

Title:

Current Issues in Urban Air Quality

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Abstract:

Urban areas generate significant air pollution problems, largely but not solely because of the high density of motor vehicle traffic which they generate. As a consequence, exposures to most pollutants within urban areas exceed exposures in surrounding rural areas. Ozone shows an opposite trend in European cities, with a tendency for urban and rural concentrations to converge. Within Europe, the main problems centre upon particulate matter and nitrogen dioxide with urban concentrations failing to decline in the way predicted by emissions inventories. Improvement of urban air quality often involves trade-offs with emissions responsible for global warming, and some of these will be explored. While policy to date has been focused largely on reducing exhaust emissions of particulate matter, little attention has been given to non-exhaust emissions from road vehicles which are now of comparable magnitude to exhaust emissions. Non-exhaust particles originate from brake, tyre and road surface abrasion and resuspension of road surface dusts. They are both respirable and rich in trace metals but lack the high abundance of nanoparticles seen in engine exhaust. The possible consequences for human health are briefly explored.