



北京市新清洁空气行动计划介绍

Beijing's Air Quality Management Initiatives(2013-2017)

北京市环保局

Environment Protection Bureau of Beijing Municipal Government

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主 要 内 容

CONTENTS

一、北京市大气污染防治的基本情况

Briefing of Beijing Air Pollution Control, Actions
and Progress

二、面临的新挑战

New Challenges

三、北京2013-2017清洁空气行动计划

Beijing 2013-2017 Clean Air Action Plan

一、北京市大气污染防治的基本情况

Briefing of Beijing Air Pollution Control, Actions and Progress

- 面积: 1.6万km²

Total area: 16,000 km²

- 常住人口超过2000万

Population: over 20 millions

- 机动车 Vehicle Fleet: over 5.3 millions

- 年人均GDP超过1.3万美元

GDP per capital exceeds 13,000 USD

- 三面环山, “簸箕状”地形

U shape topography, surrounded by mountains from 3 directions

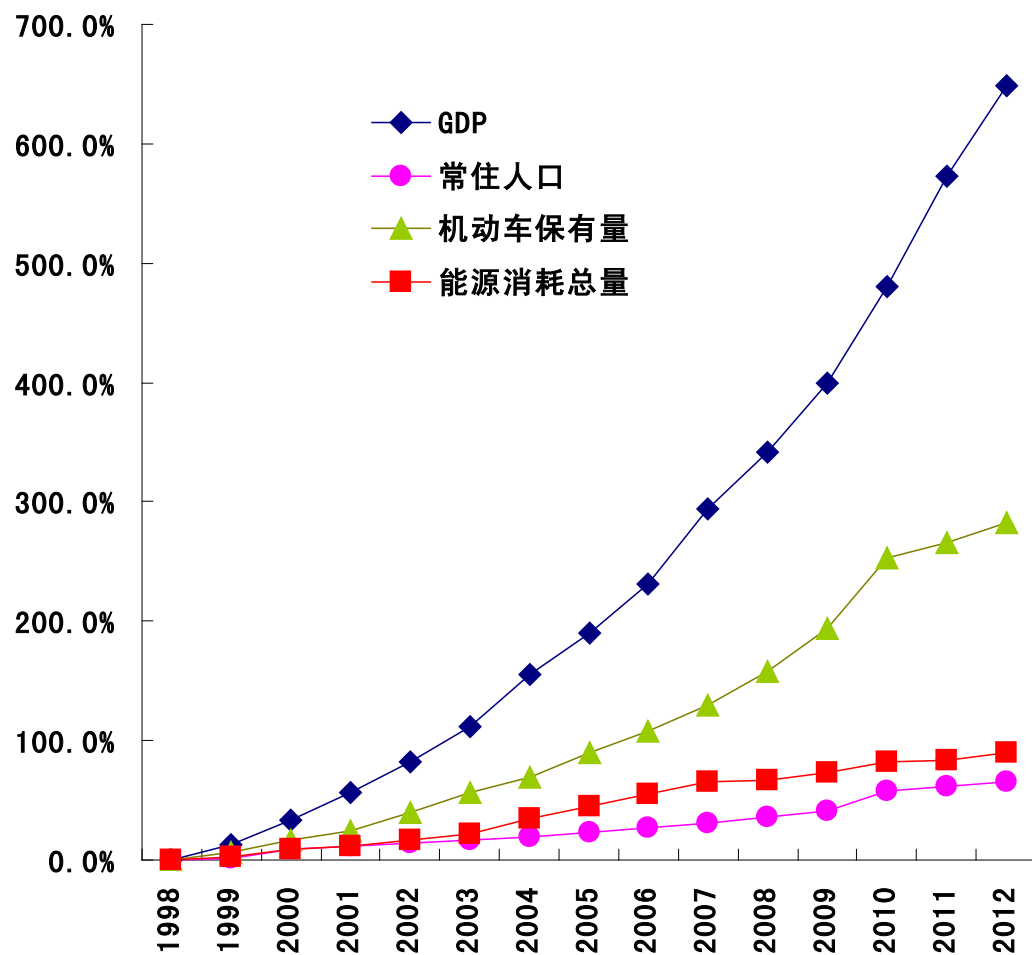
- 温带大陆性半湿润季风气候

Temperate Semi-humid Continental Monsoon Climate

- 大气污染物扩散条件差

Poor atmospheric diffusion conditions for air pollutants





1998年到2012年，经济总量
增长6.5倍,人口增长66% ,机动
车增长2.8倍 ,能耗增长90%。

From 1998 to 2012:
GDP increased by 6.5 times,
population increased by 66%,
vehicle fleet increased by 2.8
times, energy consumption
increased by 90%.

中央和市委市政府历来高度重视首都大气污染防治工作。特别是1998年以来，北京市将治理大气污染作为推动科学发展、改善民生的重大任务，实施了16个阶段的大气污染控制措施和奥运空气质量保障措施，努力改善空气质量。2008奥运会的筹办和举办加快了环境改善的步伐，奥运会后北京又提出和实施了“绿色北京”新战略，出台和实施了清洁空气行动计划（2011-2015）。

The China central government and Beijing city keep great importance to the Capital's air pollution control. Since 1998, Beijing has taken stricter air-pollution control measures as one of major tasks to promote scientific development and improve people's living quality, 16 phases of action plans and Olympics Air Quality plan are implemented successfully. 2008 Olympic Games accelerated the steps, after the Olympics, "Green Beijing" Strategy was raised, Cleaning Air Action Plan (2011-2015) is launched and implementing until now.

成效

Achievements

- 推动形成了以服务业为主导的产业结构，2016年第三产业比重达到76.4%，接近发达国家平均水平

The industrial structure leading by services business had been formed, The proportion of tertiary industry reached 76.4%, close to the developed countries level

- 直接降低了发展的环境代价，实现了以较低的污染排放支撑较快的发展，如“十一五”时期，GDP年均增长11.4%，而二氧化硫排放总量下降39.73%

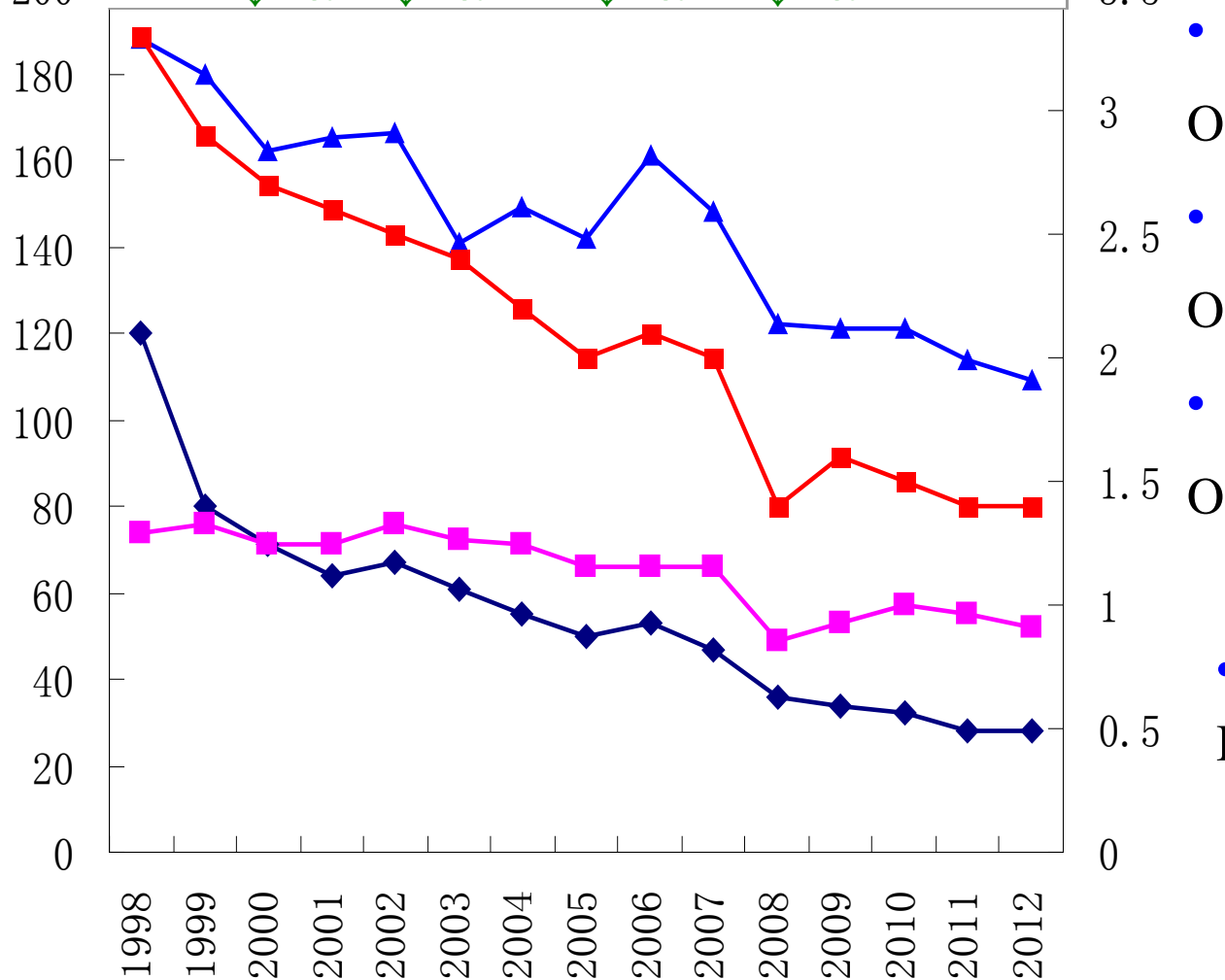
The environmental cost for development were lowed, during 2006-2010, the SO₂ emission gross volumes decreased 39.73% but the GDP increased 11.4% annually

