Chapter 9 - Projections

In May 2019, Germany published its first National Air Pollution Control Programme (NAPCP 2019) under the revised NEC directive (EU) 2016/2284. According to Article 6 (3) of the Directive, the NAPCP must be reported in an updated version at least every four years. In this context, Germany published a draft NAPCP on June 7th, 2023. Corresponding emission projections were reported to the central data repository of the European Environment Agency (EEA) on May 2nd, 2023 under the CLRTAP and the NEC directive, presenting both the “with measures” (WM) and the “with additional measures” (WAM) preliminary scenarios as defined in the draft NAPCP 2023 mentioned above. The second German National Air Pollution

Control Programme (NAPCP 2023) was passed by the federal government and published in May 2024, consistent with the previously reported projections. According to Article 8 (6) of the EU Directive 2016/2284, these projections must be updated and reported every two years. Emission projections under the CLRTAP are fully aligned with the reporting presented in the context of the NEC directive.

As negotiations within the German government on the final NAPCP were still ongoing at the end of 2023, the IIR 2023 presents the projection details of the draft NAPCP from June 2023 consistent with the reported emission projections in 2023. Updated emission projections were reported on March 14th, 2025 under the (CLRTAP) and the (NEC directive), presenting both the “with measures” (WM) and the “with additional measures” (WAM) scenarios. The IIR 2025 projections chapter describes all assumptions and methodology of those emission projections. Current projections are based on emission inventory submission 2024. In addition, because of relevant recalculations in ammonia emissions of the agricultural sector (NFR 3) within emission inventory submission 2025 (see Chapter 8.1 - Recalculations), a second dataset was submitted containing only ammonia emission projections in the “with measures” (WM) scenario based on emission inventory submission 2025 under otherwise identical assumptions.

Based on the emissions inventory submission 2024 these results can be summarized as follows:

kt	**NO_x**	**SO_2**	**NMVOC**	**NH_3**	**$PM_{2.5}$**
National Total 2005	1478	472	1167	627	133
National Total 2022	841	255	747	512	84
Reduction Commitment 2020 [%]	-39	-21	-13	-5	-26
Reduction Reported 2022 [%]	-43	-46	-36	-18	-37
NEC-Compliance	Yes	Yes	Yes	Yes	Yes
Reduction Commitment 2030 [%]	-65	-58	-28	-29	-43
Reduction Commitment 2030 [kt]	517	198	840	445	76
Projected Emissions 2030 WM [%]	-66	-71	-35	-31	-43
NEC-Compliance WM	Yes	Yes	Yes	Yes	Yes
Projected Emissions 2030 WAM [%]	-66	-71	-35	-31	-44
NEC-Compliance WAM	Yes	Yes	Yes	Yes	Yes

Notes: This table does not include NO_x and NMVOC emissions from agriculture (NFR 3.B and 3.D) as they are excluded for compliance checking according to Article 4 (3) of the NEC directive. Projected emissions and historic data are based on submission 2024. All values have been rounded to integer numbers. The calculation for determining the reduction commitment took place with the exact values in 2005. The rounding can lead to slight deviations.

Based on the emissions inventory submission 2025 the recalculated results for ammonia can be summarized as follows:

kt	**NO_x**	**SO_2**	**NMVOC**	**NH_3**	**$PM_{2.5}$**
National Total 2005				714	
National Total 2023				569	
Reduction Commitment 2020 [%]				-5	
Reduction Reported 2023 [%]				-20	
NEC-Compliance				Yes	
Reduction Commitment 2030 [%]				-29	
Reduction Commitment 2030 [kt]				507	
Projected Emissions 2030 WM [%]				-33	
NEC-Compliance WM				Yes	

