

~ PM	2		> 100	> 100	> 100	> 100	> 100	> 100	> 100	> 100	> 100	> 100	> 100	> 100	> 100	> 100	> 100	> 100	> 100
~ BC	3		> 53.0	> 53.0	> 53.0	> 53.0	> 53.0	> 53.0	> 53.0	> 53.0	> 53.0	> 53.0	> 53.0	> 53.0	> 53.0	> 53.0	> 53.0	> 53.0	> 53.0
~ CO		> 515	> 350	> 350	> 350	> 350	> 350	> 350	> 350	> 350	> 350	> 350	> 350	> 350	> 350	> 350	> 350		
< Gasoline fuels																			
~ NH ₃ ,3,,		> 4.00	> 4.00	> 4.00	> 4.00	> 4.00	> 4.00	> 4.00	> 4.00	> 4.00	> 4.00	> 4.00	> 4.00	> 4.00	> 4.00	> 4.00	> 4.00		
~ NMVOC		> 594	> 373	> 373	> 373	> 373	> 373	> 373	> 373	> 373	> 373	> 373	> 373	> 373	> 373	> 373	> 373		
~ NO _x ,x,,		> 682	> 725	> 725	> 725	> 725	> 725	> 725	> 725	> 725	> 725	> 725	> 725	> 725	> 725	> 725	> 725		
~ SO _x ,x,,		> 11.8	> 8.30	> 3.20	> 0.40	> 0.40	> 0.40	> 0.40	> 0.40	> 0.40	> 0.40	> 0.40	> 0.40	> 0.40	> 0.40	> 0.40	> 0.40		
~ PM	2		> 3.63	> 3.55	> 3.13	> 2.66	> 2.66	> 2.51	> 2.39	> 2.27	> 2.14	> 2.09	> 2.03	> 1.97	> 1.91	> 1.91	> 1.91	> 1.91	> 1.91
~ BC	3		> 0.44	> 0.43	> 0.38	> 0.32	> 0.32	> 0.30	> 0.29	> 0.27	> 0.26	> 0.25	> 0.24	> 0.24	> 0.23	> 0.23	> 0.23	> 0.23	> 0.23
~ CO		> 4,199	> 4,010	> 4,010	> 4,010	> 4,010	> 4,010	> 4,010	> 4,010	> 4,010	> 4,010	> 4,010	> 4,010	> 4,010	> 4,010	> 4,010	> 4,010		
~ TSP	4		> 2.46	> 0.82	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00
~ Pb	4		> 1.54	> 0.52	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00
1																			
2																			
3																			
4																			

NOTE: With respect to the emission factors applied for particulate matter, given the circumstances during test-bench measurements, condensables are most likely included at least partly.[footnote](#) During test-bench measurements, temperatures are likely to be significantly higher than under real-world conditions, thus reducing condensation. On the contrary, smaller dilution (higher number of primary particles acting as condensation germs) together with higher pressures increase the likeliness of condensation. So over-all condensables are very likely to occur but different to real-world conditions. [footnote](#)

For information on the **emission factors for heavy-metal and POP exhaust emissions**, please refer to [Appendix 2.3 - Heavy Metal \(HM\) exhaust emissions from mobile sources](#) and [Appendix 2.4 - Persistent Organic Pollutant \(POP\) exhaust emissions from mobile sources](#)].

+ Discussion of emission trends

This sub-category is **not considered separately in the key category analysis**.

Due to the application of very several tier1 emission factors, most emission trends reported for this sub-category only reflect the trend in fuel deliveries. Therefore, the fuel-consumption dependend trends in emission estimates are only influenced by the annual fuel mix.

[gallery size="medium" : 1A5bi_EM_NH3.png](#) : [1A5bi_EM_NOx.png](#) [gallery](#)

Here, for **sulphur dioxide**, this consumption-based falling trend is intensified by the impact of fuel-sulphur legislation.