- 空气质量连续十四年改善，主要污染物浓度全面下降，二氧化硫、二氧化氮稳定达到国家标准，奥运会、残奥会期间空气质量天天优良

The air quality keep improving for 14 years, all the main pollutants concentrations decreased, esp. the SO₂ and NO₂ reached the older national standards; during the 2008 Olympics and Paralympics, every day's air quality is excellent (close to developed countries level)

微克/立方米 ◆ S02 ■ NO2 ▲ PM10 ■ CO 毫克/立方米

↓77% ↓30% ↓42% ↓58%



• SO₂: 28ug/m³

ONS:60 ug/m³

• NO₂: 52 ug/m³

ONS: 80ug/m³

• PM₁₀: 109 ug/m³

ONS:100 ug/m³

• 近年来改善幅度趋缓

Improvement speed get slower recently

1.改善能源结构，控制煤烟型污染

Optimize energy structure, cut off coal-burning pollution

- 天然气年使用量从1998年的3亿立方米增长到2012年的84亿立方米

Natural gas consumption: 0.3 billion m³ in 1998 to 8.4 billion m³ in 2012

- 优质能源比重从2000年的45.4%上升到2012年的76%

High quality fuel (exclude coal) ratio in the whole city energy consumption: 45.4 % in 2000 to 76% in 2012

- 核心区平房区近20万户居民采暖“煤改电”

200 thousands of families bungalows in core urban replaced their heating coal by electricity

- 中心城区1.7万台20蒸吨以下燃煤锅炉完成清洁能源改造

More than 17 thousands coal-burning boilers under 20T/h changed to use gas

- 东南、西南燃气热电中心建成投运

Two new thermo-power plants using natural gas operated instead of existed coal-burning power plants

- 远郊新城30座集中供热中心建成投用，替代近千座分散、小型燃煤锅炉

30 central heating stations established in suburbs to replace thousands of small coal-burning boilers

- 全市取消4.4万台燃煤茶炉大灶

44 thousands of coal-burning stoves were removed in urban areas

- 全市20蒸吨以上燃煤锅炉完成了脱硫、除尘治理

All coal-burning boilers over 20T/h were equipped with desulfuration and dust removal devices

2.治理交通污染

Control of transportation pollution

- 2012年, 轨道交通里程达到442 km, 中心城区公交出行比例44%

By 2012, metro and rail length totals 442 km, public transportation system took 44% of trips in urban area

- 新车比全国平均提前两年执行机动车国 I 、国 II 、国III、 国IV标准及配套油品标准, 去年5月和今年2月, 分别执行第五阶段油品和机动车标准

Implementation of I,II,III,IV,V phase of new car emission standards first in China

- 更新淘汰5万多辆出租车、1万多辆公交车、15.6万辆社会黄标车、60.1万辆国 I 、国 II 车辆

In recent years, displacement of taxis, buses, yellow-label cars and old cars more than 50, 10, 156, and 601 thousands respectively

- 全市1462座加油站、1387辆油罐车和52座储油库全部完成油气回收治理

All 1462 gasoline stations, 1387 trucks, and 52 oil storage tanks installed hermetical oil gas recovery facilities in 2008



3.调整产业结构和布局，治理工业污染

Control of industrial pollution through structure adjustment and engineering

- 调整搬迁首钢、焦化厂等石景山、东南郊地区的400多家重污染企业

More than 400 heavy pollution enterprises were closed or moved

- 关停全市所有小水泥、砂石料场和粘土砖厂

All small-scale cement, sand and gravel quarry and clay brick plants closed

- 四大燃煤电厂完成脱硫、脱硝、除尘治理

All 4 coal-burning power plants equipped with desulfuration, denitration and dust removal devices

- 建成水泥脱硝示范工程

Denitration demonstration projects are installed in some cement plants

4.加强监督管理，控制扬尘污染

Stricter supervision to city dust pollution

- 制定实施了施工工地环保标准

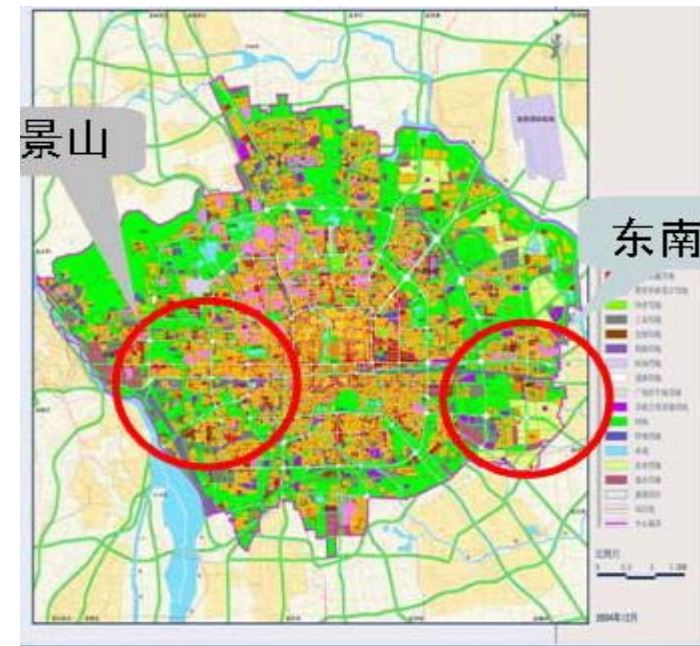
Strict environmental standards to construction sites management

- 增加市区道路机械清扫、冲刷面积

Increase mechanical cleaning and washing to control road dust

- 开展城市绿化，整治裸露地面

Greening the city, reducing bare ground



5.强化生态建设和保护，提高环境承载力

Strengthen ecological system to enhance environmental capacity

- 基本建成山区、平原和城市绿化隔离地区等三道绿色生态屏障

3 forest zones basically formed in mountain, field and urban greenbelt areas

- 实施播草盖沙、生物覆盖、保护性耕作，治理裸露农田扬尘污染

Control bare farmland dust pollution through sowing grass covered sand, conservation tillage, etc

- 建立郊野公园和湿地

Country parks and wetlands are established or recovered

6.完善监测体系，公开环境信息

Enhance the monitoring system, promote the information Open

- 1984年始建，全国最早，规模最大

Started from 1984, the earliest and the largest system in China

- 2012年10月，建成了35个监测站的PM_{2.5}监测网络,2013年1月正式运行
PM_{2.5} monitoring network finished by Oct 2010 and formally operated from Jan 2013, 35 stations included

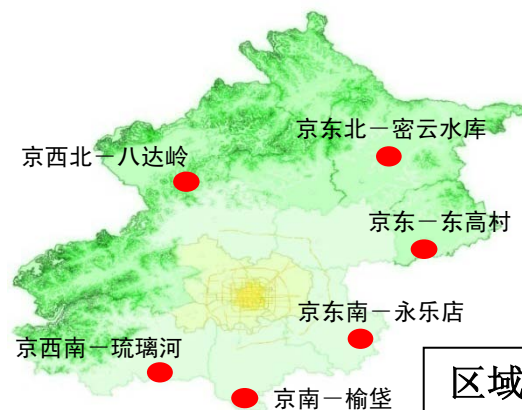
- 全部监测站点的二氧化硫、二氧化氮、可吸入颗粒物、PM_{2.5}等主要污染物的小时浓度数据全部对外实时发布,可通过北京市环保监测中心网站、微博及手机系统查询