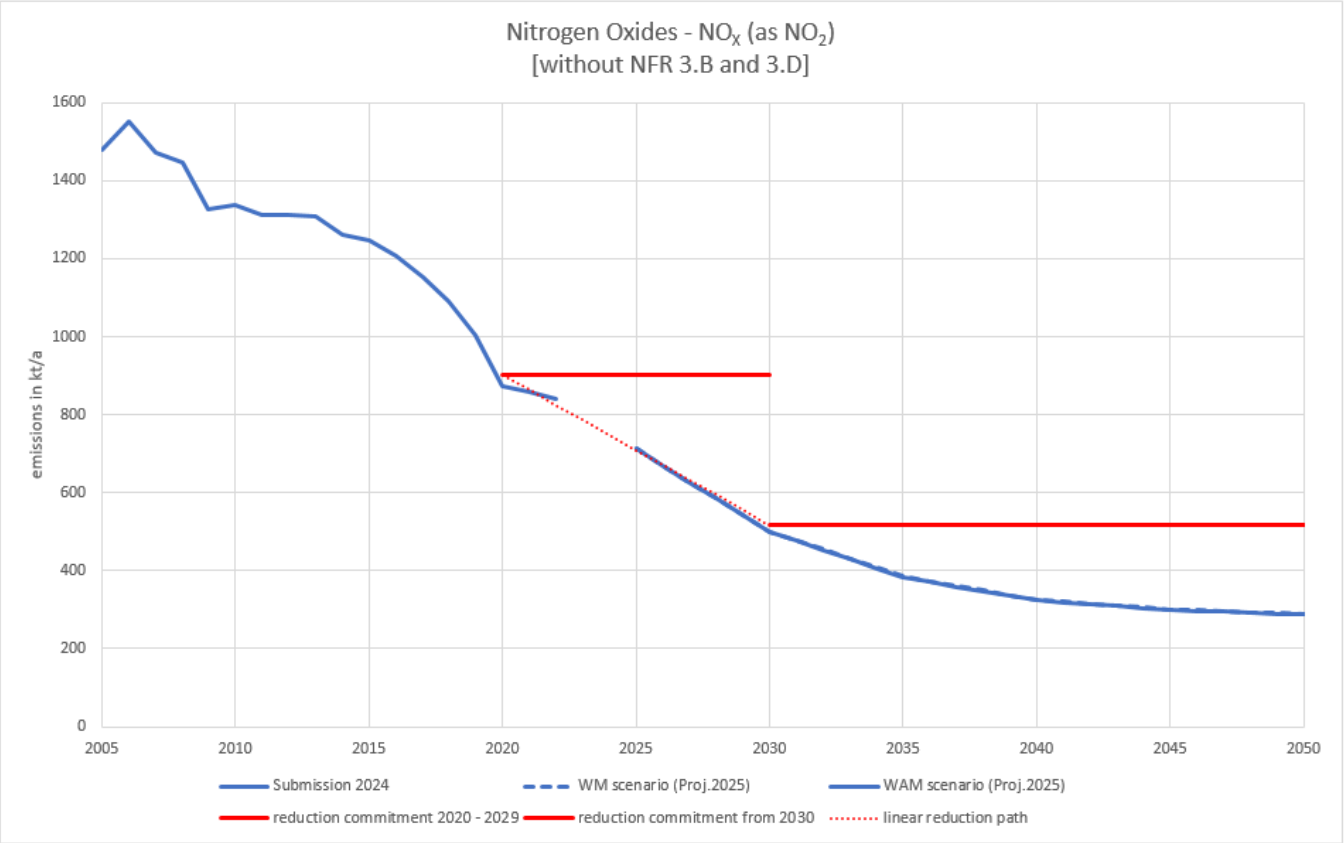
Results

Modelling different scenarios in our database, we finally calculated the following numbers for Germany's emissions in 2030:

	NO_x	**SO_2**	**NMVOC**	**NH_3**	**$PM_{2.5}$**
With measures [kt]	500.9	138.4	763.8	434.2	75.4
Tightening of the emission limits of the Ecodesign Regulations (EU) 2015/1185 and (EU) 2015/1189					-0.8
[Optional] Amendment of 13th BImSchV					
With additional measures [kt]	500.9	138.4	763.8	434.2	74.6

With these numbers, Germany will meet its reduction commitments for all pollutants in 2030 in both scenarios.

