

AIR QUALITY

IN THE BUILT ENVIRONMENT

Polluted air causes problems for:



People

Air pollution is largest environmental killer, causing 1 in 9 deaths worldwide



7%
lung cancer deaths



18%
pulmonary disease deaths



20%
Stroke deaths



34%
heart disease deaths

Approximately 8 million deaths annually attributed to air pollution, predominantly in developing countries

Airborne particles of dust from construction cause severe health impacts including silicosis, asthma and heart disease

Poor indoor air quality is understood to reduce cognitive functioning, productivity and wellbeing



Planet

Carbon dioxide and other greenhouse gases responsible for the greenhouse effect



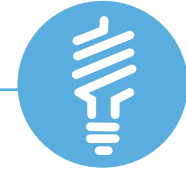
Short Lived Climate Pollutants (SLCPs) are responsible for **45% of current global warming**

Close to 40% of global energy-related carbon emissions being released from buildings

Airborne coarse and fine particulate matter (PM10) can directly alter the global balance of incoming solar radiation, distort the albedo effect and react with other pollutants

A global supply chain, including excavation, brick-making, transportation, and demolition can 'build in' embodied emissions to a building

Building materials and construction practices negatively affect natural habitats



Buildings

Polluted outdoor air reduces use of natural ventilation strategies



Emissions multiplier effect due to **increased filtration demand**

Further increasing urban heat island effect and cooling demand

Where outdoor air is polluted, natural or passive ventilation strategies are often unsuitable due to ingress of polluted air

Create local microclimatic warming impacts due to expulsion of hot air, exacerbating the urban heat island effect

Most of our exposure to outdoor air pollutants occurs when we are inside buildings, due to infiltration through windows, apertures or cracks in the building fabric

Find out more at: worldgbc.org/clean-air-buildings