Explanation of Key Trends - Fine Particulate Matter (PM$_{2.5}$)

Obligations

Germany has made a commitment to reduce particulate matter emissions. The revised Gothenburg Protocol and the revised NEC Directive both define emission reduction targets relative to a 2005 base year, mandating 26% (2020) and 43% (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.
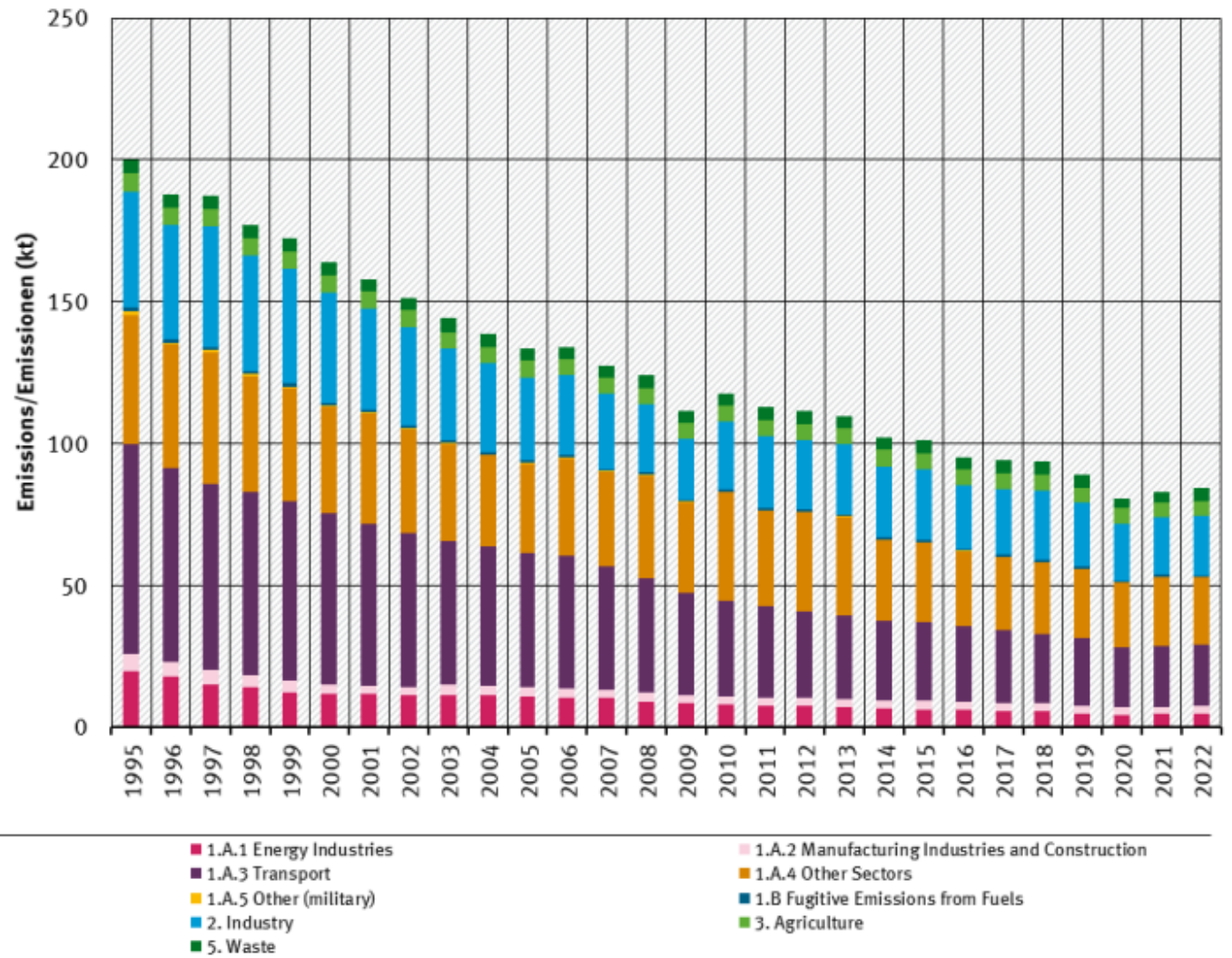
Main drivers

