



结构调整助力大气污染防治

Structural Adjustment Supports the Air Pollution Prevention and Control in
Beijing

北京市生态环境局

Beijing Municipal Ecology and Environment Bureau

基本情况

Basic Information

华北地形图



行政面积：1.6万平方公里

人口：>2100万人；机动车保有量：>700万辆

经济总量：>4万亿元

半湿润半干旱气候；多年平均降水：500多mm

能源消费总量：约7000左右（万吨标煤）

- Administrative area: 16,000 square kilometers
- Population: more than 21 million
- Holdings of the motor vehicles: more than 7 million
- GDP: more than 4 trillion yuan
- Climate: semi humid and semi-arid
- Annual average precipitation: over 500 mm
- Total energy consumption: about 7,000 tons (10,000 tons of standard coal)

主要内容Outline

一

空气质量改善成效

Achievements of Air Quality Improvement

二

结构调整助力达标

Review the Work Carried Out

三

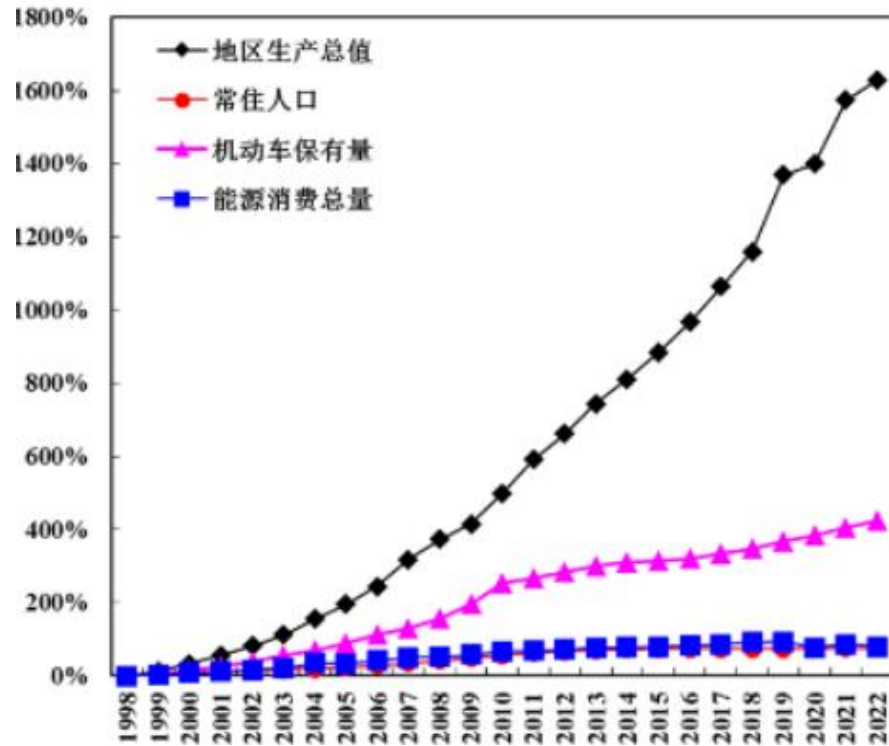
未来工作展望

Outlook in the Future

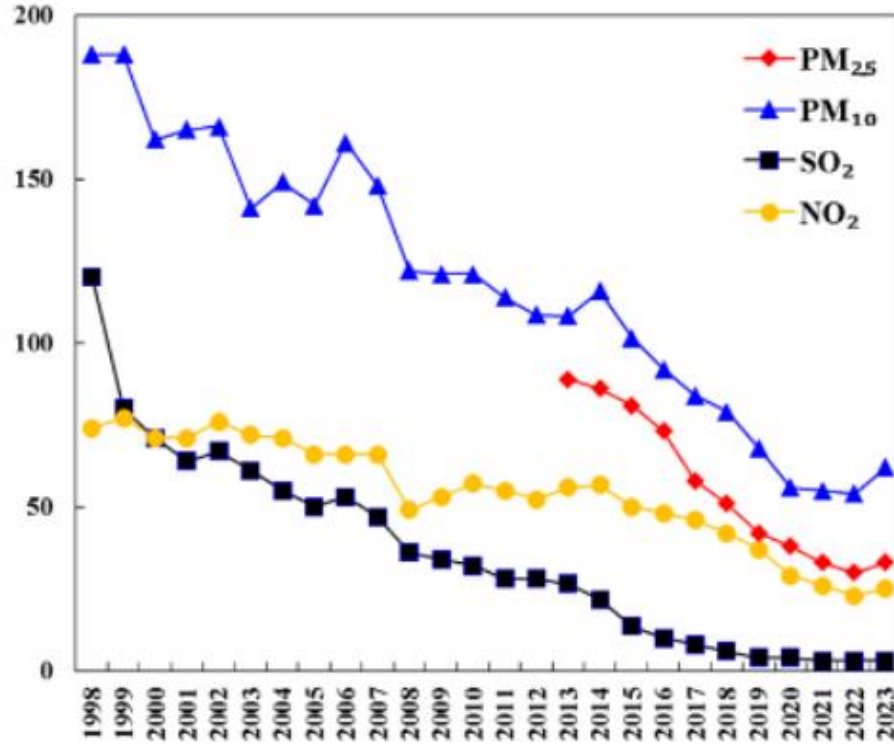
在经济社会快速发展的同时，实现空气质量明显改善

Air quality is significantly improved with the high-quality economic growth.

增长率



污染物浓度 (微克/立方米)



经济发展



环境向好

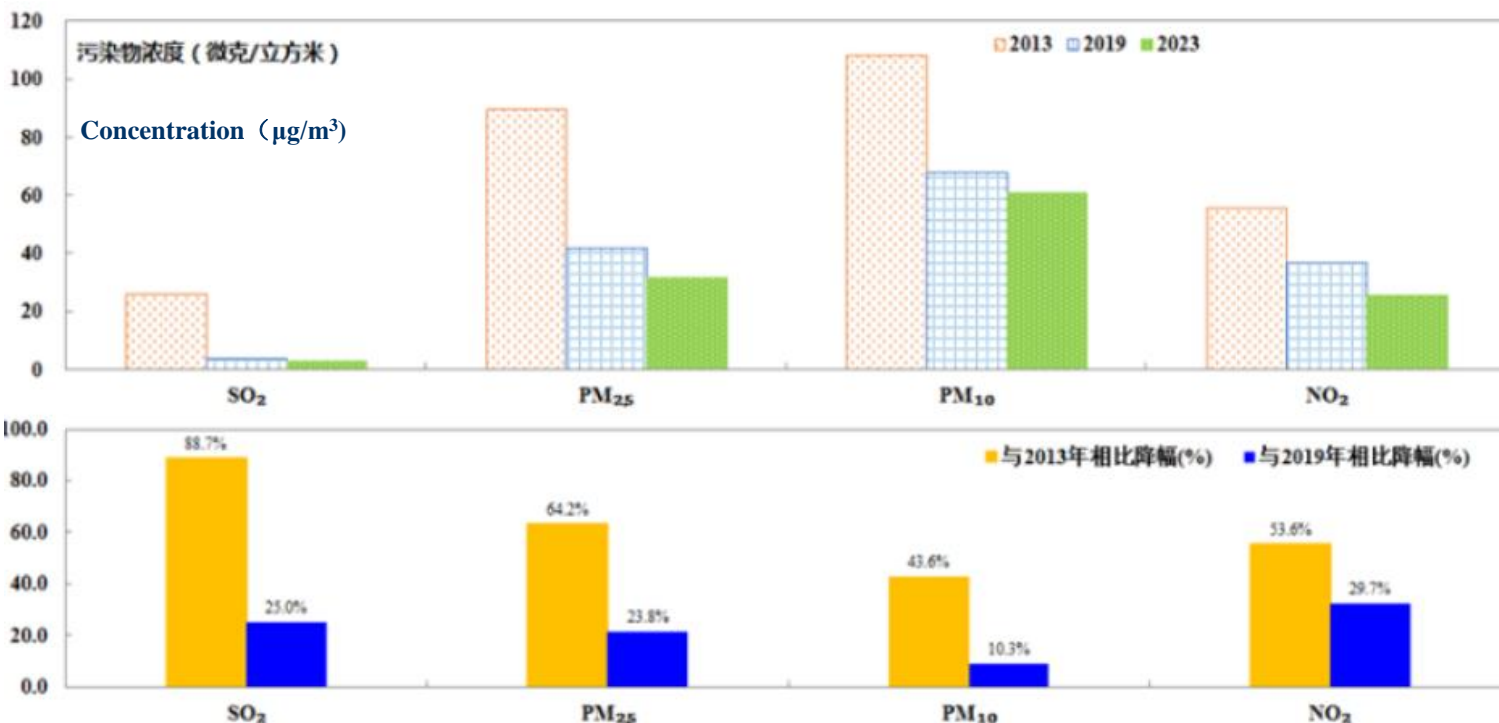
1998年以来，北京市在经济社会高质量发展的同时，空气中主要污染物浓度呈现持续改善。