All stations' pollutants hourly concentration data are open to the public via internet, micro-blog, mobile phone, etc

1. 东四
2. 官园
3. 天坛
4. 万寿西宫



交通污染监控点



区域背景传输点

城市环境评价点

图例

- 国控点位
- 市控点位

- 首都功能核心区
- 首都功能拓展区
- 城市发展新区
- 生态涵养发展区

延庆镇

怀柔镇

密云镇

昌平镇

仁和镇

平谷镇

北部新区

植物园

万柳

奥体中心

农展馆

通州镇

龙泉镇

古城

云岗

丰台花园

亦庄

良乡

黄村镇

城市清洁对照点



二、面临的新挑战

New Challenges

- 2012年，国家修订空气质量标准，增加了PM_{2.5}等污染物，收紧了PM₁₀、NO₂等污染物浓度限值，2013年起实施

New national ambient air quality standard revised in 2012, PM_{2.5} added, PM₁₀ and NO₂ concentration ranges threshold lowered, formally in use from 2013

- 空气质量与国家新标准差距较大，NO₂、PM₁₀、PM_{2.5}年均浓度均超标

Big gaps to new national air quality standards, NO₂, PM₁₀ and PM_{2.5} annual concentrations all exceed the limits

- 污染物浓度下降幅度开始减缓，进一步改善难度加大

Pollutants concentrations decrease steps slow down, more difficult for further improvement

- 公众环境意识提高，对环境质量要求也提高

Higher public expectation to environment qualities with higher env-awareness

pollutants	微克/立方米ug/m ³	新标准New	老标准older
		二级Level 2	二级Level 2
二氧化硫（SO ₂ ）	年平均annual	60	60
	24 小时平均day	150	150
二氧化氮（NO ₂ ）	年平均annual	40	80
	24 小时平均day	80	120
颗粒物（PM ₁₀ ）	年平均annual	70	100
	24 小时平均day	150	150
细颗粒物（PM _{2.5} ）	年平均annual	35	——
	24 小时平均day	75	——

2012年主要污染物浓度与国家标准对比

Comparison of Beijing 2012 pollutants concentration to NS

单位：微克/立方米ug/m³

污染物pollutant	2012	旧标准older NS		新标准New NS	
二氧化硫(SO ₂)	28	60	达标 attainment	60	达标attainment
二氧化氮(NO ₂)	52	80	达标 attainment	40	超标exceeding30%
颗粒物(PM ₁₀)	109	100	超标ex9%	70	超标exceeding56%
细颗粒物(PM _{2.5})	--	--	--	35	Estimated exceeding 1.5 times
总悬浮颗粒物(TSP)	237	200	超标 ex18.5%	200	超标ex18.5%

空气质量与世界城市相比差距更大

Comparison of 2012 pollutants concentration to other world cities

指标 quota	纽约New York 2010	伦敦London 2010	东京Tokyo 2010	北京Beijing 2012
SO ₂	2.1	3.8	2.5	28
NO ₂	21.3	49.2	37.6	52
PM10	13	23	21	109
PM2.5	8.8	12	13.5	About 90

超标污染物中，PM_{2.5}达标难度最大，是形成空气重污染的重要原因，是我市大气污染防治的主要问题。

Among all pollutants, the most difficult to attain standard is PM_{2.5}, the main reason of heavy air pollution, the main problem

- 近年来加大颗粒物的治理力度，但着力点是PM₁₀，PM_{2.5}浓度虽有下降，但下降幅度较小

In recent years, more focus on PM₁₀ instead of PM_{2.5}

- 大气污染性质发生重大改变，近年来大气氧化性增强，颗粒物污染控制重点逐步由大颗粒转向细颗粒

Recently atmospheric oxidation characteristic enhanced, more emphasis should be given to fine particles

- 煤烟型污染尚未完全解决，机动车污染快速增长，形成复合型、压缩型、区域型污染特点

The coal-burning pollution not fully resolved by far, the vehicle pollution increase rapidly

- PM_{2.5}成分复杂、来源广泛，既有一次排放，又有二氧化硫、二氧化氮等气态污染物在空气中反应生成的二次污染物；既有本地排放，也有华北地区特别是河北、天津等区域污染的输送

PM_{2.5} has complex composition and wide variety of sources, include preliminary emission and secondary transformation, include local emissions and regional pollution transportation

大气污染物排放总量居高不下

High emissions of air pollutants

1.机动车保有量大，尾气污染突出

Huge vehicle fleet, exhaust pollution highlighted

- 机动车保有量突破530万辆，还有大量施工、农业用的非道路动力机械。近年来，我市汽柴油消耗量快速增长，2011年已达631万吨，其中汽油390万吨，柴油241万吨，分别比2005年增加了66%和71%

Vehicle fleet exceeded 5.3 million, in addition there are a lot of non-road engines. In 2011, 3.9 millions tones of gasoline and 2.41 millions tones of diesel fuel are used, respectively, increased by 66% and 71% compared with 2005

- 机动车和非道路动力机械除直接排放PM_{2.5}外，还排放大量气态污染物，其中氮氧化物（NO_x）约占全市排放总量的58%，挥发性有机物（VOCs）约占总量的40%

NO_x accounted for near 58% of the city's total emissions, VOCs accounted for near 40%

2.燃煤总量较大

Larger total coal consumption

- 燃煤总量高达2330万吨，在能源消费结构占比25%左右，主要来自电厂、工业、生活等燃煤锅炉、窑炉

Annual coal used exceeded 23.3 millions tone, include power plants, industrial, furnace, oven and heating boilers, etc, the proportion of coal in the energy consumption structure is 25%

3.工业结构不尽合理， 污染排放量大

Industrial structure is not reasonable

- 化工、建材、水泥企业在生产过程中排放VOCs、NO_x、SO₂及粉尘、烟尘等污染物

Lots of VOCs, NO_x, SO₂, dust emitted in production process of chemicals, building materials, cement companies

- 化工、汽车制造、喷漆、家具等行业和建筑、道路使用的溶剂，排放VOCs

Obvious increase of VOCs from chemical industry, automobile manufacturing, painting, furniture and other industries

4.工地开复工面积大， 扬尘污染严重

Large area of the construction sites started or restarted

- 近年来开复工面积保持在2亿平方米左右，施工扬尘量排放量大，约占各类扬尘排放总量的40%

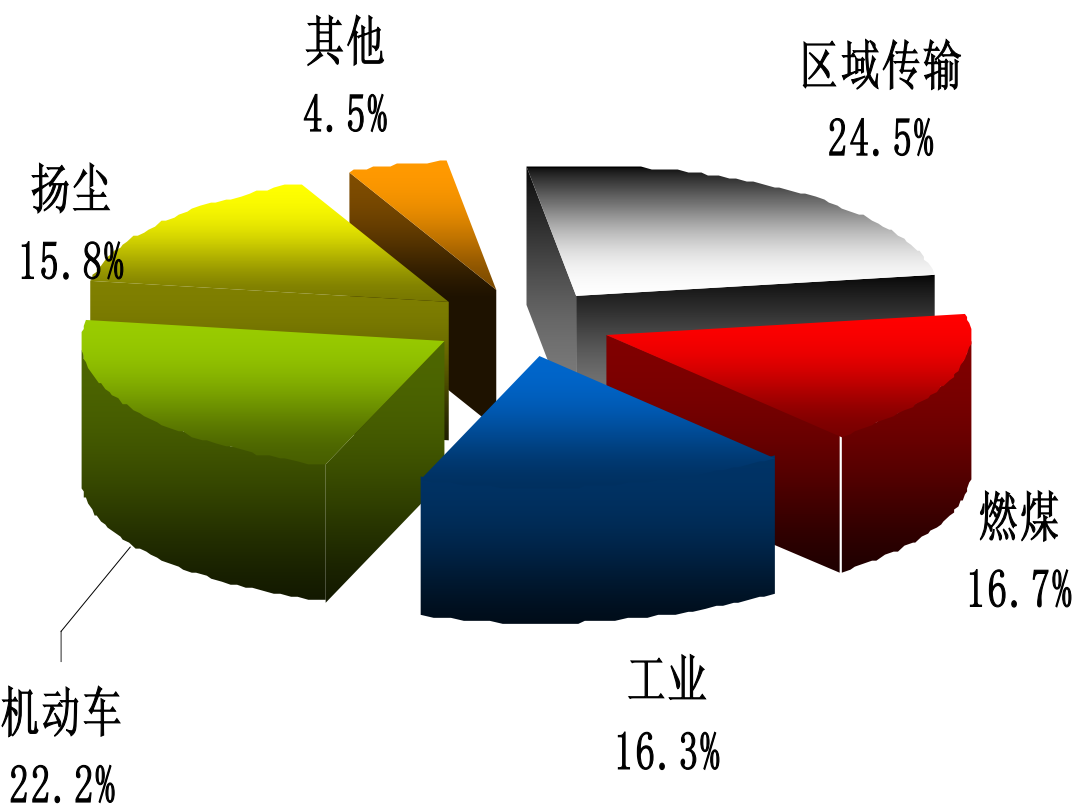
Construction sites started or restarted total areas over 200 millions m², with huge dust emission, taken the ratio of 40% of all dust in the city

