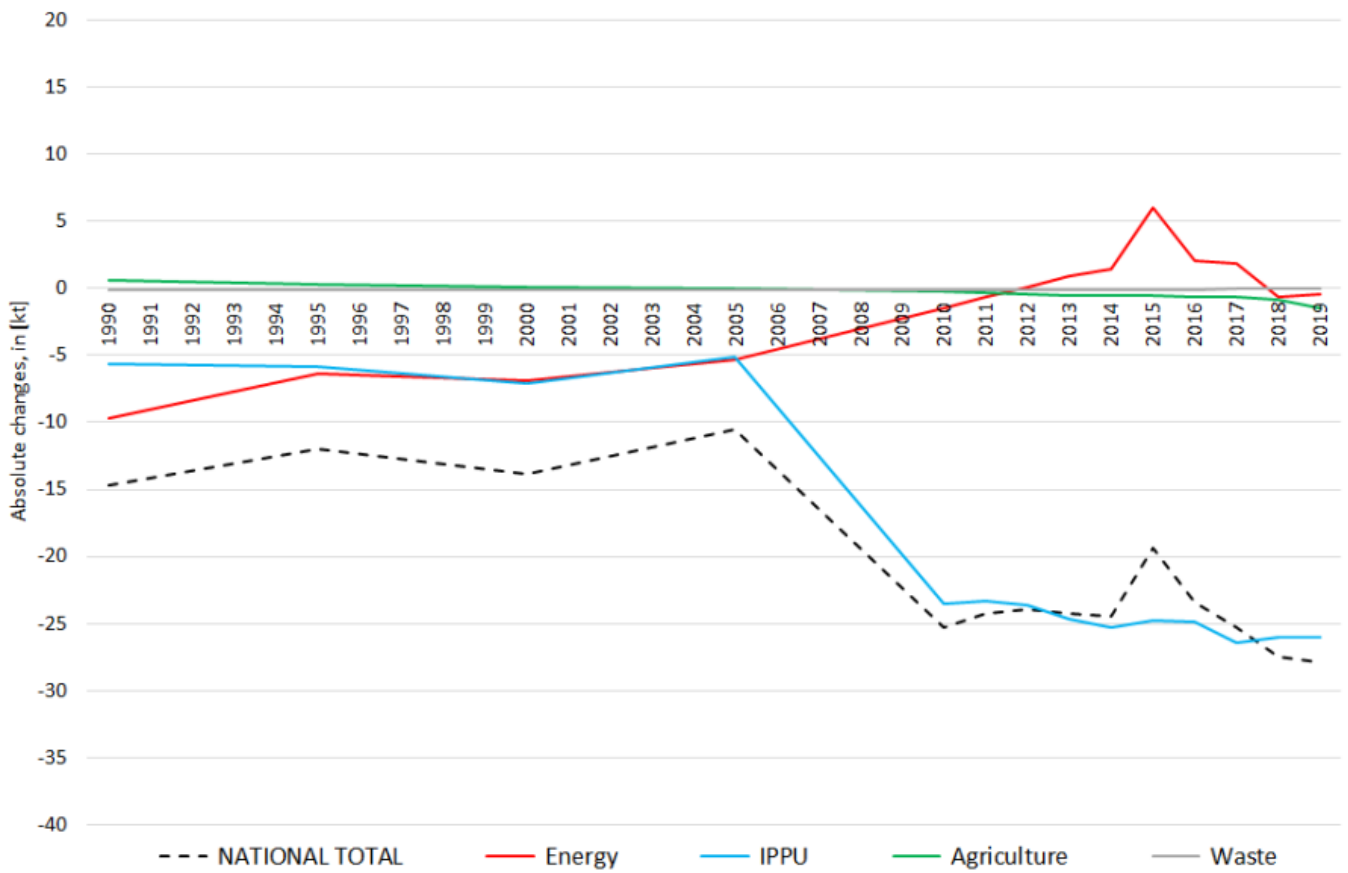


# Recalculations - Nitrogen Oxides

## Revision of NO<sub>x</sub> 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

	Submission 2020	Submission 2021	Difference	Reasoning
<b>NFR Code</b>	[kt]			relative description and reasoning in:
<b>NATIONAL TOTAL</b>	<b>2.884,38</b>	<b>2.850,05</b>	<b>-34,33</b>	<b>-1,19%</b> sub-category chapters
<b>NFR 1 - Energy</b>	<b>2.634,24</b>	<b>2.601,88</b>	<b>-32,36</b>	<b>-1,23%</b> sub-category chapters
1.A.2.g vii	49,60	50,23	0,63	1,28% <a href="#">here</a>
1.A.3.a i(i)	3,88	3,94	0,06	1,54% <a href="#">here</a>
1.A.3.a ii(i)	2,85	2,80	-0,05	-1,90% <a href="#">here</a>
1.A.3.b i	808,22	765,68	-42,54	-5,26% <a href="#">here</a>
1.A.3.b ii	41,49	31,49	-10,00	-24,11% <a href="#">here</a>
1.A.3.b iii	485,89	506,00	20,11	4,14% <a href="#">here</a>
1.A.3.b iv	2,61	2,45	-0,16	-6,18% <a href="#">here</a>
1.A.4.a ii	11,52	11,60	0,08	0,67% <a href="#">here</a>
1.A.4.b ii	0,07	0,06	-0,01	-8,44% <a href="#">here</a>
1.A.4.c ii	49,78	49,31	-0,475	-0,95% <a href="#">here</a>
<b>NFR 2 - IPPU</b>	<b>106,06</b>	<b>106,37</b>	<b>0,31</b>	<b>0,29%</b> sub-category chapters
2.C.3	NA	0,74	0,74	<a href="#">here</a>
2.G	0,74	0,31	-0,43	-58,05% <a href="#">here</a>
<b>NFR 3 - Agriculture</b>	<b>143,55</b>	<b>141,27</b>	<b>-2,28</b>	<b>-1,59%</b> sub-category chapters
3.B.1.a	0,72	0,67	-0,05	-7,07% <a href="#">here</a>
