
CAAC

CHINA CLEAN AIR UPDATES

NO.1B

KEY PROJECTS of

“TWELFTH FIVE-YEAR PLAN”

**ON AIR POLLUTION PREVENTION AND CONTROL IN
KEY REGIONS**

Sample English Translation

April, 2013



This document is an English translation version.

Prepared by

Secretariat for Clean Air Alliance of China

Supported by

The Energy Foundation



The original document is Chinese.

Issued by Ministry of Environmental Protection (MEP), National Development and Reform Commission (NDRC), and Ministry of Finance

Approved by State Council in September, 2012

Document released to public on December 5, 2012

China Clean Air Updates

China Clean Air Updates is a series product provided by Clean Air Alliance of China (CAAC) to address recent policy, management and science updates of China in the field of clean air management. The China Clean Air Updates are compiled by the CAAC secretariat with support from members and experts of the CAAC networks.

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Table 1 Summary Sheet of Key Projects

No.	Types of Projects	Amount of Projects	Emission Reduction Capacity	Investment (Billion)
1	SO ₂ Treatment Projects	447	Increase SO ₂ reduction capacity 2,280,000 tons per year	730
2	NO _x Treatment Projects	755	Increase NO _x reduction capacity 2,430,000 tons per year	530
3	Industrial Smoke and Dust Treatment Projects	10073	Increase PM reduction capacity 860,000 tons per year	470
4	VOCs Treatment Projects in Key Industries	1311	Increase VOCs reduction capacity 605,000 tons per year	400
5	Oil and Gas Recovery Projects	281 (including 23468 gas stations, 11262 oil tank trucks and 573 oil storages)	Increase VOCs reduction capacity 405,000 tons per year	215
6	Yellow-Sticker Vehicle Elimination Projects	188 (8066.1 thousands yellow-sticker vehicles in total)	Increase reduction capacity of NO _x , PM and VOCs 1,158,000 tons per year, 213,000 tons per year and 515,000 tons per year respectively	940
7	Fugitive Dust Comprehensive Treatment Projects	192	Increase PM reduction capacity 406,000 tons per year	100
8	Capacity Building Projects (Including Regional Air Quality Monitoring Network Building Projects, Online Monitoring Capacity Building Projects for Enterprise Pollution Emission, Vehicle Emission Monitoring Capacity Building Projects, Pollution Emission and Environmental Quality Surveys Projects)	122	---	115
	Total	13369	Increase reduction capacity of SO ₂ , NO _x , VOCs and PM 2,280,000, 3,590,000 1,480,000, 1,525,000 tons per year respectively.	3500

Table 2 SO₂ Treatment Projects in Electricity Industry (Sample, 126 in total)

No.	Urban Region	Cities	Enterprises	Unit Number	Installed Capacity (MW)	Types of Projects	Overall De-sulfurization Efficiency (%)	Year for Operation
1	Beijing-Tianjin-Hebei region (Tianjin)	Tianjin	Tianjin Dagang Power Plant of Guowang Energy Development CO., Ltd.	1	328.5	Rebuild	90	2011
100	Gansu-Ningxia (Ningxia)	Yinchuan	Ningxia Tairui Pharmaceutical Co., Ltd.	2	25	New	85	2013
126	Urumchi in Xinjiang	Fukang	Aluminum Company of Xinjiang Tianlong Mining CO., Ltd	6	300	New	90	2014

Table 3 SO₂ Treatment Projects for Steel Sintering Machine / Pelletizing (Sample, 206 in total)

No.	Urban Region	Cities	Enterprises	Unit Name & Number	Scale of Production Facilities (M ²)	Overall De-sulfurization Efficiency (%)	Year for Operation
10	Beijing-Tianjin-Hebei region (Hebei)	Shijiazhuang	Hebei Jinye Iron & Steel CO., Ltd.	2	230	70	2011
100	Yangtze River Delta Region (Jiangsu)	Xuzhou	Xuzhou Dongnan Steel Industry Co., Ltd.	1	120	70	2013
206	Urumchi in Xinjiang	Fukang	Fukang Taihua Coke & Chemical CO., Ltd	1	180	70	2012

Table 4 SO₂ Treatment Projects for CCU in Petroleum & Petrochemical Industry ((Sample, 51 in total)

No.	Urban Region	Cities	Enterprises	Unit Name & Number	Production Capacity (10,000 tons/year)	Overall De-sulfurization Efficiency (%)	Year for Operation
1	Beijing-Tianjin-Hebei region (Beijing)	Beijing	Yanshan branch	Secondary CCU	80	70	2011
51	Urumchi in Xinjiang	Urumchi	Urumchi Petrochemical Company	1# RFCCU	140	70	2014

Table 5 SO₂ Treatment Projects in other industries (Sample, 64 in total)