- 各类扬尘飘落或遗撒至路面，经过车辆反复碾压、搅动形成交通扬尘，交通扬尘的排放量占各类扬尘排放总量36%以上

Dust Fall or spill to the road, then been Rolling, agitating into road dust, which taken the ratio of 36% of all dust

各类污染对PM_{2.5}的分担率

Various types of pollution sources sharing rates of PM_{2.5}



- 本市污染源

Local emission

机动车占PM_{2.5}来源的22.2%

Vehicle shared 22.2%

燃煤占16.7%

Coal-burning shared 16.7%

工业及溶剂使用占16.3%

Industrial and organic solvent shared 16.3%

各类扬尘占15.8%

Dust shared 15.8%

农业及畜禽养殖、秸秆焚烧、餐饮油烟等其他源占4.5%

Agriculture and livestock breeding, etc, shared 4.5%

- 区域污染传输占24.5%

Regional pollution transportation shared 24.5%

周边污染传输对北京影响显著

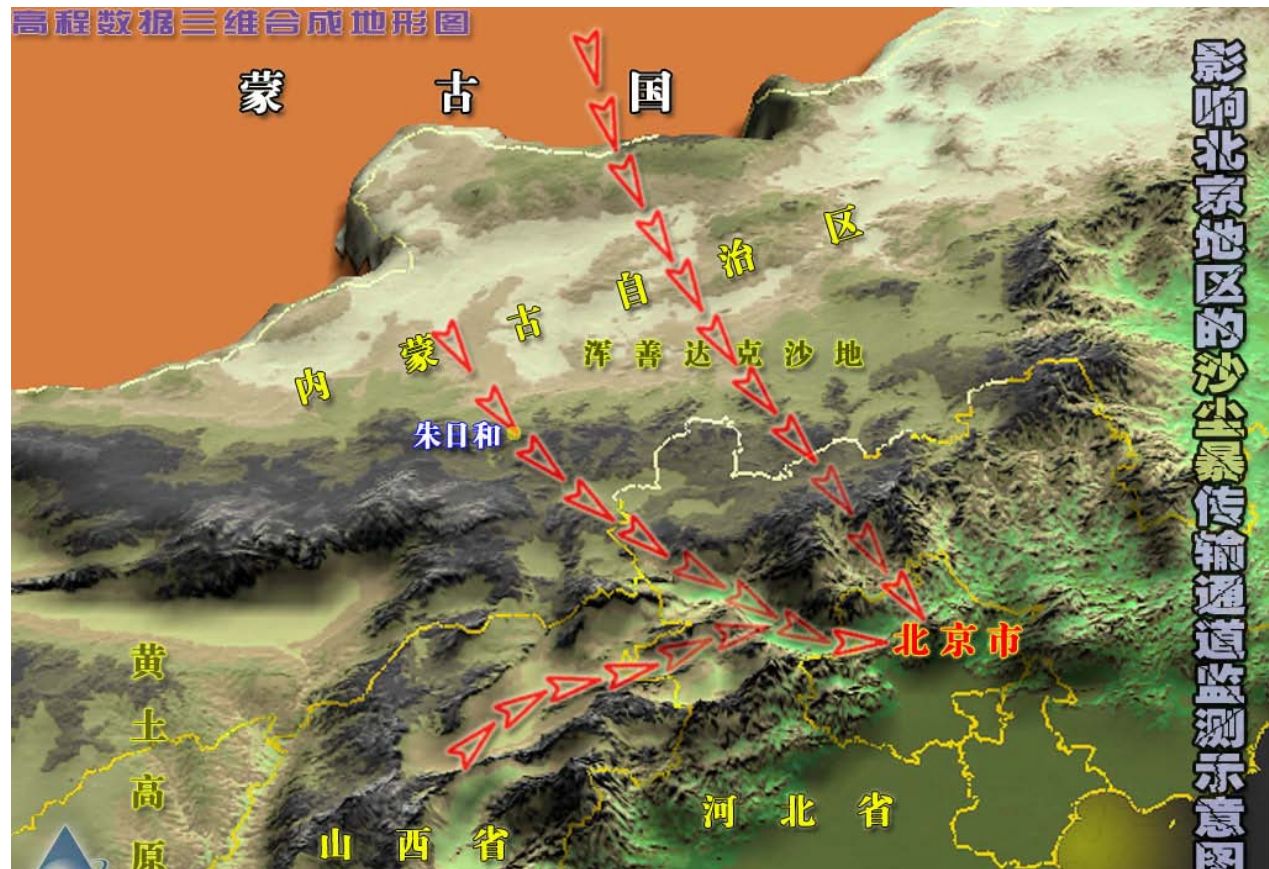
Significantly affected by Surrounding contaminant transport

- 全年外来污染分担率占25%左右，特定气象条件达40%以上(如今年1月)

Annually shared about 25% from regional transmission pollution, under specific meteorological conditions will rise to 40%

