

Outdoor Air Quality

What causes poor outdoor air quality?

Particulate Matter (PM)

- A mix of solids and liquids, including carbon, complex organic chemicals, sulphates, nitrates, mineral dust, and water suspended in the air.
- The size of the particle will determine where it will end up once you breathe it in. Larger particles may be trapped in your nose, while PM₁₀ can reach your airways. Fine particles (PM_{2.5}) may reach the breathing sacs deep in your lungs, and ultrafine particles may even cross into your blood stream.

Nitrogen Dioxide (NO₂)

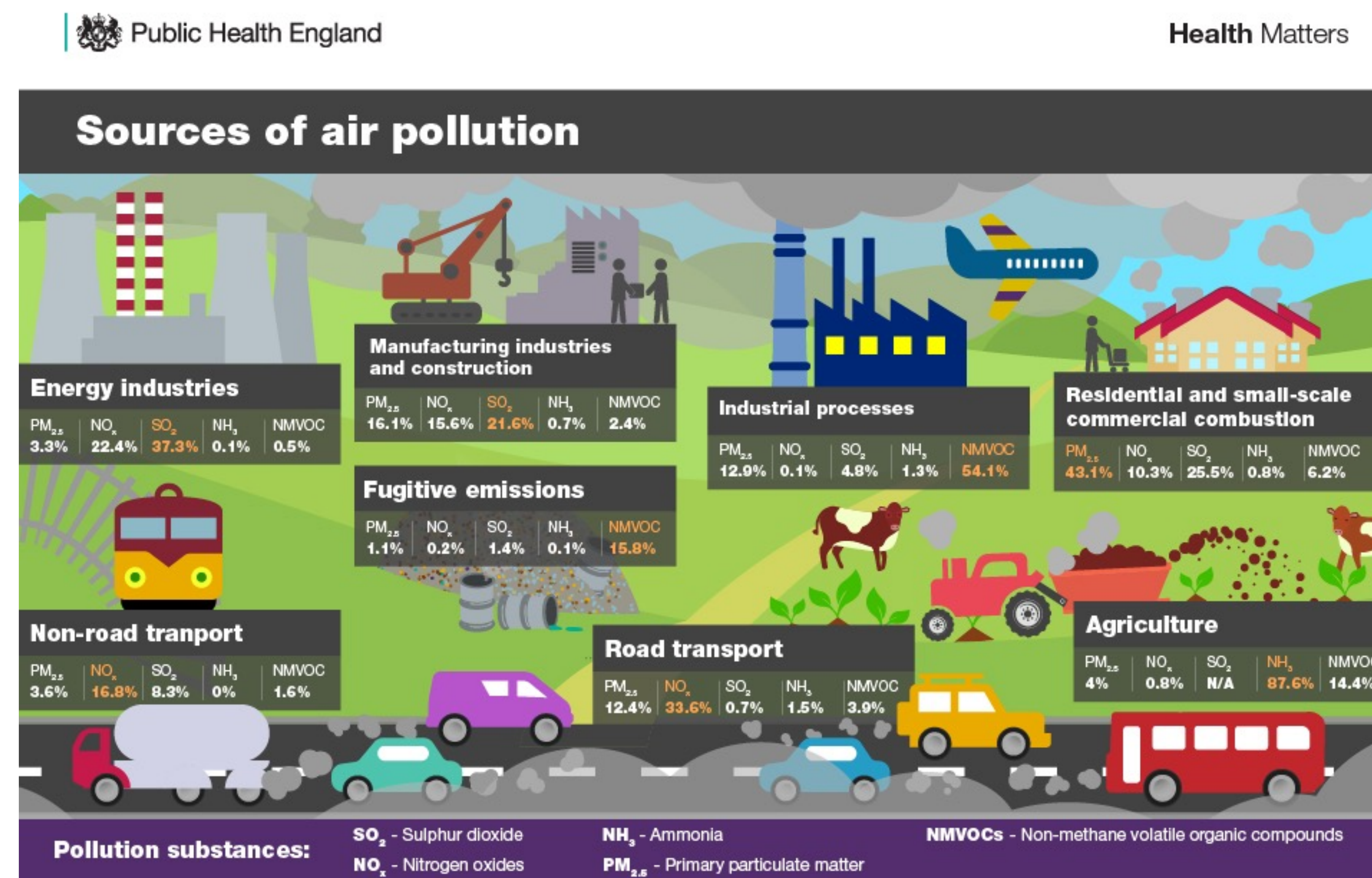
- Man-made sources of nitrogen oxides, including nitrogen dioxide, are vehicles, power stations and heating.
- High levels of NO₂ can irritate and inflame the lining of your airways, causing a flare-up of asthma or COPD and symptoms such as coughing and difficulty breathing.

Ozone (O₃)

- In the upper level of the Earth's atmosphere, it absorbs harmful ultraviolet radiation.
- Near the ground, ozone is made by a chemical reaction between the sun's rays and organic gases and oxides of nitrogen emitted by cars, power plants etc.
- When there are high levels of ozone, more people are admitted to hospital with asthma-related health problems and COPD symptoms.

Sulphur Dioxide (SO₂)

- Most sulphur dioxide comes from electric industries that burn fossil fuels, and from vehicles, petrol refineries and cement manufacturing.
- Sulphur dioxide can irritate the lining of your nose, throat and lungs. It can cause coughing and tightness of your chest, as well as a narrowing of your airway.



*Can you guess which produces more particulate matter?
Car exhausts or wear on tyres?*



Nope!



Correct! - Wear on tyres can produce almost 2000 times toxic particulate matter than exhaust fumes! Brand new tyres produce ~70mg/km, the legal limit for exhaust fumes is 4.5 mg/km (most modern petrol cars produce ~0.02 mg/km).

Add a sticker and lift the flap to find out!