This dashboard was created to highlight the **effect of COVID-19** and the subsequent slowdown of human activities **on air pollutant concentrations** (gases: CO, NO_2, and particles: PM10) in various European countries.

Data comes from open-source air quality platform **https://openaq.org/** https://api.openaq.org/) . They have been extracted, transformed and loaded through **API (REST) and Python** script that can be found in the project github repository : **https://github.com/slvg01/13_Covid_Effect_On_Air_Quality**

The pollution markers **CO, NO_2, and PM10** represent different air pollutants that affect both human health and the environment. Here's what they mean:

1. CO (Carbon Monoxide)

- **Source**: Mainly produced by incomplete combustion of fuels (vehicles, heating, industries).
- **Health Effects**: At high concentrations, CO reduces the blood's ability to carry oxygen, leading to headaches, dizziness, and in severe cases, poisoning.
- **Critical Threshold**: The WHO recommends not exceeding **10 mg/m^3 over 8 hours**.

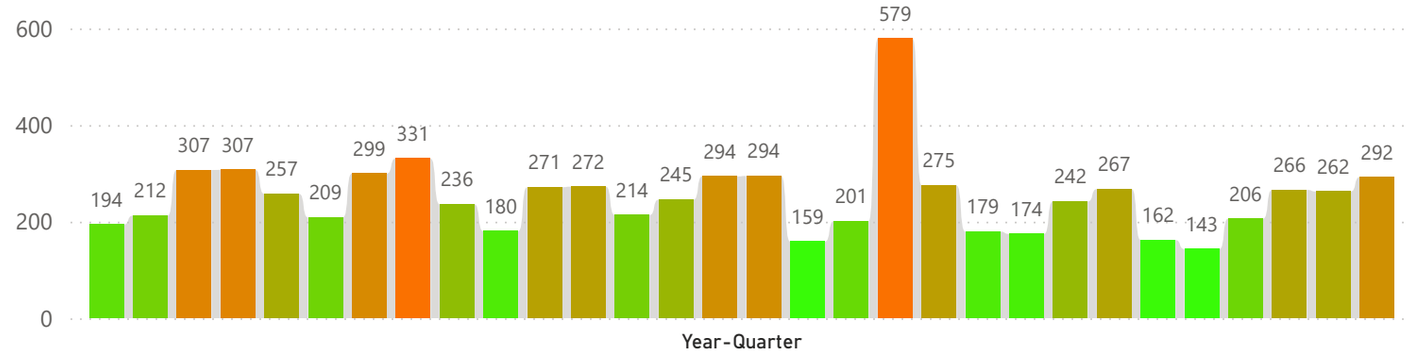
2. NO_2 (Nitrogen Dioxide)

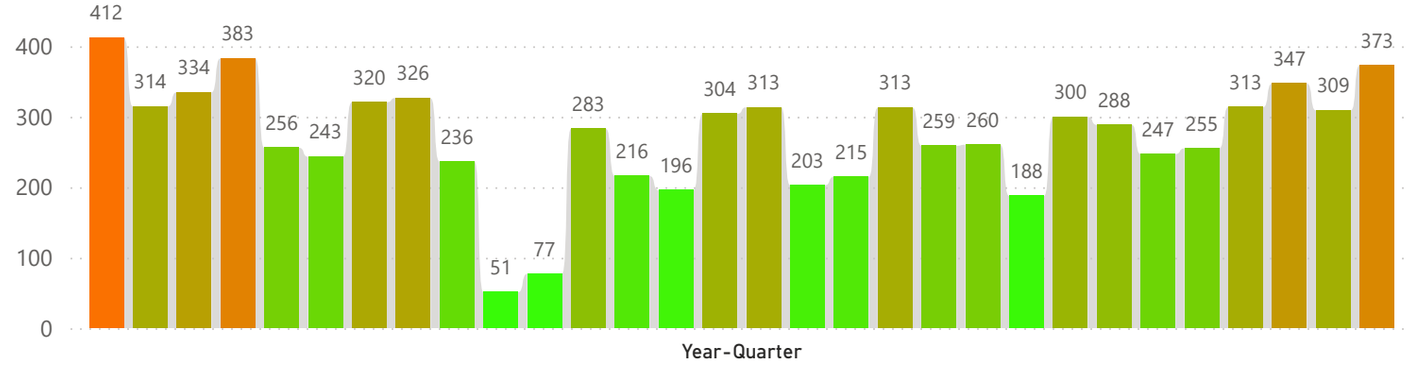
- **Source**: Emitted from diesel engines, power plants, and industrial processes.
- **Health Effects**: A respiratory irritant that worsens asthma and increases the risk of lung infections.
- **Critical Threshold**: The WHO recommends not exceeding **25 µg/m^3 as an annual average** and **200 µg/m^3 for hourly peaks**.