The following figures show the developments for each pollutant in the WM and WAM scenarios (WAM only for NO_x and $PM_{2.5}$ as there are no differences between both scenarios for all other pollutants). In addition, the reduction commitments for 2020 to 2029 and from 2030 onwards as well as the indicative linear reduction path are shown. Please note that projected emissions were only calculated for the years 2025, 2030, 2035, 2040, 2045 and 2050. A linear reduction in the years between cannot be assumed, but is shown in the graphs just for illustrative reasons.



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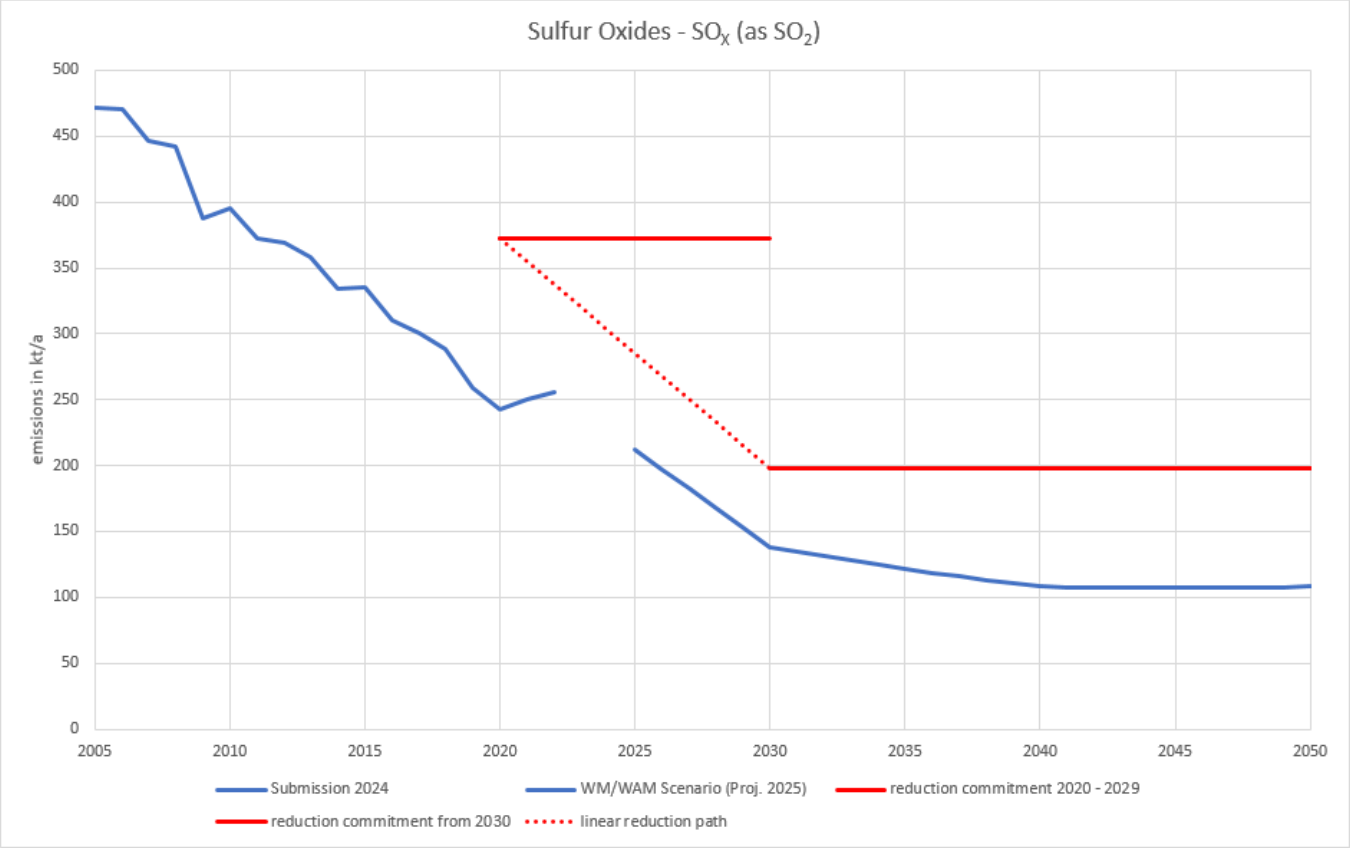

