



Urban green and blue spaces can improve air quality by diluting and dispersing pollution, directly removing pollutants from the air by capture and absorption on plant surfaces. They can help to regulate temperatures and counteract the urban heat island effect through shading and other physical processes. The air quality benefits of green and blue spaces also have negative effects on air quality by increasing urban canyons, emitting Volatile Organic Compounds (VOCs) (see Box 2) which can contribute to the formation of harmful street-level ozone and carbon monoxide.

Box 1: What is Green infrastructure?

Green infrastructure is a strategic, planned network of natural, semi-natural and artificial plant and water components, designed and managed to deliver a wide range of 'ecosystem services' (benefits to environment and people) and quality of life benefits. In an urban setting, green infrastructure may include parks, woodlands, wetlands, rivers, private gardens, street trees, allotments, playing fields, green roofs and sustainable drainage systems.

Box 2: Common urban air pollutants

zz Particulate matter (PM): Burning fuels, disturbing dust from construction sites and some natural processes such as pollen shedding release fine particles into the air. Particles (particulate matter, PM) are defined according to their size. PM₁₀ refers to particles with a diameter of 10 micrometres (0.01mm) or less, and PM_{2.5} refers to particles with a diameter of 2.5 micrometres (0.0025mm) or less.

zz Sulphur dioxide (SO₂):

6YbY hg'

zz Reducing air pollution

zParticulate matter: Lower PM concentrations have been found in areas with a higher tree cover, as they are deposited on bark and leaves. Vegetation collects more PM if located in a place where air flows directly through from the source of the pollution. However, in very windy places PM deposited on vegetation is likely to be blown back in to the air. PM deposition can be helped by having trees with sticky surfaces and rough bark and leaves

Summary

While there is increasing evidence of urban green infrastructure improving air quality by removing, diluting and dispersing pollution, the overall picture is rather more complicated. In some settings urban green space may worsen the impacts of pollution by preventing air circulation or producing particles or emissions which directly contribute to reducing air quality. Further work, and real-world studies in