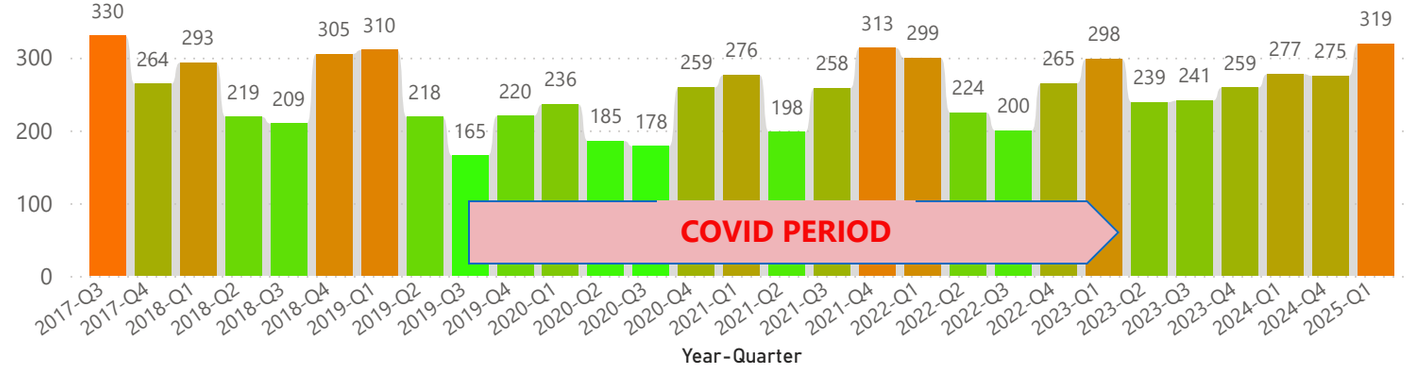
3. PM10 (Particulate Matter ≤10 µm)

- **Source**: Comes from combustion (vehicles, wood heating), industrial dust, wildfires, and soil erosion.
- **Health Effects**: Can enter the respiratory system, contributing to cardiovascular and respiratory diseases.
- **Critical Threshold**: The WHO recommends not exceeding **15 µg/m^3 as an annual average** and **45 µg/m^3 as a daily average**.