3.B.1.b	0,79	0,70	-0,09	-11,65% <a href="#">here</a>
3.B.4.g iii	0,00337	0,00339	0,00002	0,48% <a href="#">here</a>
3.D.a.1	85,31	86,57	1,256	1,47% <a href="#">here</a>
3.D.a.2.a	46,65	43,46	-3,19	-6,84% <a href="#">here</a>
3.D.a.3	8,65	8,44	-0,21	-2,42% <a href="#">here</a>
<b>NFR 5 - Waste</b>	<b>0,53</b>	<b>0,53</b>	<b>0,00</b>	<b>0,00%</b>
<b>NFR 6 - Other</b>	<b>NA</b>			

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					Submission 2020	Submission 2021	Difference	Reasoning
NFR Code	[kt]				relative	see description and reasoning in:		
<b>NATIONAL TOTAL</b>	<b>1.202,28</b>	<b>1.210,50</b>	<b>8,22</b>	<b>0,68%</b>	<b>sub-category chapters</b>			
<b>NFR 1 - Energy</b>	<b>996,11</b>	<b>1.007,16</b>	<b>11,05</b>	<b>1,11%</b>	<b>sub-category chapters</b>			
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%	<a href="#">here</a>			
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%	<a href="#">here</a>			
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%	<a href="#">here</a>			
1.A.3.a ii(i)	2,31	2,67	0,35	15,27%	<a href="#">here</a>			
1.A.3.b i	286,10	294,97	8,87	3,10%	<a href="#">here</a>			
1.A.3.b ii	60,49	60,37	-0,12	-0,20%	<a href="#">here</a>			
1.A.3.b iii	119,39	116,30	-3,09	-2,59%	<a href="#">here</a>			
1.A.3.b iv	1,63	1,66	0,03	1,59%	<a href="#">here</a>			
1.A.3.b v	NA	NA	#WERT!	#WERT!	<a href="#">here</a>			