[gallery size="medium" : 1A5bi_EM_SO2.png](#) [gallery](#)

Over-all **particulate matter** emissions are by far dominated by emissions from diesel oil combustion with the falling trend basically following the decline in fuel consumption. Here, until 1997, the emission values reported for **total suspended particles (TSP)** are slightly higher than those reported for PM_{2.5}, and PM₁₀, due to the additional TSP emissions from leaded gasoline that was banned in 1997.

[gallery size="medium" : 1A5bi_EM_PM.png](#) [gallery](#)

+ Recalculations

activity data Table: Revised activity data, in terajoules

	= 2009	= 2010	= 2011	= 2012	= 2013	= 2014	= 2015	= 2016	= 2017										
< 1.A.5.b i TOTAL																			
~ Submission 2020	> 6,119	> 6,103	> 5,551	> 5,395	> 4,988	> 4,580	> 4,099	> 3,748	> 3,046										
~ Submission 2019	> 6,119	> 6,103	> 5,551	> 5,395	> 4,988	> 4,580	> 4,102	> 3,752	> 3,155										
~ absolute change	> -0.09	> 0.02	> 0.11	> 0.0	> 0.0	> 0.0	> -3.6	> -4.2	> -109										
~ relative change	> -0.001%	> 0.0004%	> 0.002%	> 0.00%	> 0.00%	> 0.00%	> -0.09%	> -0.11%	> -3.46%										
< Diesel Oil																			
~ Submission 2020	> 1,003	> 990	> 622	> 972	> 681	> 683	> 580	> 578	> 415										
~ Submission 2019	> 1,003	> 990	> 622	> 972	> 681	> 683	> 583	> 582	> 421										
~ absolute change	> 0.02	> 0.02	> 0.00	> 0.00	> 0.00	> 0.00	> -3.50	> -4.10	> -5.76										
~ relative change	> 0.002%	> 0.002%	> 0.00%	> 0.00%	> 0.00%	> 0.00%	> -0.60%	> -0.70%	> -1.37%										
< Biodiesel																			
~ Submission 2020	> 69	> 64	> 41	> 63	> 39	> 41	> 31	> 30	> 22										
~ Submission 2019	> 69	> 64	> 41	> 63	> 39	> 41	> 32	> 31	> 22										
~ absolute change	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00	> -0.19	> -0.22	> -0.31										
~ relative change	> 0.00%	> 0.00%	> 0.00%	> 0.00%	> 0.00%	> 0.00%	> -0.60%	> -0.70%	> -1.37%										
< Gasoline																			
~ Submission 2020	> 4,907	> 4,862	> 4,696	> 4,175	> 4,092	> 3,695	> 3,342	> 3,009	> 2,502										
~ Submission 2019	> 4,907	> 4,862	> 4,695	> 4,175	> 4,092	> 3,695	> 3,342	> 3,009	> 2,605										
~ absolute change	> -0.11	> 0.00	> 0.10	> 0.00	> 0.00	> 0.00	> 0.08	> 0.07	> -103										
~ relative change	> 0.00%	> 0.00%	> 0.00%	> 0.00%	> 0.00%	> 0.00%	> 0.00%	> 0.00%	> -3.96%										
< Biogasoline																			
~ Submission 2020	> 140	> 188	> 192	> 185	> 175	> 161	> 145	> 131	> 107										
~ Submission 2019	> 140	> 188	> 192	> 185	> 175	> 161	> 145	> 131	> 106										
~ absolute change	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00	> 0.13										
~ relative change	> 0.00%	> 0.00%	> 0.00%	> 0.00%	> 0.00%	> 0.00%	> 0.00%	> 0.00%	> 0.12%										

For **pollutant-specific information on recalculated emission estimates for Base Year and 2017**, please see the pollutant specific recalculation tables following chapter [8.1 - Recalculations](#).

+ Planned improvements

Given the limited quality of the emission factors applied, the inventory compiler will check a possible revision at least for the main pollutants.

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¹⁾ (bibcite 1)²⁾ (bibcite 2)