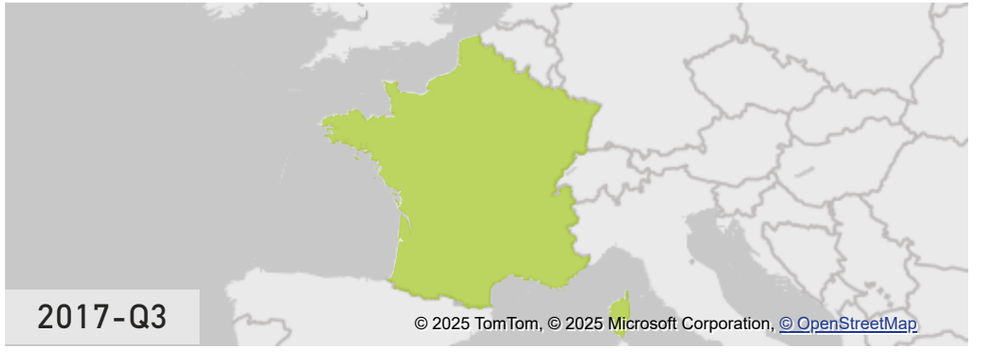
CO Mass | NO2 Mass | PM10



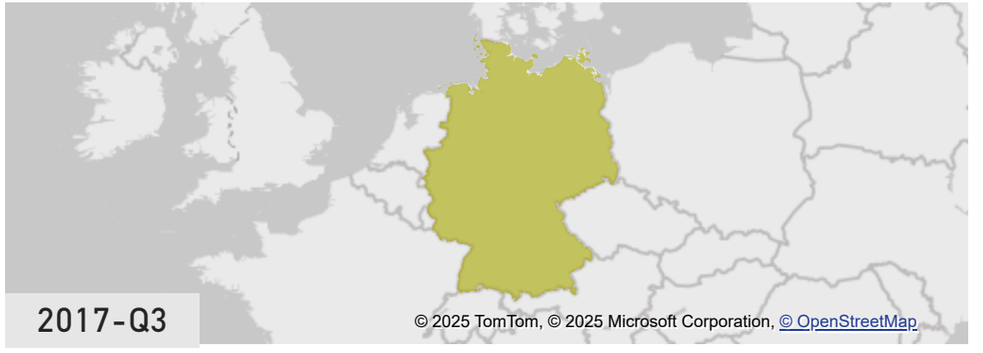




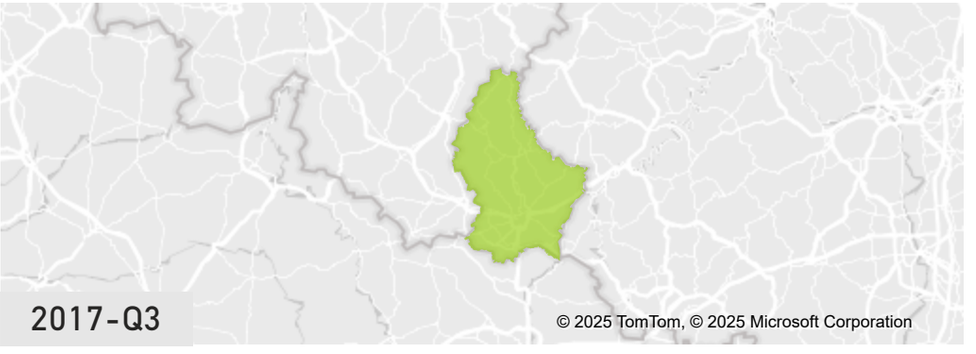
FRANCE - CO Concentration (µg/m3)



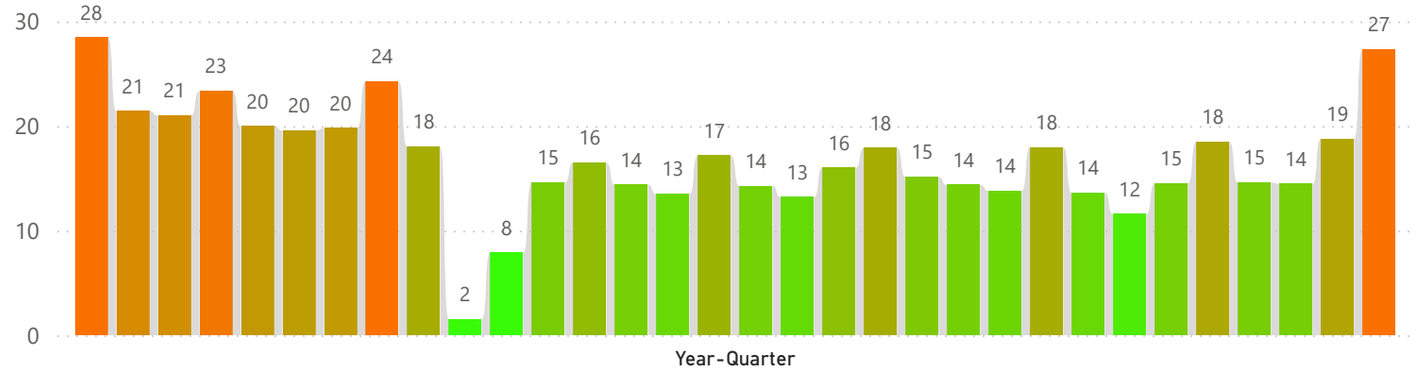
GERMANY - CO Concentration (µg/m3)