- 在西北风作用下，北京西北向存在3个沙尘传输通道

3 main transport aisles of dust under northwest winds



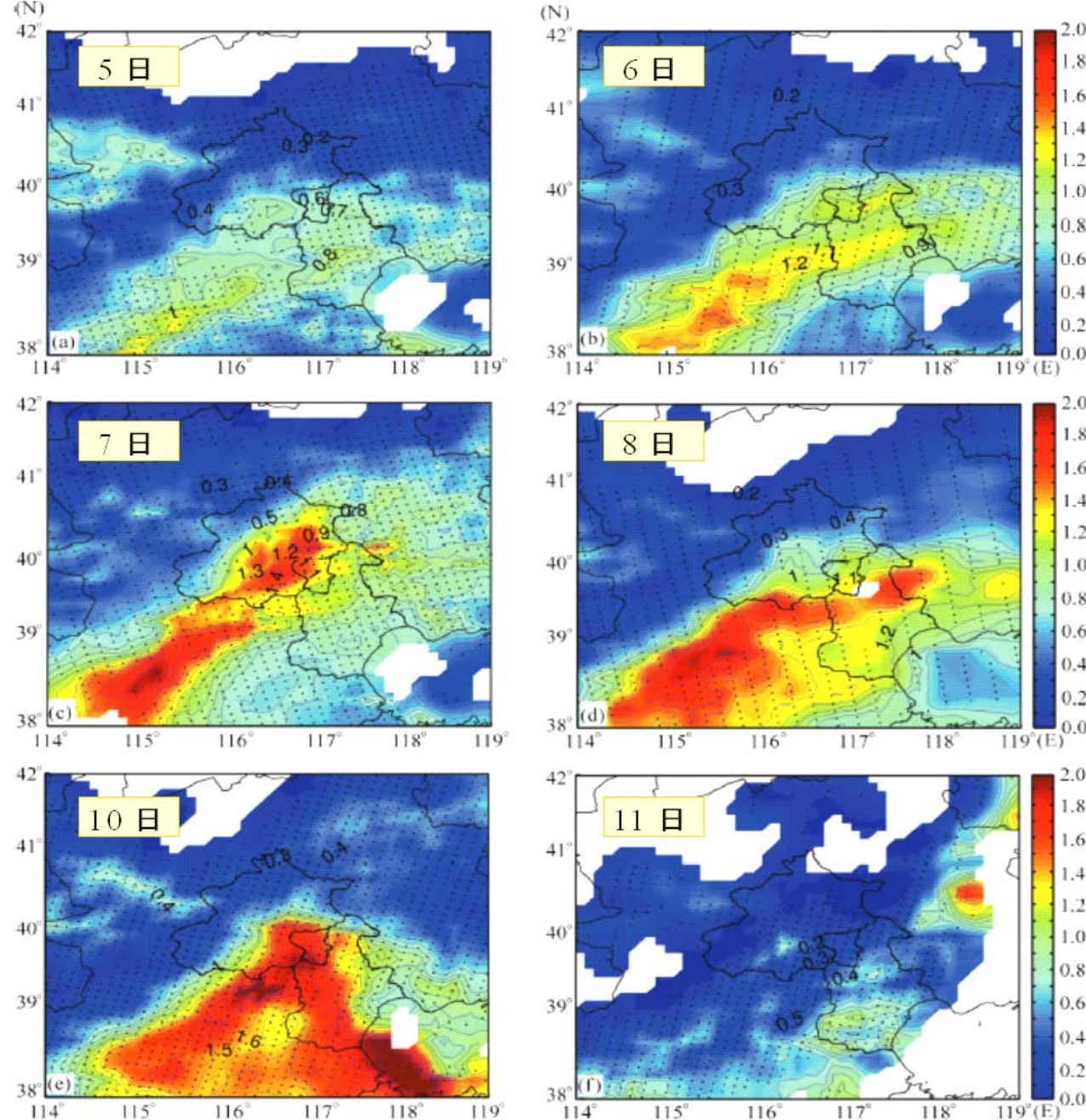
华北地区春季区域污染传输图Spring

- 区域燃煤总量约3.5亿吨

Total coal used over $3.5 \times 10^8 \text{T}$ in around areas

- 在西南风、东南风作用下，北京西南向（石家庄、保定）、东南向（天津、廊坊）是2个污染传输通道

2 main transport aisles of gaseous pollutants under southwest/southeast winds

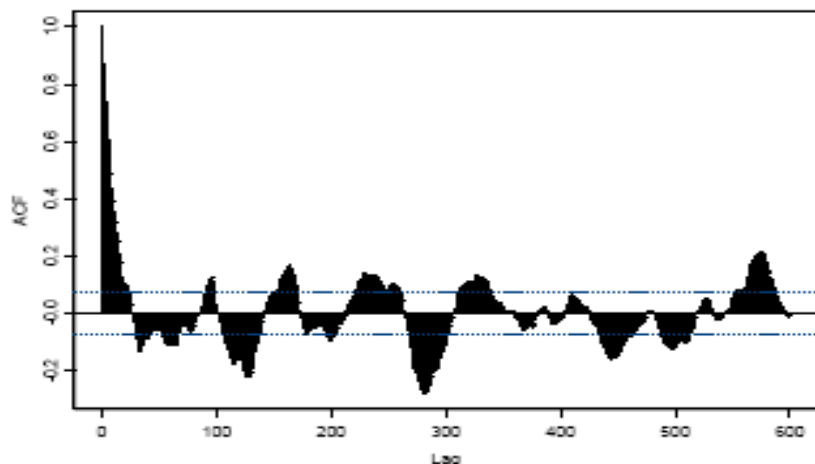


华北地区秋季区域污染传输图Autumn and Winter

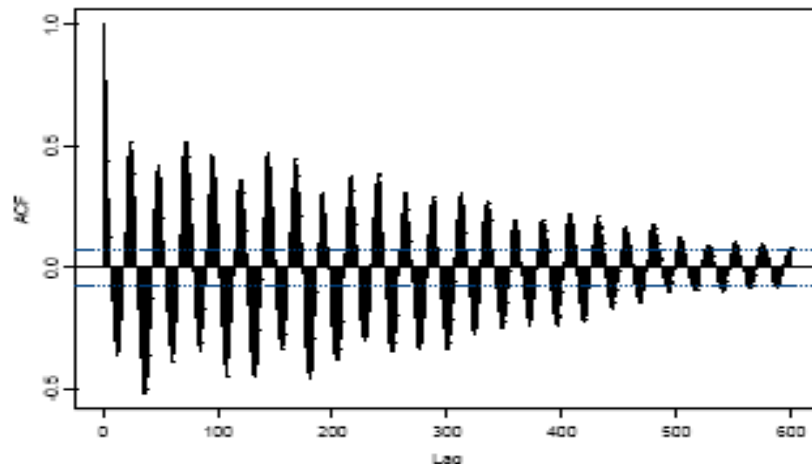
地理气象条件不利

Unfavorable geographic and weather conditions

- 半湿润半干旱气候，降水量少，1999-2011年平均年降水量不足450毫米，不利于大气污染物沉降
- Semi-humid and semi-arid climate with lower precipitation, annually less than 450 mm in the past 12 years
- 全年高温高湿、静风逆温等极端不利气象条件的天数，约占20%，特别是秋冬季节易连续出现
- About 20% of days were high temperature and humidity, calm and temperature inversion etc extreme adverse weather conditions, esp. in autumn and winter
- 冬季风速日夜变化很不明显，振幅明显小于夏季，同时冬季的风速演变存在3~4天的周期，与冷空气活动的周期相关
- Winter wind speed's variation is very small, depending on cold air activity cycle



冬季（1月） Winter (Jan)



夏季（8月） Summer (Aug)

风速自相关图 Wind velocity autocorrelation

生态系统功能脆弱，大气环境容量小

Fragile ecosystem functions, small atmospheric environment capacity

- 森林资源总量偏低，平原区森林覆盖率（14.85%）远低于全市水平（37.6%）

Low forest resources, forest coverage in plain area is only 14.85%, far below than the city whole level(37.6%)

- 水资源严重不足，生态用水极度匮乏，水域面积小

A serious shortage of water resources , ecological water is extremely scarce, small water area in the city scope

- 生态系统的空气自净功能较弱，环境承载力不足

Ecosystems' air self-purification function is weak, inadequate environmental carrying capacity

- 北部地区生态环境总体良好，水面、植被相对较多，受有利于扩散的偏北风影响相对时间较长，环境容量较大

City's northern region is generally good of ecological environment, relatively owned more water and vegetation, with relatively longer time of northerly winds favor of diffusion, so the air quality is better

三、北京市2013-2017清洁空气行动计划

Beijing 2013-2017 Clean Air Action Plan

应对措施 Programs

- 中央提出将生态文明建设融入政治建设、经济建设、文化建设和社会建设中；6月14日国务院决定实施大气污染防治10条措施

Central government: ecological civilization has been taken as one of the 5 pillars (Politics, economy, society, culture, ecological civilization)

The State Council decided 10 new programs on air pollution control on 14 June, 2013

- 北京是国家确定的重点区域

Beijing is identified as the national priority area

- 北京市编制了《2013-2017清洁空气行动计划》，其中主要任务和责任主体已于8月23日发布，计划文本已经发布

Beijing formulated the 2013-2017 Clean Air Action Plan, of which the main tasks and responsibilities have been issued by 23 Aug, the whole content is published already

主要思路 Principles

- 生态文明建设为统领，保障市民健康为出发点，防治PM_{2.5}污染为重点

Ecological civilization, health care, focus on PM_{2.5}

- 坚持政府调控与市场调节相结合，总量减排与质量改善相匹配

Policy & market rule, total pollutants discharge reduction & air quality improvement

- 加快转变经济发展方式，完善“政府主导、企业施治、公众行动”的机制体制

Economic transformation, “policy oriented, enterprise action, public participation”

- 目标：2017年PM_{2.5}比2012年下降25%，PM_{2.5}达到60 ug/m³左右

Target: the concentration of PM_{2.5} in 2017 would be declined by 25% compare with 2012, and would be reached about 60 ug/m³

八大减排工程
8 pollution reduction
projects

控制增量
Control
increment

削减存量
Cut stock

扩大容量
Expand
capacity

源头控制
Source control
能源结构调整
Energy structure
adjustment
机动车结构调整
Vehicle structural
adjustment
产业结构优化
Optimization of
industrial structure
末端污染治理
End control of pollution
城市精细化管理
City meticulous
management
空气重污染应急
Heavy air pollution
contingency
生态环境建设
Ecological environment
conservation

六大保障措施
6 safeguard
measures

完善法规
Improve the legal
rules
经济引导
Economic guidance
科技支撑
Scientific and
technological
support
组织保障
Organizational
support
落实责任
assign
responsibilities
监督考核
Supervision and
evaluation