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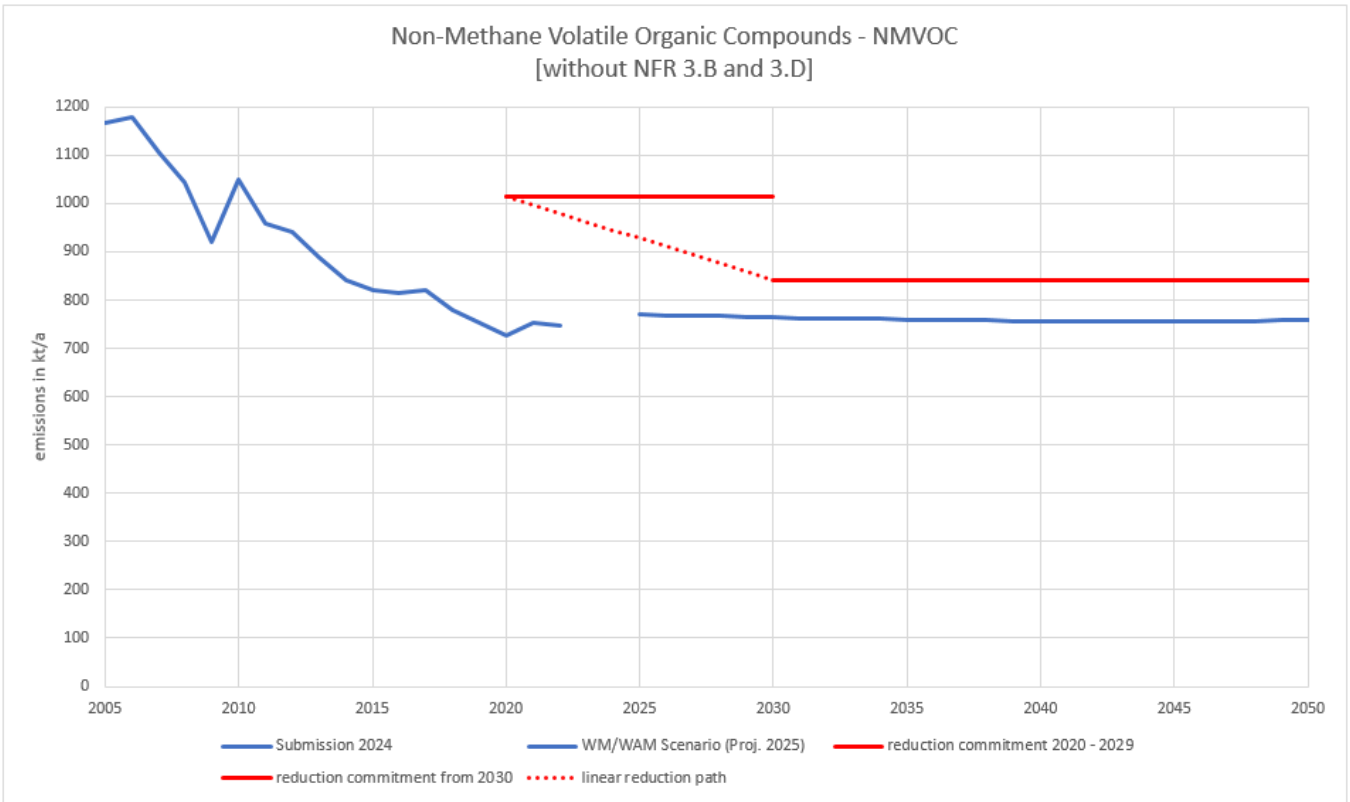