No.	Urban Region	Cities	Enterprises	Industry	Project Content and Scale	Overall De-sulfurization Efficiency (%)	Year for Operation
20	Changsha-Zhuzhou-Xiangtan	Zhuzhou	Zhuzhou Smelter Group CO., Ltd.	Nonferrous Metals	Flue gas desulphurization in 5# volatile kiln	85	2011
63	Gansu-Ningxia (Ningxia)	Yinchuan	Ningxia Meijie Paper Industry CO., Ltd	Papermaking	Wet Desulphurization for 50 tons boiler	70	2015

Table 6 NO_x Treatment Projects in Electricity Industry (Sample, 531 in total)

No.	Urban Region	Cities	Enterprises	Unit Number	Installed Capacity (MW)	Overall De-nitrification Efficiency (%)	Year for Operation
1	Beijing-Tianjin-Hebei Region (Tianjin)	Tianjin	Tianjin SDIC Jinneng Electric Power CO., Ltd.	1	1000	70	2012
200	Yangtze River Delta Region (Zhejiang)	Jiaxing	Zheneng Jiaxing Electric Power Co., Ltd	1	300	70	2014
500	Gansu-Ningxia (Gansu)	Baiyin	Jingyuan Secondary Electric Power Co., Ltd	8	320	70	2012

Table 7 NO_x Treatment Projects in Cement Industry (Sample, 204 in total)

No.	Urban Region	Cities	Enterprises	Unit Number	Clinker Production Capacity (ton/d)	Overall De-nitrification Efficiency (%)	Year for Operation
100	Shandong	Dezhou	Dezhou China United Cement CO., Ltd.	1	2333	70	2014
200	Gansu-Ningxia (Ningxia)	Yinchuan	Ningxia Building Material Group Co., Ltd	Dry-process kiln 1	2500	50	2014

Table 8 De-nitrification Demonstration Projects for Sintering Flue Gas in Steel Industry (Sample, 20 in total)

No.	Urban Region	Cities	Enterprises	Unit Name and Number	Scale of Production Facility (M ²)	Overall De-nitrification Efficiency (%)	Year for Operation
1	Central Liaoning	Anshan	Iron-making General Plant of Angang Steel Company Limited	Secondary sintering machine	360	60	2014

Table 9 Dust-remover Retrofit Projects in Coal-fired Power Plant (Sample, 86 in total)

No.	Urban Region	Cities	Amount of Power Units	Installed Capacity (GW)	Treatment Measure	Treatment Requirement	Year for Operation
31	Pearl River Delta Region	Guangzhou	15	205	Dust-remover retrofit	Smoke & dust emission concentration $\leq 20 \text{ mg/m}^3$	2014
86	Urumchi in Xinjiang	Fukang	10	162	Dust-remover retrofit	Smoke & dust emission concentration $\leq 30 \text{ mg/m}^3$	2012

Table 10 Dust-remover Retrofit Projects for Steel Sintering Machine (Sample, 21 in total)

No.	Urban Region	Cities	Amount of Sintering Machines	Treatment Measure	Treatment Requirement	Year for Operation
1	Beijing-Tianjin-Hebei Region (Tianjin)	Tianjin	1	Dust-remover retrofit of machine head	Meet special emission limitation	2013

Table 11 Dust-remover Retrofit Projects for Cement Kiln (Sample, 38 in total)

No.	Urban Region	Cities	Amount of Production Lines	Production Capacity (ton clinker/d)	Treatment Measure	Treatment Requirement	Year for Operation
38	Urumchi in Xinjiang	Fukang	2	900	Bag filter retrofits for kiln tail	Meet emission standards	2012

Table 12 Dust Removing and Comprehensive Treatment Projects for Coal-fired Boiler (Sample, 110 in total)

No.	Urban Region	Cities	Amount of Boilers	Capacity (tons/h)	Treatment Measure	Treatment Requirement	Year for Operation
10	Beijing-Tianjin-Hebei Region (Hebei)	Hengshui	4	75	Dust-remover retrofit	Meet emission standard	2013-2014
100	Shaanxi Guanzhong	Yangling	3	27	Centralized heating replace small coal-fired boilers	Meet emission standard	2012-2015

Table 13 Other PM Treatment Projects (Sample, 56 in total)

No.	Urban Region	Cities	Enterprises	Name and No. of Units	Treatment Measure	Treatment Requirement	Year for Operation
28	Central Liaoning	Benxi	Benxi Steel Company	T101, T102 vestibule for coke transport	New bag filters	Meet emission standard	2013

Table 14 Industrial VOCs Treatment Projects (Sample, 300 in total)