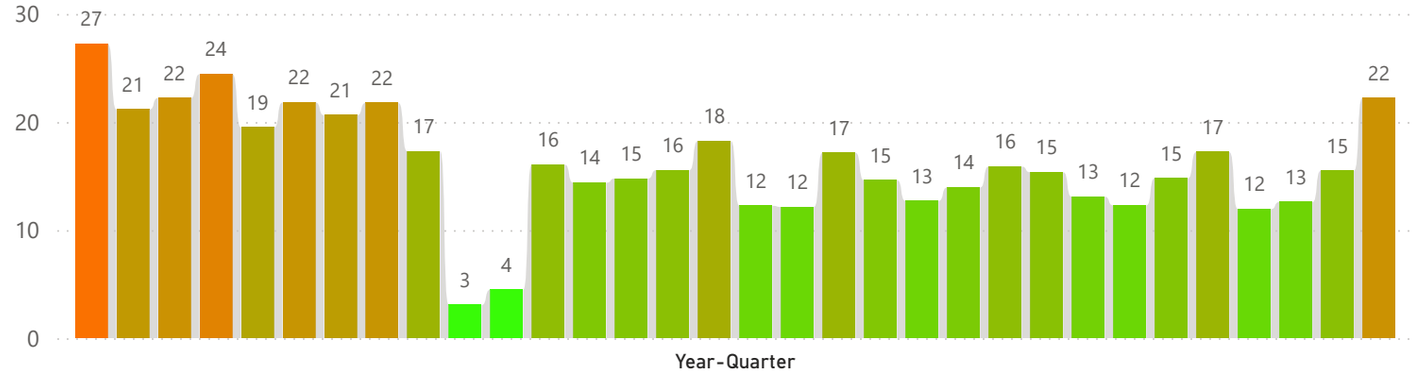


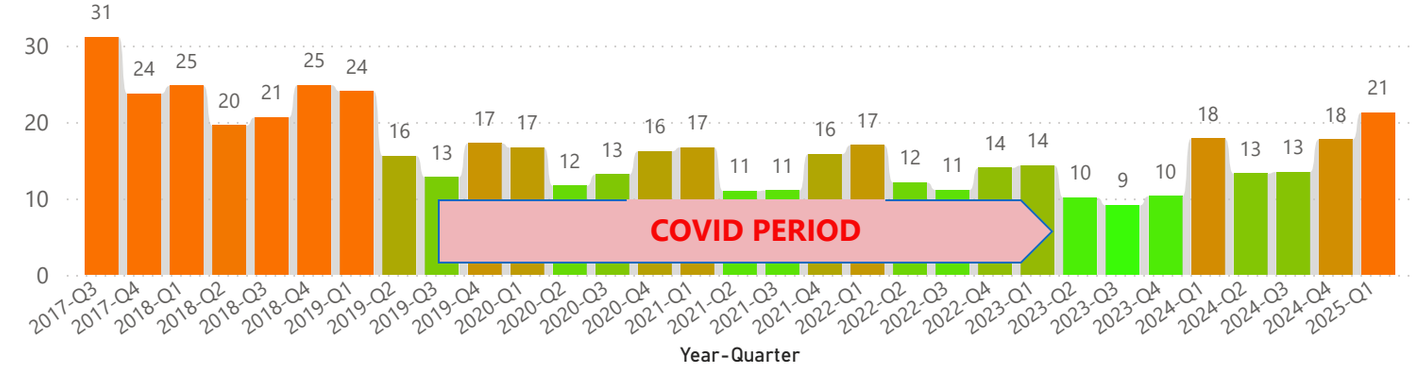
LUXEMBOURG - CO Concentration (µg/m3)



