

The State of Environment in China 2008

Air

Status

By and large, the national urban air quality was good in 2008, better than the previous year, yet pollution was rather serious in some cities. Besides, the distribution of acid rain nationwide remained stable, while acid rain pollution remained a big issue.

1.1 Air Quality

In 2008, 519 cities nationwide presented the air quality statistics, with 21 cities (taking up 4.0%) meeting Grade I, 378 for Grade II (taking up 72.8%) and 113 for Grade III (taking up 21.8%), yet 7 cities was below Grade III (taking up 1.4%). As for those cities meeting the standards, 71.6% were at prefecture level or above, and 85.6% were at country level.

Cities of Prefecture level and above As for air quality, 2.2% of cities met the Grade I standard, 69.4% for Grade II and 26.9% for Grade III, while 1.5% at level below Grade III.

PM₁₀ Concentration Levels for Cities Referring to the annual PM₁₀ concentration, 81.5% of cities achieved Grade II standard or above, yet 0.6% of cities were below Grade III. Cities at prefecture level from Shandong, Shanxi, Xinjiang, Inner Mongolia, Hubei, Jiangsu, Gansu as well as Hunan were involved in the statistics, with 20% below the Grade II standard.

SO₂ Concentration Levels As for the annual concentration of SO₂, Grade II standard or above happened to 85.2% of cities, yet 0.6% of cities were below Grade III. Cities at prefecture level from Guizhou, Shandong, Hebei, Shanxi, Inner Mongolia, Sichuan and Hunan were included in the table, with 20% below the Grade II standard.

However, the annual concentration of NO₂ of all cities that are at prefecture level or above met the Grade II standard, while 87.7% met Grade I standard.

Major Cities The air quality in the 113 cities which need more environmental protection was better. Among these cities, 57.5% met Grade II, 41.6% met Grade III and 0.9% of them were below Grade III. Compared with 2007, the proportion of cities meeting the standard increased by 13.3%, while the percentage of cities below Grade III remained the same.

The Proportion of Air Quality Level for the Major Cities The overall average of NO₂ concentration for the major cities which need more environmental protection was quite similar to the previous year, yet the concentration of SO₂ and particulate matter decreased.

1.2 Acid Rain

Acid Rain Frequency 252 out of 477 cities (counties) under the national acid rain monitoring program experienced acid rain in 2008, accounting for 52.8%. Among these cities, 164 experienced the acid rain frequency of 25% above, taking up 34.4%, while the frequency of 75% above appeared in 55 cities, taking up 11.5%.

National Acid Rain Frequency Table

Acid Rain Frequency (%)	0	0~25%	25%~50%	50%~75%	≥75%
City Number	225	88	57	52	55
Proportion (%)	47.2	18.4	11.9	10.9	11.5

Acidity of Precipitation Compared with 2007, the proportion of cities experiencing moderate acid rain (average PH of precipitation <5.0) decreased by 1.1%. Likewise, the proportion of cities experiencing heavy acid rain (average PH of precipitation <4.5) remained stable.

Table: Annual Average PH of Precipitation Nationwide

Scope of Annual Average PH	<4.5	4.5~5.0	5.0~5.6	5.6~7.0	≥7.0
City Number	42	73	69	205	88
Proportions(%)	8.8	15.3	14.5	43	18.4

Distribution of Acid Rain Occurrence Acid rain mainly happened in the region south of the Yangtze River and east of the Sichuan and Yunnan provinces, covering the provinces of Zhejiang, Fujian, Jiangxi, Hunan and most parts of Chongqing city as well as Yangtze River Delta and Pearl River Delta. Compared with 2007, the distribution of acid rain stayed stable.

Major Pollutants Emissions in the Exhaust

The emissions of SO₂, soot as well as industrial dust were 232.12, 90.16 and 58.49 million tons respectively, dropping by 5.9%, 8.6% as well as 16.3% separately than the previous year.

Major Pollutant Emissions out of Exhaust Nationwide in Resent Years

Item	SO ₂ Emissions (million tons)			Soot Emissions (million tons)			Industrial Dust Emissions (million tons)
	Total	Industry	Living	Total	Industry	Living	
2006	2.5888	2.2348	0.354	1.0888	0.8645	0.2243	0.8084
2007	2.4681	2.140	0.3291	0.9866	0.7711	0.2155	0.6987
2008	2.3212	1.9913	0.3299	0.9016	0.6707	0.2309	0.5849

1.3 Steps and Actions

Phase III Standars for the national vehicle exhaust emissions

The Phase III Standards of the “Limits and measurement methods for emissions from light-duty vehicles(III,IV) (GB18352.3-2005)” was officially implemented on July 1st, 2008 to control vehicle pollution.

Phase IV Standars for Beijing Vehicles on March 1st, 2008

Beijing vehicles were required to meet the Phase IV standards in two stages in light of the environmental planning of “11th Five-year Plan” and air quality requirements for the Beijing Olympics.