

Concentrations of key air pollutants remain too high in most European countries. According to the European Environment Agency's official data, published today, most European Union (EU) Member States exceed at least one or more of the EU's legal limits for pollutants in ambient air in 2019.

The EEA briefing 'Europe's air quality status 2021' presents the latest official data for 2019, as well as provisional data for 2020, on concentrations of key air pollutants measured at over 4,500 monitoring stations across 40 European countries.

The EEA data show that air pollution is still a major health risk for Europeans. In central and eastern Europe, the burning of solid fuels for domestic heating and industry results in high concentrations of both fine and coarse particulate matter, as well as benzo[a]pyrene, a known carcinogen. Exposure to fine particulate matter causes cardiovascular disease, lung cancer and other diseases that lead to premature deaths. In bigger cities, high concentrations of nitrogen dioxide persist due to road traffic, with nitrogen dioxide linked to asthma and breathing problems. And, especially in southern Europe, pollutants emitted from human activities react in heat and sunlight to produce high concentrations of ground-level ozone, linked to cardiovascular disease and irritation of the eyes, nose and throat.

Key results:

Particulate matter (PM₁₀): 21 countries (of which 16 were EU Member States) registered concentrations above the EU daily limit value in 2019, while 31 countries registered concentrations above the stricter World Health Organization (WHO) guideline from 2005.

Fine particulate matter (PM_{2.5}): 7 countries (of which 4 were EU Member States) registered concentrations above the EU annual limit value in 2019, while 28 countries registered concentrations above the 2005 WHO guideline.

Ground-level ozone (O₃): 24 countries (of which 19 were EU Member States) registered concentrations above the EU annual limit value in 2019, while all countries registered concentrations above the 2005 WHO guideline.

Nitrogen dioxide (NO₂): 22 countries (of which 18 were EU Member States) registered concentrations above the EU annual limit value in 2019, which is the same as the 2005 WHO guideline.

The EEA's data show that air quality in Europe improved in 2020, as lockdown measures to control the spread of COVID-19 led to a fall in transport emissions, combined with favorable weather patterns. An EEA analysis of the impacts of COVID-19 lockdowns on air quality in 2020 is presented in a separate briefing and more extensively in the Air Quality in

Europe-2020 report.

Background

The WHO has established air quality guidelines to protect human health from the impacts of air pollutants. These guidelines are from 2005 and based on the best scientific evidence available at that time. WHO is expected to publish new air quality guidelines on 22 September 2021.

The EU's Ambient Air Quality Directives set maximum values for a total of 13 air pollutants. Although these values take into account relevant WHO guidelines, they also reflect the technical and economic feasibility of their attainment across EU Member States. For most air pollutants, the EU air quality standards are less strict than the WHO 2005 air quality guidelines.

Other key resources:

European Air Quality Index shows near real-time air quality data for Europe, allowing users to check local air quality where they live or travel.

European city air quality viewer compares average levels of fine particulate matter in 323 European cities, over the past two calendar years.

National air pollutant emissions data viewer gives access to the latest air pollutant emission data, reported by EU Member States under the National Emission reduction Commitments (NEC) Directive.

Air quality data center gives access to all relevant EEA data on air quality in Europe

Air pollution: how it affects our health shows how exposure to fine particulate matter contributes to disease and premature death in Europe and how this burden is distributed across European society

The EEA's assessment of the state of air quality in 2019 and 2020 includes data from the United Kingdom, in agreement with the terms of the Withdrawal Agreement, which entered into force on 1 February 2020.

Source: eea.europa.eu