三大全民行动
3 Actions by the
whole people

企业自律治污
Corporate self-
regulatory reduction
of pollution
公众自觉减污
The public
abatement of
pollution
 consciously
社会监督防污
All the society take
part in supervision
and prevention of
pollution

八大减排工程

8 pollution reduction projects

1.源头控制减排工程

Source control

优化城市空间布局

- 落实城市总体规划和主体功能区划

Implementation of urban planning and the main function zoning plan strictly

- 编制环境总体规划，落实资源、环境的刚性约束

Preparation of city environmental master planning, implementation resources and environment rigid constraints

- 严格执行规划环评制度

Strict implementation of planning EIA system

合理控制人口和机动车规模

Reasonable control of the size of population and vehicle

- 创新流动人口服务，加强实有人口管理，减缓常住人口增速，减少新增生活污染

Slow the resident population growth rate, reduce new added pollution

- 通过摇号、牌照有偿使用等措施，到2017年底全市机动车保有量力争控制在600万辆左右

Strive to control the city's vehicle number to about 6 millions in 2017

强化资源环保准入约束

Enhanced access threshold on resources and environmental protection constraints

- 制订严于国家的、禁止新建和扩建的高污染项目名录，比如钢铁、水泥、焦炭、有色冶炼等

Formulate stricter projects directories than the state, prohibiting new and expansion of high-pollution projects, such as steel , cement , coke, and other non-ferrous smelting

- 不再建设劳动密集型一般制造业项目

General labor-intensive manufacturing projects are no longer permitted

- 实施污染物总量排放控制，实施“减二增一”的审批制度

Implementation of the total pollutant emission quota control , carry out “cut two first then add one ” approval system

- 对禁止建设的工业项目和未通过能评、环评审查的项目，不得予以许可，不得批准开工，不得提供信贷，不得供电、供水

To prohibited industrial projects and can not pass the energy assessment , the EIA projects, not be permitted , approved to start, no loan support and no Not electricity, water supply

- 新建项目原则采用天然气、电等清洁能源，不再使用煤、重油和渣油等高污染燃料

New project in principle, using natural gas , electricity and other clean energy, no longer use coal, heavy oil and residual high-polluting fuels

2.能源结构调整减排工程

Energy structure adjustment reduction projects

- 到2015年和2017年，将全市燃煤总量分别比2012年削减800万吨和1300万吨，从源头上减少燃煤污染

2015 and 2017 , respectively, compared to the city's total coal cuts 8,000,000 tons in 2012 and 13 million tons , from the source to reduce coal pollution

加强清洁能源供应保障

Strengthen the clean energy supply security

- 加快建设外调电为主、多元化的电力支撑体系，到2017年外调电比例达到70%左右

Redeployment of electricity by 2017 the proportion reached 70%

- 建成陕京四线等重大工程，到2015年和2017年，天然气供应量力争分别达到180和240亿立方米

2015 and 2017 , respectively, of natural gas supply and strive to reach 180 and 24 billion cubic meters

实现电力生产燃气化

Achieve gasification electricity production

- 2014年，四大燃气热电中心全部投运

2014 , all four gas power centers put into operation

- 2016年底前，关停国华、高井、京能电厂、华能电厂一期燃煤发电机组

Before the end of 2016 , shutting down Guohua , Takai , Jing Neng, Huaneng Power Plant coal-fired generating units

推进企业生产清洁化

Promote clean production of industrial enterprises

- 2015年底前，完成19个市级以上工业开发区燃煤设施清洁能源改造
By 2015 , completion of 19 large industrial development zones' coal-fired facilities clean energy transformation
- 2016年底前，基本完成规模以上工业企业，以及城六区、远郊新城建成区服务业燃煤设施的清洁能源改造
Before the end of 2016 , basically completion of above-scale industrial enterprises, as well as six districts of the city , suburban built-up area coal-fired facilities clean energy transformation

城六区逐步取消燃煤

Phasing out coal-burning in the six core districts of the city

- 2015年底前，核心区通过煤改电、拆迁改造、人口疏解等实现无煤化
2015, the core city area attain no coal through the coal change to electricity , demolition and renovation , and other ways
- 2015年底前，城市功能拓展区完成剩余4900蒸吨锅炉改造，实现无燃煤锅炉
2015, the expanding area of urban functions to complete the remaining 4,900 tons of boilers renovation, attain no coal-burning boilers
- 城乡结合部地区按照“五个一批”的工作目标，削减民用燃煤
Urban fringe areas in accordance with the "group of five" objectives, to cut civilian coal

远郊区县燃煤减量化

Reduction of coal in outer suburbs

- 城关镇基本淘汰10蒸吨及以下的燃煤锅炉，集中供热中心逐步实施清洁能源改造，减少集中供暖用煤

Towns basically eliminated coal-fired boilers below 10 tons of steam

- 建立完善罐装液化气配送服务体系，到2016年基本取消农村地区炊事用散煤

Establish a sound system of bottled gas distribution services, by 2016 basic canceling using coal for cooking in rural areas

- 试点农民集中居住、集中供暖，综合推广电、热泵、太阳能等清洁能源采暖方式，减少取暖用煤

Pilot farmers live together with central heating

提高能源使用效率

Improve energy efficiency

- 严格执行新建居住建筑75%的强制性节能标准，推广使用太阳能热水系统等技术

Strict implementation of new residential buildings 75% of mandatory energy efficiency standards, Promote the use of solar water heating systems and other technology

- 完成供热计量收费改革，加快推进既有建筑的节能改造和30万户抗震节能农宅建设

Complete reform of heating metering and charging system, accelerate energy-saving renovation of existing buildings

3.机动车结构调整减排工程

Restructuring vehicle emission reduction projects

使机动车结构更加节能化、清洁化，力争到2017年车用汽柴油总量降低5%。

Get the vehicle structure more energy saving and cleaning, by 2017 the total gasoline and diesel are 5% lower than in 2012

发展公共交通

Development of public transport

- 2015年，轨道交通运营里程力争达到660公里

2015, rail transport operated strive to reach 660 km mileage

- 2017年，中心城区公共交通出行比例达到52%左右

2017, the central city public transport ratio reached about 52%

- 2017年，全市基本形成以电力驱动新能源车和清洁燃料车为主、低排放柴油车为辅的绿色公交体系，公交车平均排放达到机动车第五阶段标准

2017, the city basically formed Green Bus System mainly with Electric drive new energy vehicles and clean fuel vehicles

不断严格新车排放和油品标准

Keep strict standards for car emissions and oil quality

- 汽油车，2016年力争实施第六阶段标准和油品标准，油品中的主要环保指标与发达国家接轨

2016 Gasoline vehicles strive to implement the sixth stage of the standard criteria and oil, the main indicators attain the developed world level

- 柴油车，2013年新增公交、环卫车实施第五阶段标准，2014年底，新增重型柴油车全面实施第五阶段标准，必须安装颗粒捕集器

Diesel , 2013 new buses and sanitation trucks implement Phase V standard, by the end of 2014 , new heavy-duty diesel vehicles fully implement the fifth stage standard, particulate filter must be installed

- 低速货车，2014年起执行与轻型货车同等的节能环保标准， 到2017年50%的低速货运汽车替换成皮卡、轻型货车

Low-speed trucks , since 2014 to implement energy-saving and environmental standards equal to light trucks

加快淘汰更新高排放老旧机动车

Accelerate elimination of Old high emission vehicles

- 2013年制定本市新增出租车强制报废标准

2013 to develop new city taxi mandatory retirement standard

- 2015年底前，淘汰全部黄标车

Before the end of 2015 , out of all the yellow-label cars

- 2017年底前，淘汰老旧机动车100万辆

Before the end of 2017 , elimination of old vehicles over 1,000,000

- 到2015年，建成5万辆货物运输 “绿色车队”

To 2015 , built 50,000 cargo transport " green team "

积极推广新能源车

Actively promote new energy vehicles

- 采取财政补贴等措施，鼓励个人购买纯电动小客车

Take financial subsidies and other measures to encourage individuals to purchase pure electric passenger cars

- 抓好公交、环卫及政府机关的新能源汽车示范应用工作

Promote the public transportation, sanitation and government agencies working demonstration and application of new energy vehicles

- 2017年底全市清洁能源、新能源汽车应用规模达到20万辆

By the end of 2017 the city's clean energy, new energy cars reached 200,000

4.产业结构优化减排工程

Industrial structure optimization and emission reduction project

大力发展服务业，到2015年和2017年，第三产业比重分别达到78%和79%
Vigorously develop the service industry, by 2015 and 2017, the proportion of tertiary industry reached 78% and 79%