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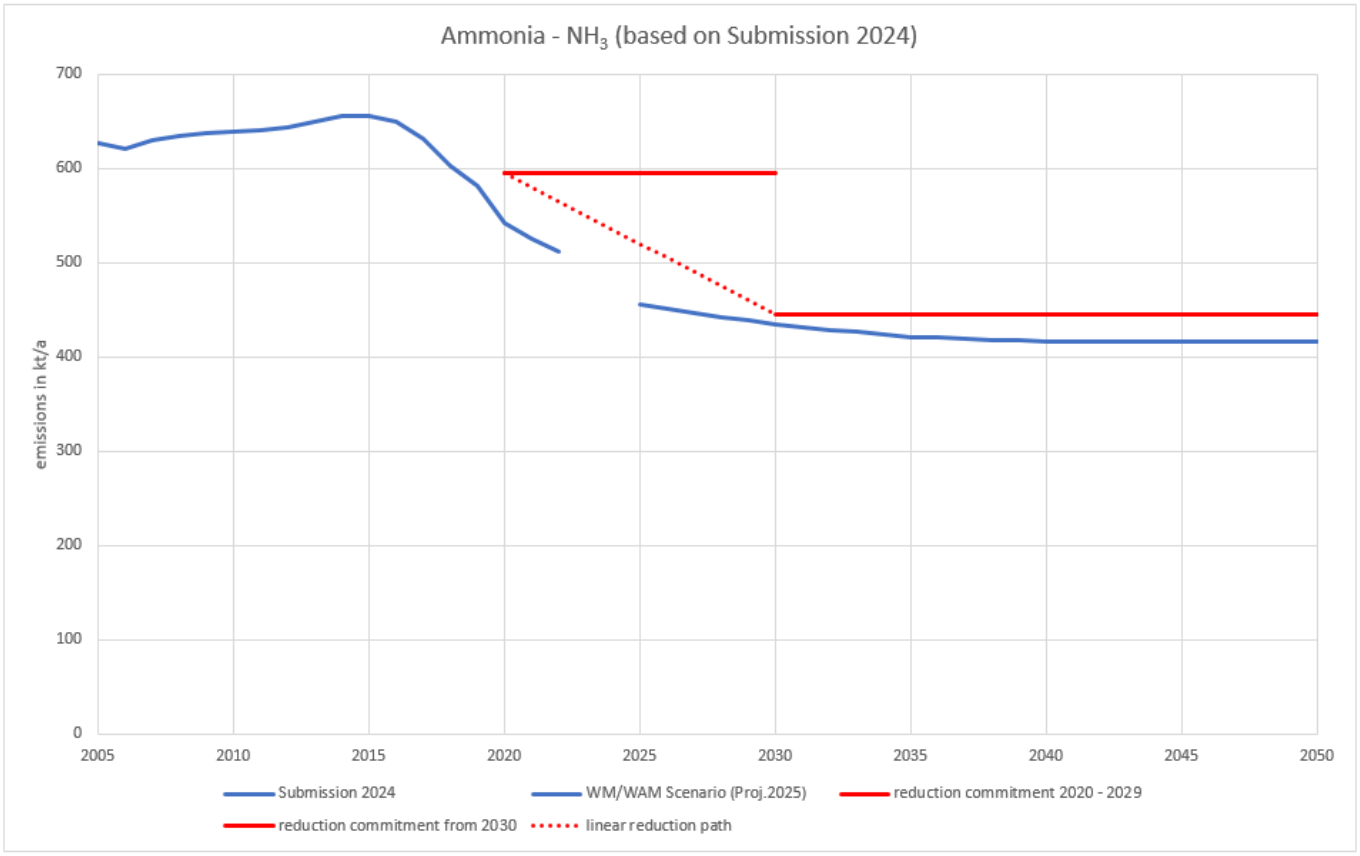