Since 1998, the concentration of main pollutants has had a significant decline with the high-quality economic growth in Beijing.

污染物浓度快速下降

Concentrations of air pollutants has a significant decline.

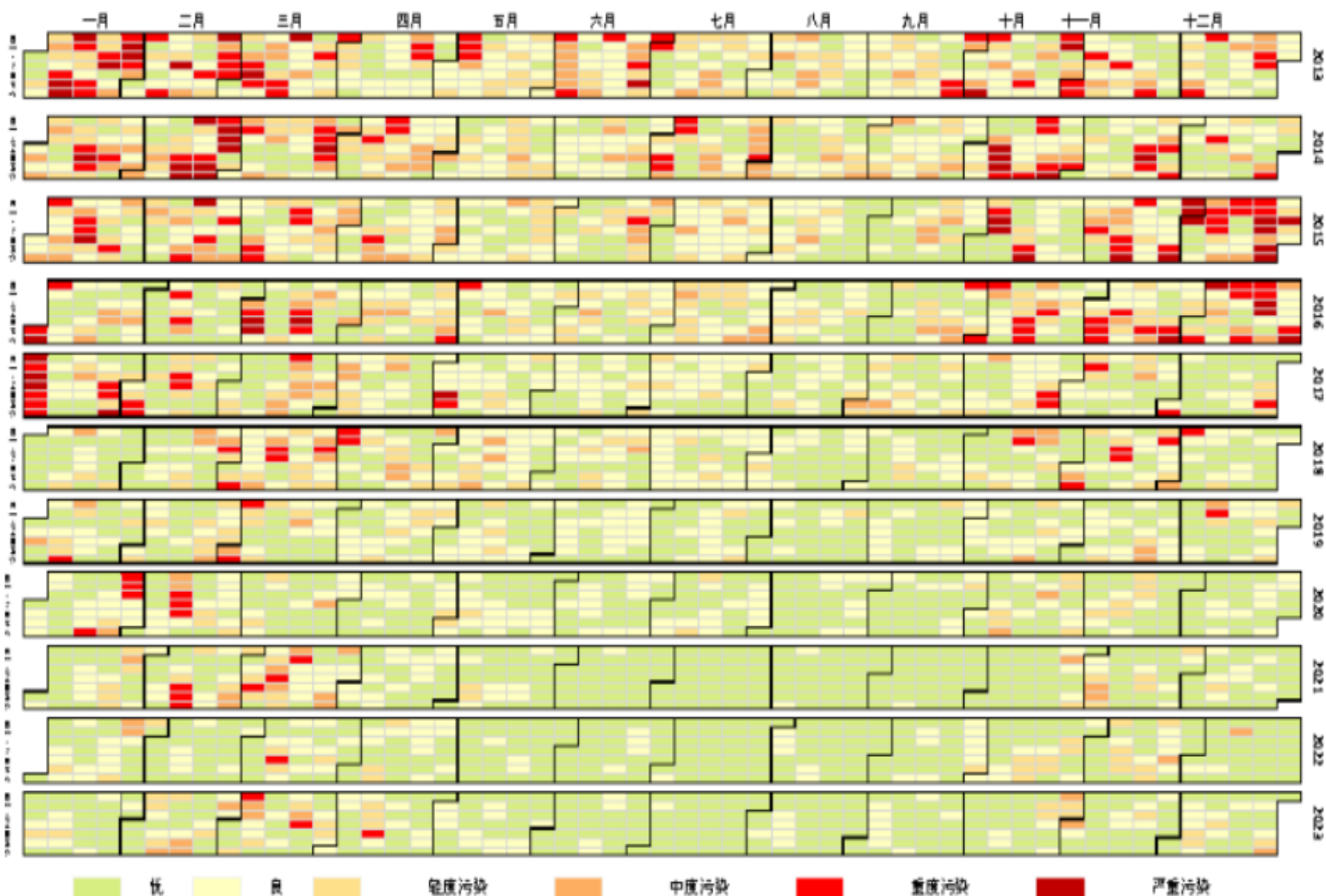
- 北京市大气环境中**主要污染物浓度实现了快速下降，空气质量全面大幅度改善**，2023年与2013年相比，PM_{2.5}、PM₁₀、NO₂、SO₂分别下降64.2%、43.6%、53.6%、88.7%
- 2023年，PM_{2.5}、PM₁₀、NO₂、SO₂年均浓度分别为32、61、26、3微克/立方米
- Concentrations of air pollutants has a significant decline. Compared with 2013, PM_{2.5}, PM₁₀, NO₂, SO₂ decreased by 64.2%, 43.6%, 53.6% and 88.7% respectively.
- In 2023, the annual average concentrations of air pollutants decreased significantly and the air quality was highly improved in Beijing.



