

# Explanation of Key Trends - Fine Particulate Matter (PM<sub>2.5</sub>)

## 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

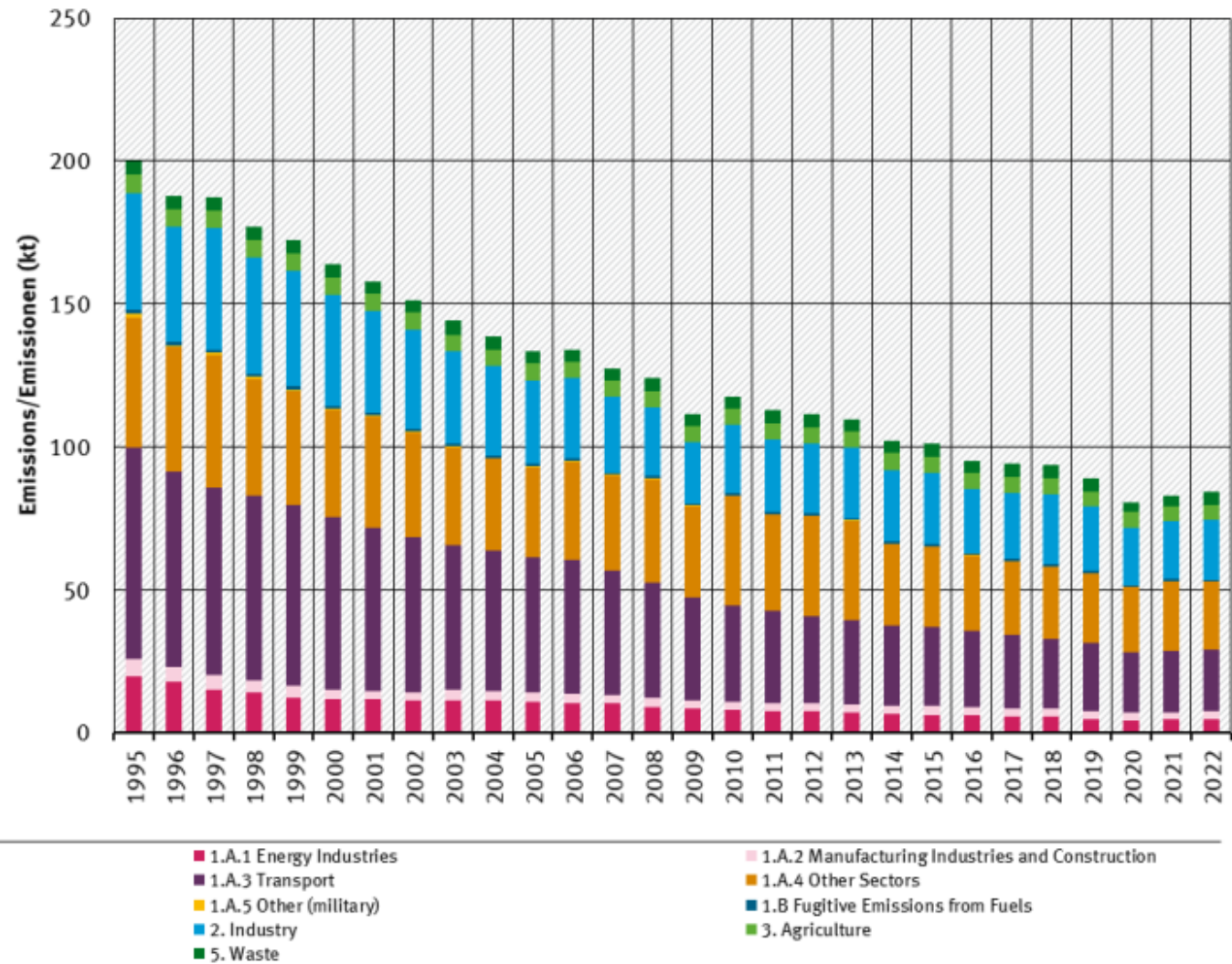
**Total PM<sub>2.5</sub> emissions declined by 58.6%** between 1995 and 2021.