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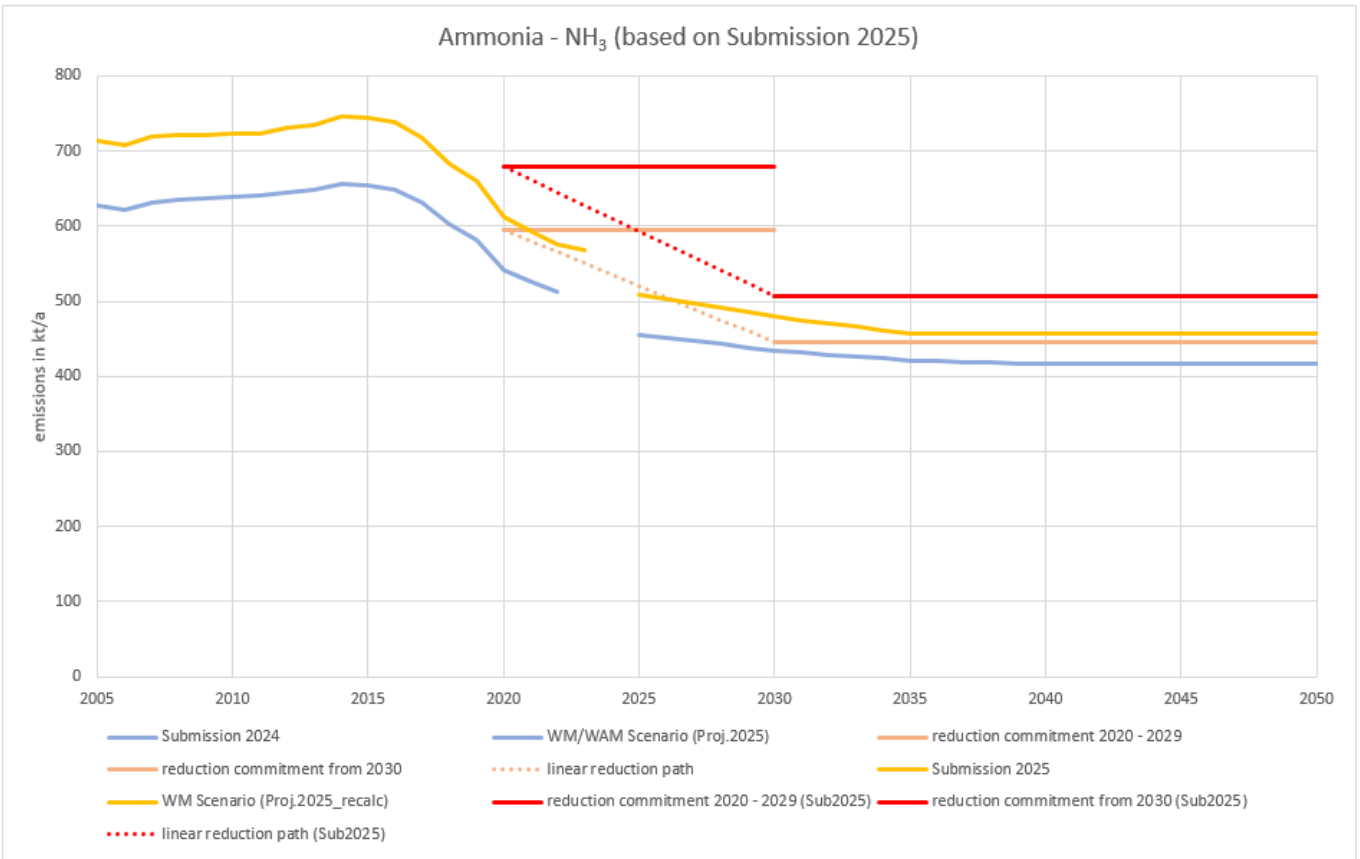