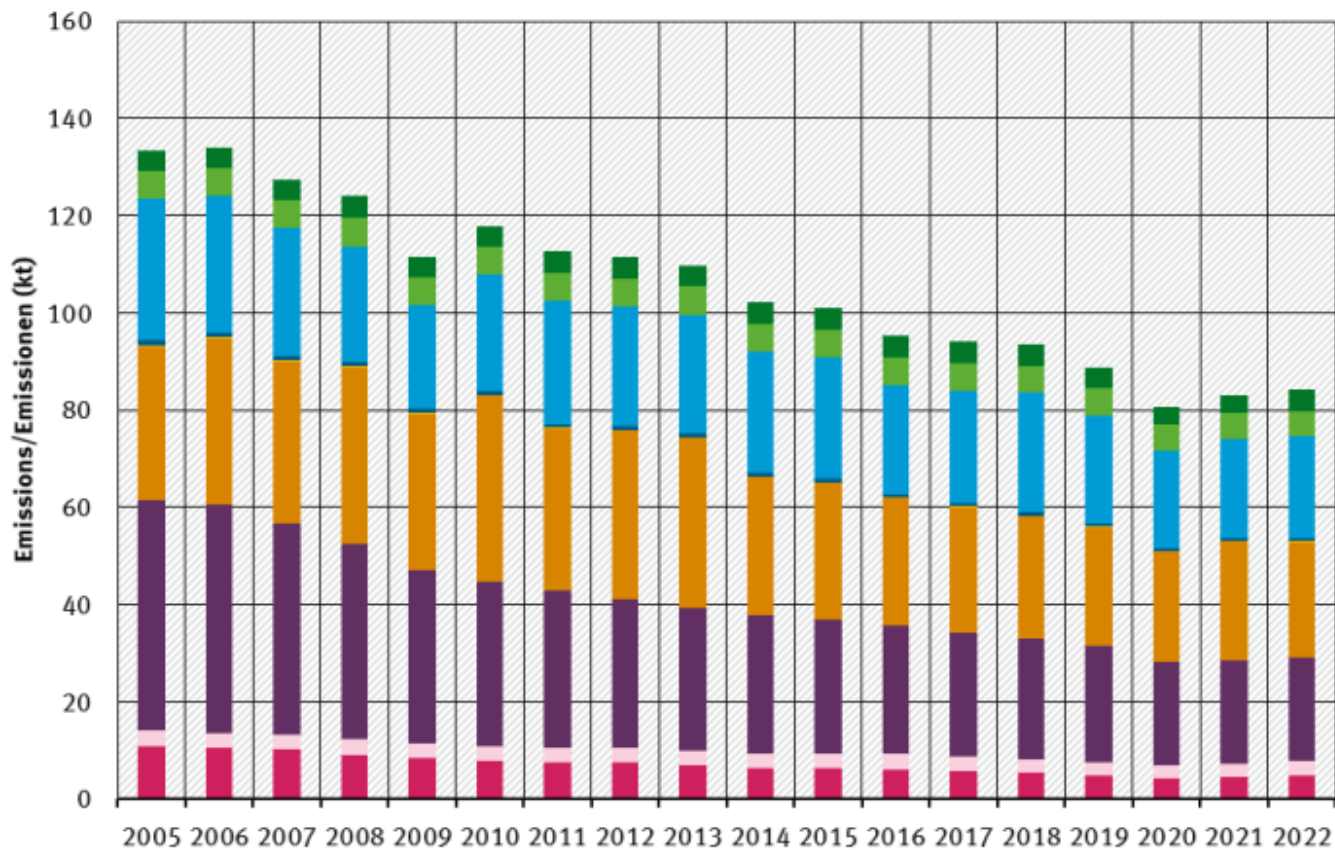Between 1995 and 2021, **Total PM$_{2.5}$ emissions declined by 58.6%**.

The Main Drivers for PM$_{2.5}$ emissions are **Fuel Combustion (NFR 1.A)** with 72% of total 1995 emissions and a 64% reduction between 1995 and 2021 and, as a sum, the **Industrial Processes (NFR 2)** with about 21% of total 1995 emissions and a 51% reduction between 1995 and 2021.

Within both National totals and NFR 1.A, **Transport (NFR 1.A.3)** is responsible for the biggest part of PM$_{2.5}$ emissions. Here, about 77% of 2019 PM$_{2.5}$ transport emissions are induced by **Road Transport (NFR 1.A.3.b)**, caused by two third directly by fuel consumption **(NFR 1.A.3.b.i - v)** and the other third by road abrasion and tyre and brake wear **(NFR 1.A.3.b.vi - vii)**.

Table: PM$_{2.5}$ emissions 1990-2021, in kilotonnes [kt]

1995	2000	2005	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Trend: latest compared to 1995	last years
202	165	135	119	115	113	111	104	103	97	96	95	90	81	83	⌄ -58.6%	⌄

Legend:
- 1.A.1 Energy Industries
- 1.A.2 Manufacturing Industries and Construction
- 1.A.3 Transport
- 1.A.4 Other Sectors
- 1.A.5 Other (military)
- 1.B Fugitive Emissions from Fuels
- 2. Industry
- 3. Agriculture
- 5. Waste

Legend:
- 1.A.1 Energy Industries
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