Explanation of Key Trends - Ammonia

Obligations

Germany has made a commitment under the Gothenburg Protocol to reduce ammonia emissions. Since 2010, it is no longer permissible to exceed a National Emission Ceiling of 550 kt NH_3 for Germany as whole. The revised Gothenburg Protocol and the revised NEC Directive both define emission reduction targets relative to a 2005 base year, mandating 5% (2020) and 29% (2030) reductions respectively.

While Germany's compliance with these obligations is not discussed here, further information on this subject can be found in Chapter 9 - Projections and Chapter 11 - Adjustments and Emission Ceiling Exceedance.

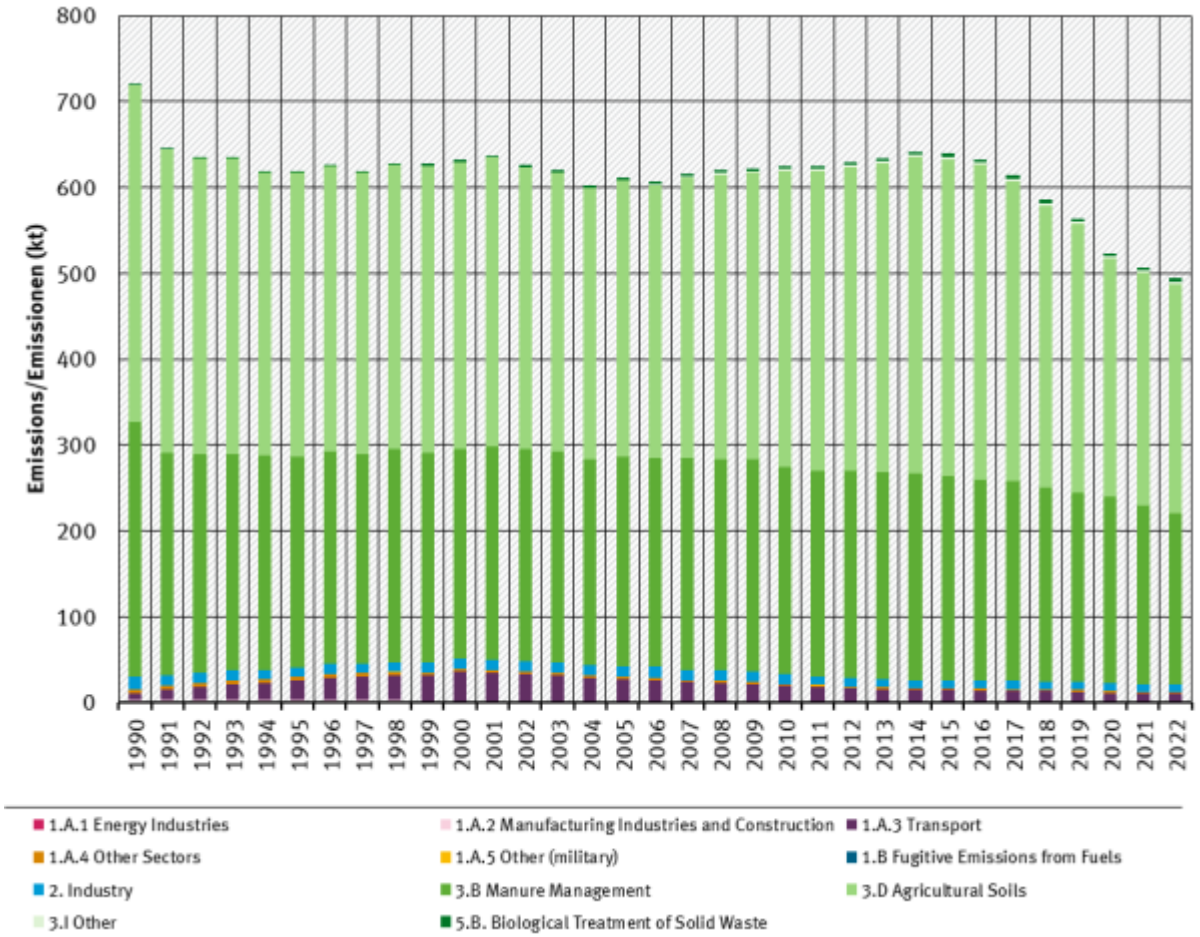
Main drivers

The Main Drivers for NH_3 emissions are agricultural emissions from **Manure Management (NFR 4.B)** with 43% of total 1990 emissions and a 26% reduction between 1990-2021 and **Agricultural Soils (NFR 4.D)** with even 53% of total 1990 emissions and a 32% decrease between 1990 and 2021.