No.	Urban Region	Cities	Industry	Amount of Enterprises	Key Enterprises Name	Treatment Requirement	Year for Operation
100	Yangtze River Delta Region (Jiangsu)	Yancheng	Organic chemical material production	2	Jiangsu Yulang Chemical industry CO., Ltd, Jiangsu Jinling Paper CO., Ltd	Comprehensive VOC treatment during the storage of raw materials and product, handing operations, and organic process exhaust	2012-2015
300	Urumchi in Xinjiang	Changji	Synthetic material	1	Xinjiang Blue Ridge Tunhe PET CO., Ltd	VOCs comprehensive treatment for processes of monomer synthesizing and polymerization	2015

Table 15 Oil and Gas Recovery Projects (Sample, 281 in total)

No.	Urban Region	Cities	Categories	Amount of Enterprises	Treatment Measure	Year for Operation
1	Beijing-Tianjin-Hebei Region (Tianjin)	Tianjin	Gas Stations	246	Build oil and gas recovery pipeline, adopt oil gun which could recover oil and gas	2012-2014
101	Central Liaoning	Fushun	Oil storage	5	Retrofit Efficient sealed floater or install headspace connecting displaced oil and gas recovery devices	2011-2014

Table 16 Yellow-Sticker Vehicles Elimination Projects (Sample, 188 in total)

No.	Urban Region	Vehicle type		Amount of Eliminated Vehicles	PM Reduction (tons /year)	NOx Reduction (tons /year)	VOCs Reduction (tons /year)	Year for Operation
1	Beijing-Tianjin-Hebei Region (Beijing)	Passenger vehicle	Mini	62900	0.00	1217.19	3921.18	2012-2015
2			Small	149200	0.93	2886.96	8697.01	2012-2015
3			Medium	37700	38.48	7033.36	7290.35	2012-2015
4			Large	1900	1472.18	17394.64	7913.09	2012-2015

Table 17 Fugitive Dust Comprehensive Treatment Projects (Sample, 192 in total)

No.	Urban Region	Cities	Categories	Scale		Treatment Measure	Year for Operation
				Unit	Amount		
100	Wuhan Region	Ezhou	Construction site	10,000m ²	80	Build dust-proof screen, clean and water the path	2015
101			Yard		3	Reduce dust by spraying, transportation with tarpaulins	2015
102			Road	10,000m ²	100	Pave asphalt, clean road	2015

Table 18 Regional Air Quality Monitoring Network Construction Projects (Sample, 57 in total)

No.	Urban Region	Projects	Amount of Automatic station	Content	Year for Operation
13	Yangtze River Delta Region (Jiangsu)	Construction of regional stations	4	Construction of station house, automatic monitoring devices for all indicators and devices for visibility and meteorological parameters. Operation maintenance.	2012
14		New monitoring indicators in city stations	72	Increase monitoring devices for O ₃ , CO, PM _{2.5} and visibility in city stations, and replace old devices	2012
15		Construction of Automatic Air Quality supersite	1	Construction of station house, automatic monitoring devices for all indicators, stereoscopic monitoring devices like LIDAR and wind profile radar. Operation maintenance.	2012-2013

Table 19 Online Monitoring Capacity Building Projects for Enterprise Pollution Emission (Sample, 27 in total)

No.	Urban Region	Projects	Amount (set)	Content	Year for Operation
1	Beijing-Tianjin-Hebei Region (Hebei)	New online monitoring devices	69	Online monitoring devices construction for key emission sources	2012-2015
2		New monitoring devices in active stations	13	Increase monitoring devices for flow, NO _x and specific pollutants	2012-2015

Table 20 Vehicle Emission Monitoring Capacity Building Projects (Sample, 34 in total)

No.	Urban Region	Projects	Amount (set)	Construction standard and requirement	Year for Operation
3	Beijing-Tianjin-Hebei Region (Hebei)	Construction of vehicle emission monitoring and control agency in provincial level and environmental monitoring and management platform for active vehicles	1	700m ² office space, with office devices, 2 inspect cars, 1 set of inspect device, 1 set of remote sensing monitoring device, software and hardware building, and net service	2012-2015
4		Construction of vehicle emission monitoring and control agency in city level	11	400m ² office space, with 2 inspect cars, 1 set of inspect device for active vehicles, 1 set of environmental monitoring device for vehicle fuel, 1 set of mentoring device for oil and gas recovery	2012-2015

Table 21 Pollution Emission and Environmental Quality Surveys (Sample, 4 in total)

No.	Projects	Content	Year for Operation
1	VOCs Emission Survey	Develop VOCs emission survey in key sectors, formulate VOCs emission factors and configure VOCs emission status	2012-2015

Clean Air Alliance of China

Clean Air Alliance of China (CAAC), initiated by 10 key Chinese academic and technical institutions in clean air field, aims at providing an integrated clean air collaboration platform in China for academic and technical institutions, provinces and cities, non-profit organizations and enterprises. The overarching goal is to improve air quality in China and mitigate the negative impacts on public health due to air pollution. The members of CAAC include academic institutions, provinces & cities, as well as other nonprofit organizations and enterprises that care about clean air.

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