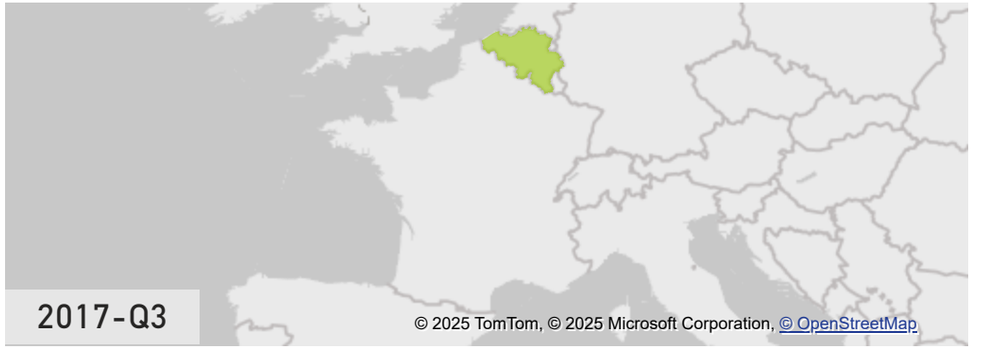
CO Mass | NO2 Mass | PM10



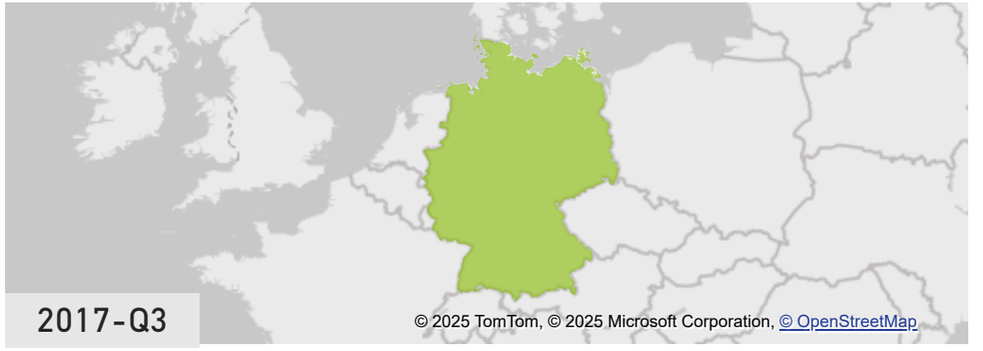




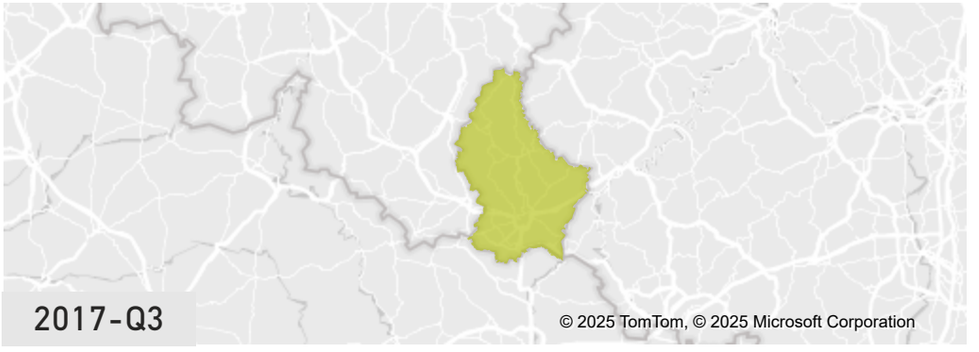
BELGIUM -NO2 Concentration (µg/m3)



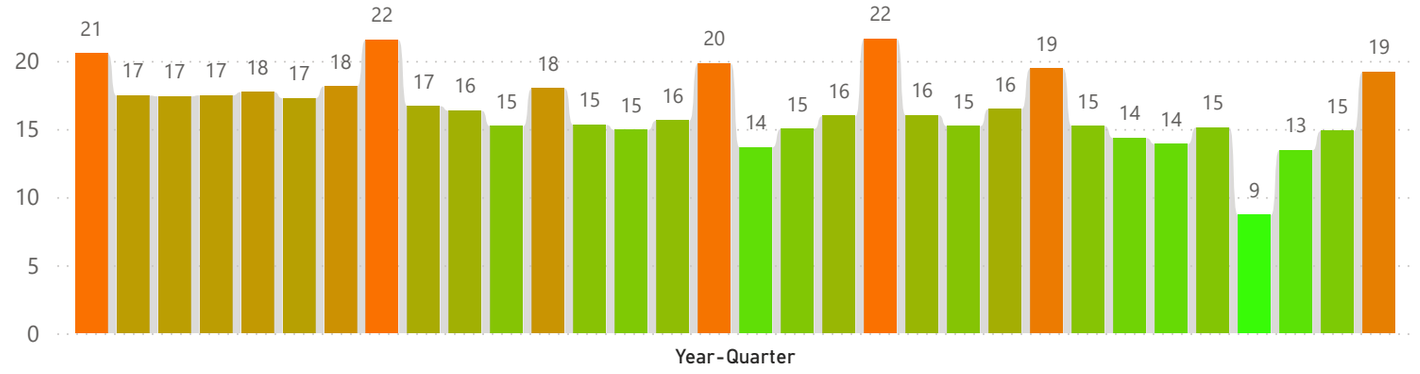
GERMANY - NO2 Concentration (µg/m3)