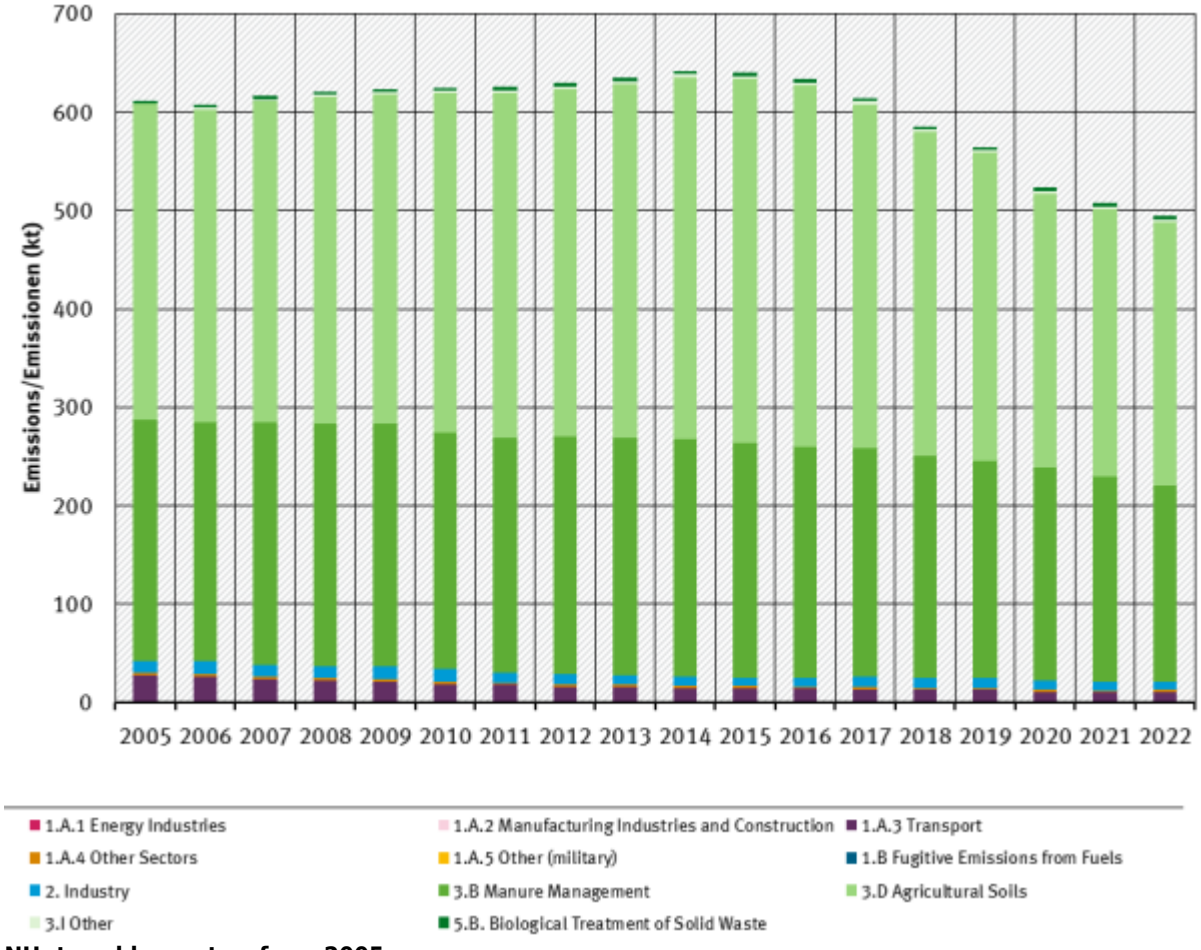
The overall emission trend mainly follows the agricultural emissions closely with a total reduction of 25% between 1990 and 2020. The decrease of NH_3 emission in the year 1991 is due to a reduced livestock population that followed after the German reunification, while no explicit trend is discernible for the years up to 2016. Between 2016 and 2021 the emissions are dropping every year adding up to a 15% drop. Between 2019 and 2020, emissions dropped by 6.6%, only topped by the reduction between 1990 and 1991.

Table: NH_3 Emissions 1990-2021

Total Emissions (kt)																Trend: latest compared to	
1990	1995	2000	2005	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	1990	last years
718	613	624	603	614	618	625	632	640	639	635	620	594	575	537		↘ -25.2%	↘



NH_3 trend by sector



NH_3 trend by sector, from 2005