

AIR POLLUTION IN MAJOR CITIES IN CHINA

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Summary

China is a country, where the very rapid economic growth has led to high air pollution. According to the Ministry of Environmental Protection of China, two thirds of Chinese cities do not meet the standards of air pollution adopted in 1999. The causes of the bad condition of air can be seen in several overlapping factors. These are: the rapid pace of economic development and the related use of non-renewable sources of energy, very low energy efficiency management, mass migration of rural population to the cities, chaotic urbanization and industrialization and the explosive growth of motorization. The results of air monitoring conducted in 360 cities showed that the air quality in 70% of the cities does not meet national standards. 75% of the urban population is constantly exposed to air pollution. A big problem is particulate matter, especially with a particle diameter of 10 µm (PM₁₀) and 2.5 µm (PM_{2.5}). In Beijing, the average annual concentration of PM₁₀ in 2001 was 110 µg*m⁻³, and in 2005, 160 µg*m⁻³; moreover, the 24-hour concentration may reach a value of up to 800 µg*m⁻³. The cost of high concentrations of air pollution in China is a significant increase in the occurrence of respiratory diseases. It is estimated that 50% of respiratory diseases of urban residents is caused by exposure to air pollution. According to the statistics of UN Environment Programme, in major cities in China, 50,000 deaths occur per year and approximately 400,000 people suffer from chronic bronchitis due to pollution from coal combustion. The mortality rate from lung cancer is 4.7 – 8.8 times higher in urban residents than those living in non-urban areas.