

CRUDE ACCOUNTABILITY

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A PROFILE OF PETROCHEMICAL EMISSIONS

Nitrogen Dioxide (NO₂)

NO_x is a byproduct of high-heat combustion in which nitrogen and oxygen in the air react with each other. NO₂ is particularly significant as it is a strong oxidant and a precursor to several secondary pollutants ([EPA](#)).

NO_x is a primary driver of photochemical smog. Through a complex cycle involving sunlight, it breaks down to form ground-level ozone (O₃) ([EPA](#)). It also leads to “nitrogen saturation” in forests, which makes trees more [susceptible](#) to frost and pests. NO₂ settles into coastal waters and lakes, fueling massive algal blooms. When the algae die and decompose, they strip the water of oxygen, creating “[Dead Zones](#)” where fish and other marine life cannot survive.

NO₂ contributes to a reddish-brown tint in the air, [affecting visibility](#).

NO₂ is [linked](#) to increased airway responsiveness in humans. This means the lungs react more violently to allergens such as pollen or dust. Chronic exposure is associated with an increased risk of cardiovascular disease and premature mortality ([WHO](#)).

Consistent research has established a direct link between [maternal exposure](#) to NO₂ and adverse [birth outcomes](#), including premature birth, low birth weight, and [stunted](#) fetal development due to the pollutant’s ability to impair placental function.

Emerging international evidence suggests early-life exposure to NO₂ may [affect](#) cognitive development and is a significant factor in the prevalence of childhood asthma in urban areas ([WHO](#)).