The Main Drivers for PM<sub>2.5</sub> 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<sub>2.5</sub> emissions. Here, about 77% of 2019 PM<sub>2.5</sub> 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<sub>2.5</sub> emissions 1990-2021

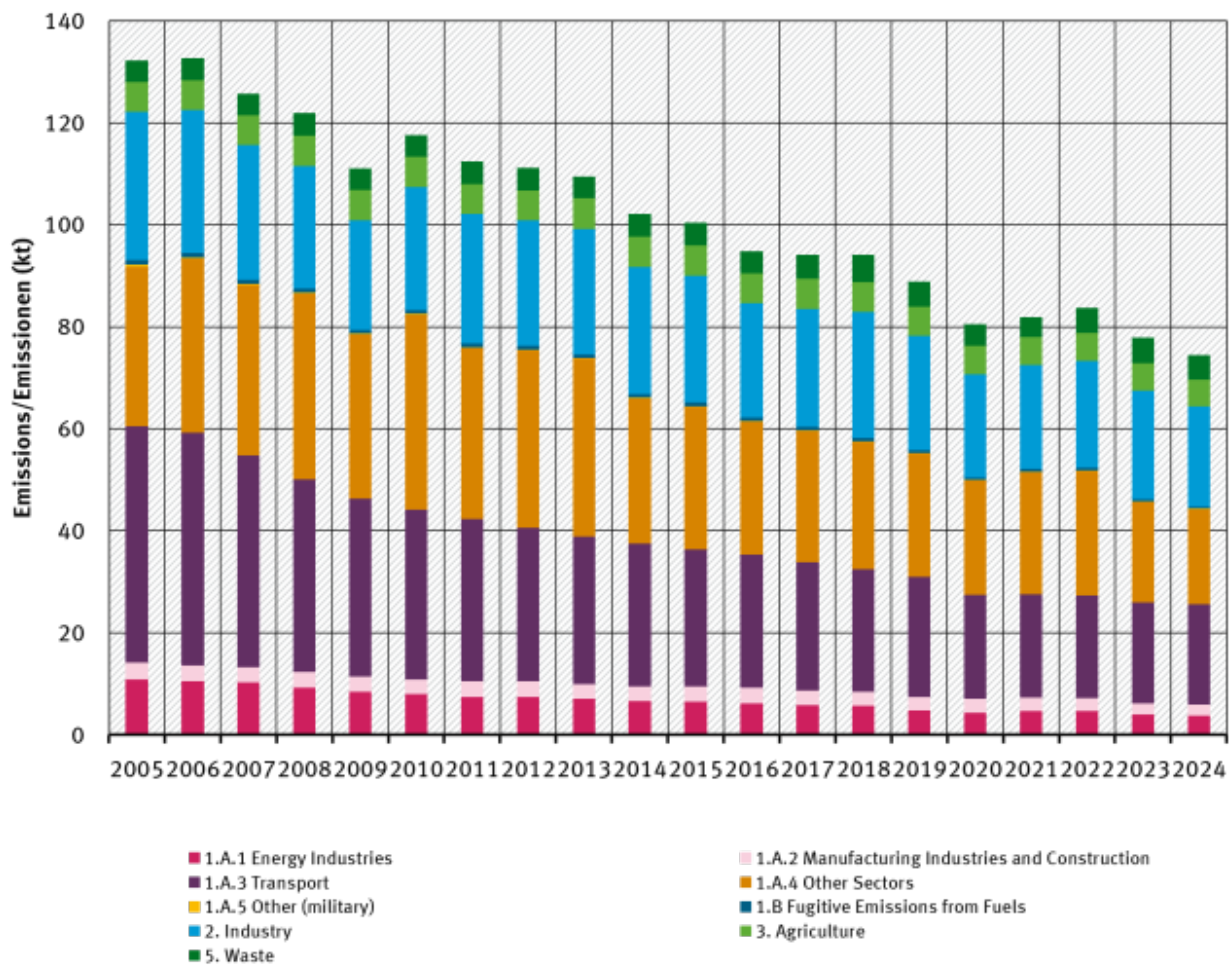
| Total Emissions (kt) |      |      |      |      |      |      |      |      |      |      |      |      |      |      | Trend: latest compared to |            |
|----------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------------------|------------|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



PM<sub>2.5</sub> trend by sector

## Fine Particulate Matter / Feinstaub (PM<sub>2.5</sub>)

### Emissions per Sector / Sektorale Emissionen



Quelle: German Emission Inventory (04.02.2026)

PM<sub>2.5</sub> trend by sector, from 2005