absolute changes in emissions reported for 2018					Submission 2020	Submission 2021	Difference	Reasoning
NFR Code	[kt]			relative	see description and reasoning in: sub-category chapters			
<b>NATIONAL TOTAL</b>	<b>1.202,28</b>	<b>1.210,50</b>	<b>8,22</b>	<b>0,68%</b>	sub-category chapters			
<b>NFR 1 - Energy</b>	<b>996,11</b>	<b>1.007,16</b>	<b>11,05</b>	<b>1,11%</b>	sub-category chapters			
1.A.3.b vi	NA	NA	#WERT!	#WERT!	<a href="#">here</a>			
1.A.3.b vii	NA	NA	#WERT!	#WERT!	<a href="#">here</a>			
1.A.3.c	8,71	7,49	-1,23	-14,07%	<a href="#">here</a>			
1.A.3.d i(ii)	IE	IE	#WERT!	#WERT!				
1.A.3.d ii	26,09	27,28	1,20	4,60%	<a href="#">here</a>			
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%	<a href="#">here</a>			
1.A.4.a ii	9,92	8,15	-1,77	-17,86%	<a href="#">here</a>			
1.A.4.b i	52,65	54,48	1,83	3,49%	<a href="#">here</a>			
1.A.4.b ii	0,4993	0,5009	0,0016	0,32%	<a href="#">here</a>			
1.A.4.c i	6,07	5,84	-0,23	-3,80%	<a href="#">here</a>			
1.A.4.c ii	27,29	27,43	0,14	0,51%	<a href="#">here</a>			
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!				
<b>NFR 2 - IPPU</b>	<b>86,70</b>	<b>86,82</b>	<b>0,12</b>	<b>0,14%</b>	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		<a href="#">here</a>			
2.G	0,436	0,222	-0,214	-49,14%	<a href="#">here</a>			
<b>NFR 3 - Agriculture</b>	<b>118,64</b>	<b>115,69</b>	<b>-2,95</b>	<b>-2,49%</b>	sub-category chapters			
3.B.1.a	0,520	0,488	-0,032	-6,21%	<a href="#">here</a>			
3.B.1.b	0,566	0,497	-0,070	-12,31%	<a href="#">here</a>			
3.B.3	0,3340	0,3352	0,0013	0,38%	<a href="#">here</a>			
3.B.4.g i	0,0180	0,0178	-0,0001	-0,65%	<a href="#">here</a>			

absolute changes in emissions reported for 2018					Submission 2020	Submission 2021	Difference	Reasoning
NFR Code	[kt]			relative	see description and reasoning in: sub-category chapters			
<b>NATIONAL TOTAL</b>	<b>1.202,28</b>	<b>1.210,50</b>	<b>8,22</b>	<b>0,68%</b>				
<b>NFR 1 - Energy</b>	<b>996,11</b>	<b>1.007,16</b>	<b>11,05</b>	<b>1,11%</b>	sub-category chapters			
3.B.4.g ii	0,0180	0,0180	0,0000	-0,20%	<a href="#">here</a>			
3.B.4.g iii	0,0108	0,0108	-0,0001	-0,67%	<a href="#">here</a>			
3.B.4.g iv	0,0020	0,0020	0,0000	-0,72%	<a href="#">here</a>			
3.D.a.1	59,01	59,11	0,10	0,17%	<a href="#">here</a>			
3.D.a.2.a	39,94	37,80	-2,14	-5,35%	<a href="#">here</a>			
3.D.a.2.b	0,56	0,51	-0,05	-8,55%	<a href="#">here</a>			
3.D.a.2.c	11,77	11,55	-0,22	-1,91%	<a href="#">here</a>			
3.D.a.3	5,66	5,13	-0,54	-9,47%	<a href="#">here</a>			
3.I	0,177	0,172	-0,005	-2,68%				
<b>NFR 5 - Waste</b>	<b>0,830</b>	<b>0,830</b>	<b>0,000</b>	<b>0,00%</b>				
<b>NFR 6 - Other</b>	<b>NA</b>							
absolute changes in emissions reported for 2018					=			
					= Submission 2019			
= NFR Code								
~ NATIONAL TOTAL					> 1,187.50			

<b>NFR 1 - Energy</b>	> <b>972.26</b>
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
<b>NFR 2 - IPPU</b>	> <b>88.67</b>
2.A.2	> 4.123
2.A.6	> 2.49
2.G	> 0.434
2.H.1	> 2.78
<b>NFR 3 - Agriculture</b>	> <b>125.79</b>
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
<b>NFR 5 - Waste</b>	> <b>0.79</b>
<b>NFR 6 - Other</b>	