淘汰压缩污染产能

Eliminate and compress industrial capacity with high pollution

- 2013年，制定发布严于国家要求的高污染行业调整、生产工艺和设备退出指导目录

2013, formulated and promulgated stricter high-polluting industries adjustment, production processes and equipment exit Guidance Catalogue than national requirements

- 对高耗能高排放行业实施产能总量控制，到2017年将全市水泥产能削减到400万吨左右、炼油规模控制在1000万吨，到2015年混凝土搅拌站控制在135家左右

Implement capacity total control policy to high energy consumption and high emission industries, cement production capacity reduce to 400 million tons, refinery scale Controlled at 10 million tons

整治小型污染企业

Remediation small polluting enterprises

- 到2015年和2017年，调整退出建材、化工、铸造、家具制造等行业的小型污染企业数量分别达到800家和1200家

2015 and 2017, to exit 800 and 1200 small polluting enterprises on building materials, chemical, foundry, furniture manufacturing and other industries

- 集中整治镇村产业集聚区，取缔非法经营企业，推动达标无望的小型污染企业停产退出，到2017年得到明显整治

Focus on remediation Village Industries, ban illegal business enterprises

建设生态工业园区

Development of eco-industrial park

- 明确全市工业园区、产业基地的目录和发展方向，新建工业项目原则上均要进入园区、聚集发展

New industrial project in principle, have to enter the park , gathered Development

- 加快推进工业园区环境基础设施建设，开展生态化设计和改造，到2017年，19个市级以上工业开发区按照国家三部门《生态工业园区标准》，基本建成生态工业园区

Enhance Industrial Park Environmental Infrastructure, by 2017, 19 city-level industrial development zones should be in accordance with national three departments "eco- industrial park standards ."

推行清洁生产

Implementation of clean production

- 到2017年，完成400家以上企业清洁生产审核

By 2017, more than 400 completed cleaner production audit

- 水泥、化工、石化、有色等企业排污强度下降30%以上

Cement, chemical, petrochemical , nonferrous metals and other enterprises sewage intensity decreased more than 30%

5.末端污染治理减排工程

End-point pollution reduction projects

严格环保标准

Stringent environmental emission standards

- 2013年，修订实施低硫煤及制品标准

2013 , revise and implement low-sulfur coal and products standards

- 2014年底前，修订发布锅炉以及建材、石化、汽车制造等大气污染物排放标准，标准限值达到国际先进水平

Before the end of 2014 , publish amendments of boilers and building materials, petrochemical, automobile manufacturing and other air pollutant emission standards, standard limits reached the international advanced level

深化燃煤燃气锅炉污染治理

Control of boilers pollution with coal or gas

- 对远郊区县保留的燃煤锅炉实施高效污染深化治理，2015年底前，完成燃煤集中供热中心烟气脱硝高效治理

2015 , completion of coal-fired central heating stations flue gas denitration in outer suburbs

- 对燃气锅炉实施脱硝治理，2013年完成京丰燃气电厂烟气脱硝治理

Implementation of denitration to all gas boilers

深化重点行业污染治理

Deepening pollution control in key industries

- 建材行业，2013年底前水泥厂、搅拌站完成物料储运系统、料库密闭化改造；2014年前，全市所有水泥厂完成脱硝治理

Building materials industry , before the end of 2013, all cement plants, mixing stations complete materials handling systems obturation transformation; 2014 , the city completed all cement denitrification treatment

- 石化行业，将原油加工损失率控制在3‰以内，2015年底前，减少挥发性有机物排放50%

Petrochemical industry, the crude oil processing loss rate will be controlled at less than 3 ‰; 2015, to reduce volatile organic compound emissions 50%

- 汽车制造、印刷、家具等行业重点抓好表面涂装工艺污染控制，力争到2017年减排50%的挥发性有机物

Automobile manufacturing , printing, furniture and other industries with emphasis on pollution control surface coating process, by 2017 50% reduction of volatile organic compounds

6.城市精细化管理减排工程

City meticulous management reduction projects

严格控制施工扬尘污染

Strict control of construction dust pollution

- 建设、施工单位在合同中明确扬尘污染治理方案和责任，单独列支防治费用，建立扬尘污染防治保证金制度

Dust pollution control programs and responsibilities will be included in contract clearly, control costs charged separately, establish Dust Pollution Prevention deposit system

- 加强建设、园林绿化、水务、市政等行业施工扬尘管理

Strengthen the construction , landscaping , water, municipal and other industries construction dust management

- 将施工扬尘违法行为纳入企业信用管理系统，情节严重的，限制招投标

Take the construction dust offenses into the enterprise credit management system

严格控制道路扬尘污染

Strict control of road dust pollution

- 加强渣土运输规范化管理，严格资质管理，实现密闭运输和安装定位系统

Strengthen the standardized management of sediment transport

- 2017年全市道路清扫保洁新工艺作业覆盖率达到87%以上

In 2017 the city's road sweeping and cleaning operations with new technology reach more than 87% coverage

- 2017年，再生水冲洗道路用量力争达到30万立方米/日

2017 , the amount of recycled water to wash the road strive to reach 300,000 m³/d

严格控制露天烧烤、餐饮油烟等污染

Strict control of open-air barbecue , dining soot and other pollution

- 2013年底前，各远郊区县政府按要求划定本区域禁止露天烧烤范围
Before the end of 2013 , each outer suburbs government required to delimit the scope of the region where prohibit open-air barbecue
- 城管执法部门严格执法，取缔露天烧烤行为
Urban management and law enforcement agencies to strictly enforce the law banning open-air barbecue behavior
- 严厉打击焚烧垃圾、秸秆
Crack down on burning garbage , straw
- 加强餐饮油烟监管，督促餐饮企业安装使用高效油烟净化设施
Strengthen supervision catering fumes, urge catering enterprises install efficient fume purification facilities

严格在用车和油品质量监管

Strict control in the cars on-use and oil quality

- 研究完善小客车分区域、分时段限行政策，降低使用强度
Study and improve the cars Restricted Zone policy, reduce the intensity of use
- 完善外埠车辆在京使用管理的政策，扩大限行范围
Perfect vehicle from other provinces management policies in Beijing, expand the scope of the Restricted Zone
- 加强车辆维修保养，到2017年各类运输等行业车辆氮氧化物排放力争比2012年减少15%
Enhance vehicle maintenance, 2017 all kinds of transport vehicles strive to reduce nitrogen oxide emissions by 15% over 2012
- 推动加快北京绕城高速公路建设，减少重型载货车辆过境穿行的污染排放
Speed up the construction of Ring Expressway, reduce the emissions from the transit of heavy goods vehicles crossed

严格执法监管

Strict law enforcement and regulatory supervision

- 充分运用污染源在线监控、现场检查频次等手段，加大执法处罚

Make full use of pollution on-line monitoring, frequently on-site inspection etc,
Strengthen law penalties

- 重点加强对土石方工程、渣土运输遗撒、机动车检测场、柴油货运车、露天烧烤、露天喷漆等行为的执法监督

Focus on strengthening law enforcement supervision to the earthwork, sediment transport spill, vehicle detection field, diesel freight vehicles, outdoor barbecue, outdoor paint and other acts

- 集中清理、整顿和取缔不达标散煤供应渠道，管住不达标散煤来源，打击不达标散煤销售

Concentrate on cleaning up , straighten and eliminate substandard bulk coal supply channels

提高环境监测和监管能力

Improve environmental monitoring and supervision ability

- 加强市、区两级环境监测和监管能力建设

Strengthen municipal and district levels of environmental monitoring and regulatory ability

- 落实街道办事处、乡镇政府的环保职责

Put into effect of street offices, township government's responsibilities

- 完善空气质量监测网络和重点污染源在线监控体系，5000平方米以上的建筑施工工地必须安装视频在线监控设备

Complete key sources online monitoring system, large construction sites must install online video surveillance equipments

7.生态环境建设减排工程

Ecological environment conservation project

- 重点完成平原地区百万亩造林工程，加强城乡绿化美化建设，到2017年全市林木绿化率达到60%以上

Focus on the completion plains million acres afforestation project, 2017 city forest green rate reached more than 60%