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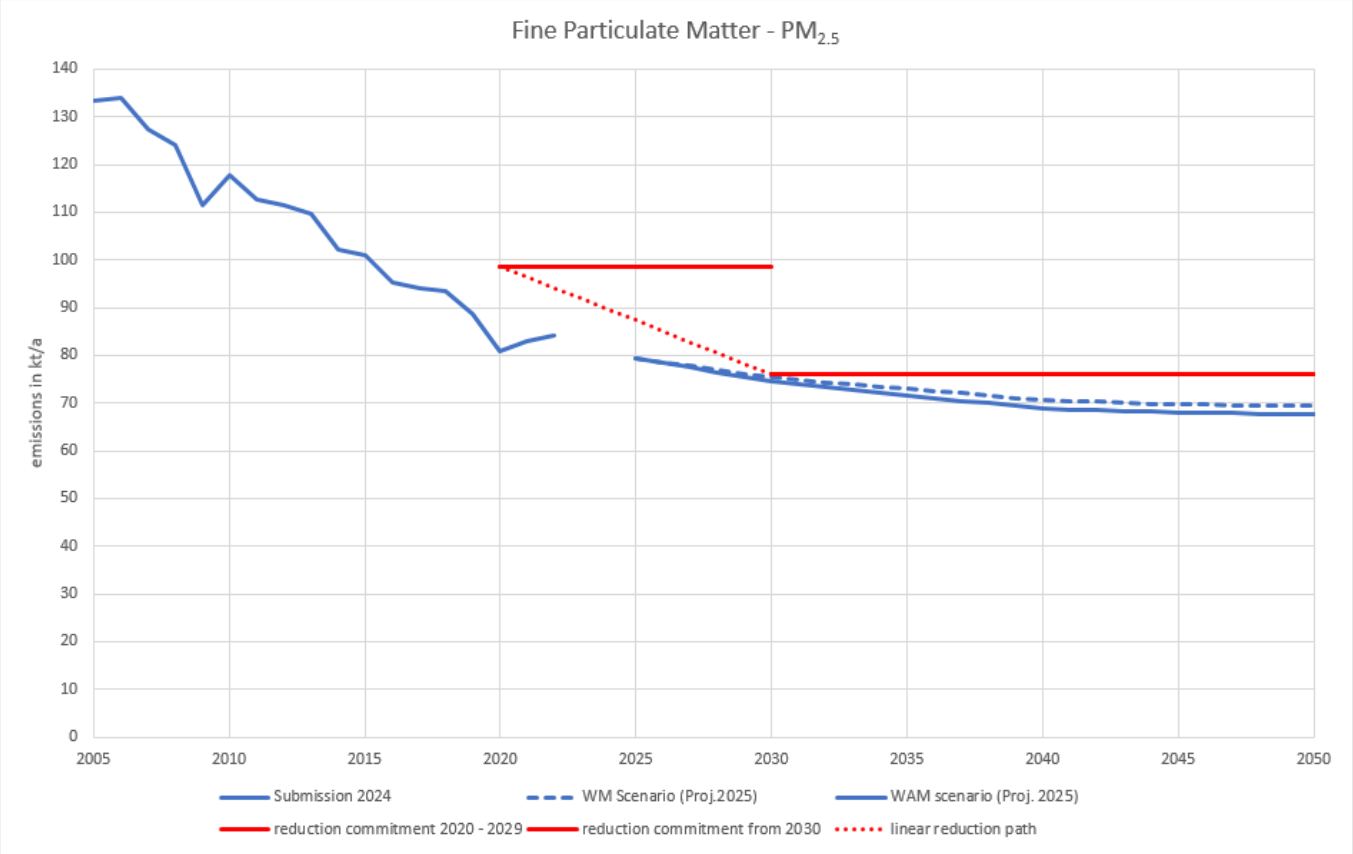

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