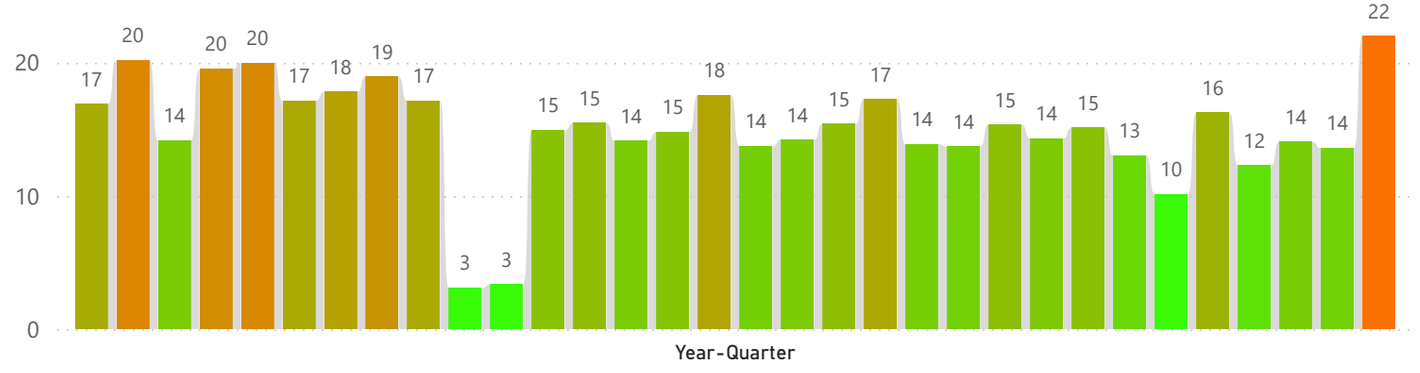


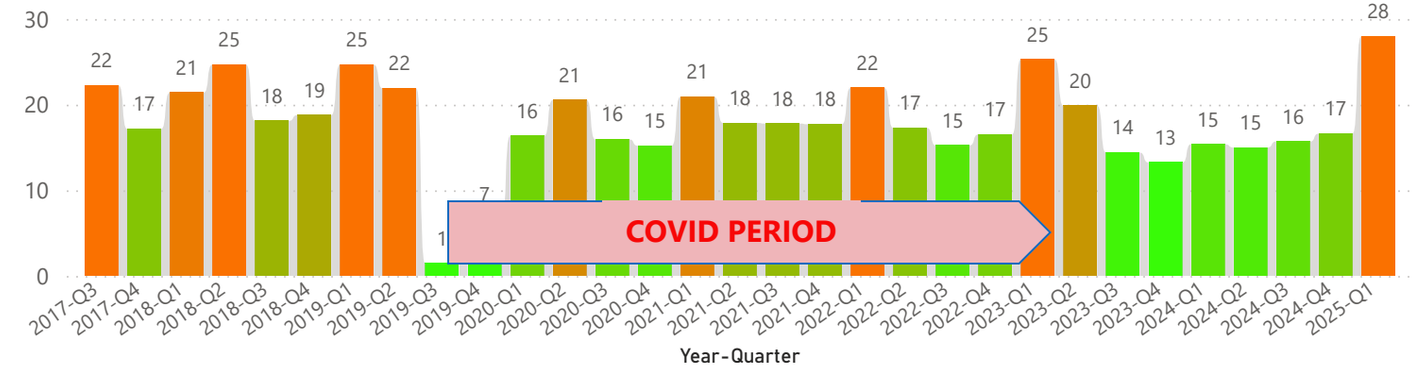
LUXEMBOURG - NO2 Concentration (µg/m3)



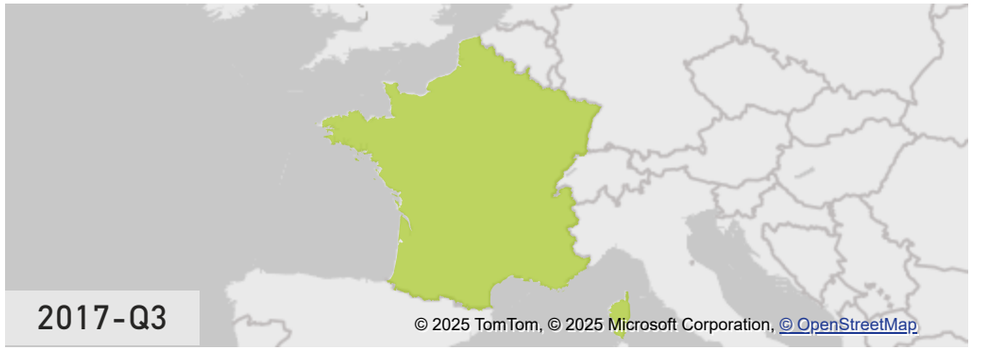
CO Mass | NO2 Mass | PM10







FRANCE - PM10 Concentration (µg/m3)



GERMANY - PM10 Concentration (µg/m3)

BELGIUM - PM10 Concentration (µg/m3)