- 加大永定河、潮白河、北运河水系综合治理及清洁小流域建设力度，到2017年新增水域面积1000公顷、清洁小流域170条

By 2017 add new water area of 1,000 hectares , 170 clean small watershed

- 适度调整非煤矿山的规划和布局，加快废弃矿山的生态修复

Appropriately adjust the planning and layout of the non-coal mines, accelerate the ecological restoration of abandoned mines

8.空气重污染应急减排工程

Heavy air pollution contingency plan

- 纳入全市应急管理体系，成立空气重污染应急专项指挥部

Get into the city's emergency management system, establish air pollution emergency headquarters

- 修订应急方案，增加应急措施，包括机动车单双号限行、重点企业停产减排、土石方拆迁和露天施工停工、中小学停课等

Increase emergency emission reduction measures, Including motor vehicle on-road limit based on odd or even numbers; key enterprises cut emissions, outdoor construction work stoppage, Schools closed, etc

- 加强区域应急联动

Strengthening regional emergency responses cooperated with other provinces

六大保障措施

6 safeguard measures

1.完善法规

Improve the legal rules

- 推动《北京市大气污染防治条例》出台，重点在污染物排放总量控制、区域限批、排污许可、排污交易、加大处罚力度等方面，制订严格的、可操作的规定，2014年初发布

Promoting the "Beijing Air Pollution Prevention Act" been approved, focus on pollutant emission control , regional restrictions , pollution permits , emissions trading , to increase penalties , etc. early 2014 release

2.加强科技创新

strengthen scientific and technological innovation

- 重点研究大气污染成因、源解析及治理技术、PM_{2.5}对人体健康的影响、空气质量中长期预报预警技术

Focus on the causes of air pollution , source apportionment and control technology

- 加快推广先进适用技术，包括交通节能减排、天然气低氮燃烧和烟气脱硝、挥发性有机物污染治理

Accelerate the promotion of advanced and applicable technologies, Including transportation energy conservation, low-NO_x combustion and flue gas denitrification, control of volatile organic compounds pollution

- 加强国际交流合作

Strengthen international exchanges and cooperation

3.创新经济政策

Innovation of environmental economic policies

发挥价格税费政策的约束作用

Promote the role of price and tax policies

- 按照“多使用、多付费，多排放、多负担”的原则，研究完善差别化、阶梯式的资源价格政策，加大惩罚性电价、水价的实施力度

Accordance with the “more use, more pay; more emission, more burden” principles, study and improve the differentiation, stepped resource pricing policy

- 2013年底前，调整二氧化硫、氮氧化物排污费标准，2014年起开征工地扬尘、餐饮油烟等排污费

2013, adjust the standard of sulfur dioxide, nitrogen oxides emission fee; 2014 to introduce of construction site dust, and restaurants cooking fume charges

- 落实区域差别化停车收费制度；研究车用油品排污费征收方案、城市低排放区交通拥堵费，引导降低城市中心地区车辆使用强度

Implementation of regionally differentiated parking fees system, research vehicle oil emission fee collection programs , urban congestion charges LEZ, guide vehicles intensity of urban centers decreased

- 推进全市供热价格统一，逐步实现同热同价

Promote the city's uniform heating prices , and gradually achieve the same heat in the same price

发挥市场手段的调节作用

Play a regulating role of market-based instruments

- 按照市场价格保障罐装液化气等供应，逐步实施同城同价

Guarantee the supply of bottled LPG in accordance with the market price, and gradually implement the same price in the whole city

- 研究完善采暖用电享受峰谷电价和地源热泵、太阳能利用等鼓励政策

Study and improve the TOU electricity heating and ground source heat pumps, solar energy and other incentives

- 研究推进排污权交易，推进绿色信贷和绿色证券，将企业环境信息纳入银行征信系统，对违法企业，严格限制企业贷款和上市融资

Promote emissions trading , green credit and securities, strictly limited public financing and loans to illegal pollution enterprises

发挥财政资金的引导作用

Play a guiding role of financial resources

- 加大财政投入，以奖励、补贴和贴息的形式，支持污染防治设施建设、老旧机动车淘汰、燃煤设施清洁能源改造等

In the form of subsidies and interest subsidies, support the construction of pollution control facilities , elimination of old vehicles , coal-fired facilities clean energy transformation

- 对能效、排污强度达到“领跑者”标准的企业，给予奖励

Reward enterprises which can achieve "leader" standard of energy efficiency and emissions intensity

- 对举报违法排污行为的人员予以奖励

The person report illegal sewage acts will be rewarded

4.加强组织领导

reinforce organizational support

- 市、区（县）政府成立主要领导任组长的大气污染综合治理领导小组
City, district governments to set up the leading group to manage air pollution

5.分解落实责任

assign responsibilities

- 本计划将逐年分解，向各区县下达分年度空气质量改善目标、任务
Gradually decompose the tasks, release of the annual air quality improvement goals , tasks to districts
- 各区县政府对辖区空气质量改善负责，制定实施方案，细化减排项目
District governments responsible for the area of air quality improvement
- 市有关部门对本行业、本领域的大气污染防治工作负责，加强行业管理，加强部门协作
City departments Strengthen sector management

6.严格考核问责

Strict supervision and evaluation

- 纳入区县政府绩效考核体系，考核结果向社会公告
Put into the county/district government performance appraisal system, examination results announced to the public
- 对于年度考核和终期考核不合格的区县政府，通报批评，对主要负责人实行约谈、诫勉谈话；环保区域限批，取消环境荣誉称号
For the annual assessment and final examination unqualified county government , criticized; Environmental regional restrictions to new projects

三大全民参与行动

3 Actions by all the people

1.企业自律的治污行动

Corporate self-regulatory reduction of pollution

- 引导企业加强自律，自觉遵守环保法规，确保污染物稳定达标排放
Guide enterprises to strengthen self-discipline, consciously abide by environmental regulations, Ensure stable discharge of pollutants reached standards
- 政府搭建平台，分类指导，鼓励企业引进先进治理技术
Government to build a platform , guidance and Encourage enterprises to introduce advanced control technology

1.工业企业

Industrial enterprises

2.建筑施工企业

Building and construction enterprises

3.运输企业

Transport enterprises

4.环卫企业

Road cleaning and sanitation enterprise

5.餐饮企业

Catering enterprises

6.其他服务业企业。包括商场、超市、宾馆、休闲度假场所等

Other services units, including shopping center, supermarket, hotel, etc

2.公众自觉的减污行动

The public abatement of pollution consciously

生活类污染逐渐成为空气污染的主要来源，公众参与与可持续消费愈发重要

Lifestyle pollution has become a major source of air pollution, the public participation and sustainable consumption increasingly important

- 倡导绿色消费。绿色饮食；绿色家居；绿色生活

Advocate green consumption . Green diet ; Green Home ; Green Living

- 鼓励绿色出行。公共交通、自行车和步行，“无车日”活动，停车熄火

Encourage green travel . Public transport , cycling and walking , "No Car Day " activities, parking stall

- 推进环保创建。学校学生的环境教育,环境友好型社区,生态文明村

Create model to promote environmental protection . Such as Green School, provide environmental education to students, Environmental-friendly communities, Ecological civilization village, etc

- 组织公益活动。培育和壮大环保志愿者队伍，发挥非政府组织、知名人士和志愿者队伍的积极性，组织系列环保公益活动,提高公众参与的有效性

Organize public activities, cultivate and strengthen environmental protection volunteers, promote the role of non-governmental organizations, celebrities and the enthusiasm of volunteers, improve the effectiveness of public participation

3.社会监督的防污行动

All the society take part in supervision and prevention of pollution

- 加强信息公开，定期公布各区县空气质量排名

Strengthen information disclosure, regularly publish districts air quality ranking

- 利用广播、电视、网络、报纸等各类媒体，及时发布空气质量、建设项目环评、执法处罚等信息，督促重点企业落实监测和信息公开等要求

Timely release of air quality, construction project EIA, law enforcement penalties and other information, through radio, television, Internet, newspapers, and other media

- 畅通监督渠道，完善12369、96310等热线电话管理，鼓励市民监督和举报污染行为

Smooth channels of supervision, improve the management of hotline 12369, 96310 etc., encourage the public to report pollution behaviors

- 鼓励媒体监督，坚持正确的舆论导向，客观、全面地报道本市大气污染防治进展、空气质量状况，宣传先进典型，跟踪报道污染问题

Encourage the media supervision, adhere to the correct guidance of public opinion, report objectively and comprehensively the progress in the city air pollution control and air quality status, promotion of advanced models, tracking reports pollution problems

谢谢 Thanks