春夏季PM_{2.5}重污染基本消除

Heavy PM_{2.5} pollution in spring and summer was mainly eliminated.

2013-2023年环境PM_{2.5}浓度水平日历



- 2013-2023年，PM_{2.5}污染状况得到显著缓解，春夏季基本消除重污染
- From 2013 to 2023, PM_{2.5} pollution was significantly alleviated, and heavy pollution was mainly eliminated.


新时代十年，北京市空气质量全面大幅改善，公众点赞

In the past decade of new era, the air quality of Beijing met an overall and significant improvement and the public praised “Beijing Blue”.



【入秋是北京，每个角落都在惊艳时光！】距离中国传统二十四节气的“白露”还有5天，北京最美的季节已经到来，色彩斑斓的秋！渐渐的，我们都习惯了北京的蓝天白云。但是这片蓝天，来之不易。让我们共同努力，守护我们头上这片美丽的天空。 [网页链接](#)



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09 MAR 2019 | PRESS RELEASE | AIR

Beijing air improvements provide model for other cities

Photo: Pixabay

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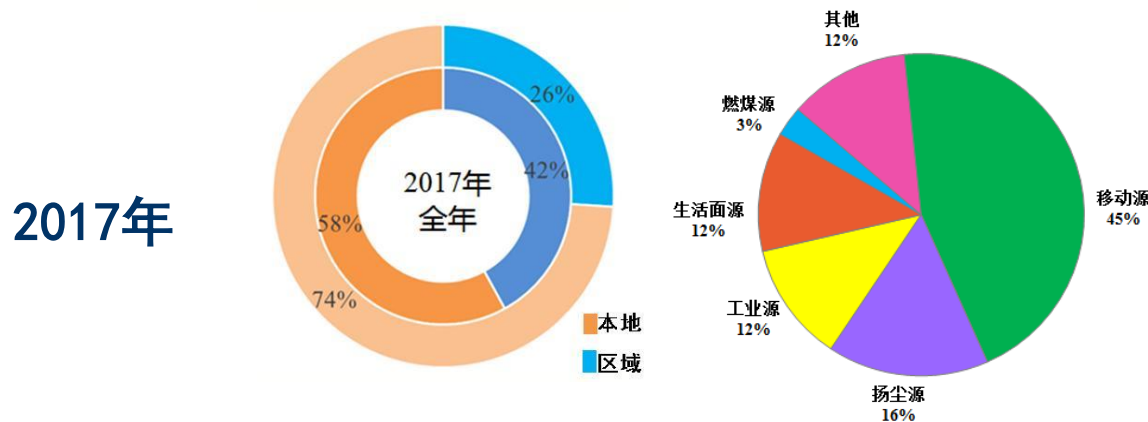
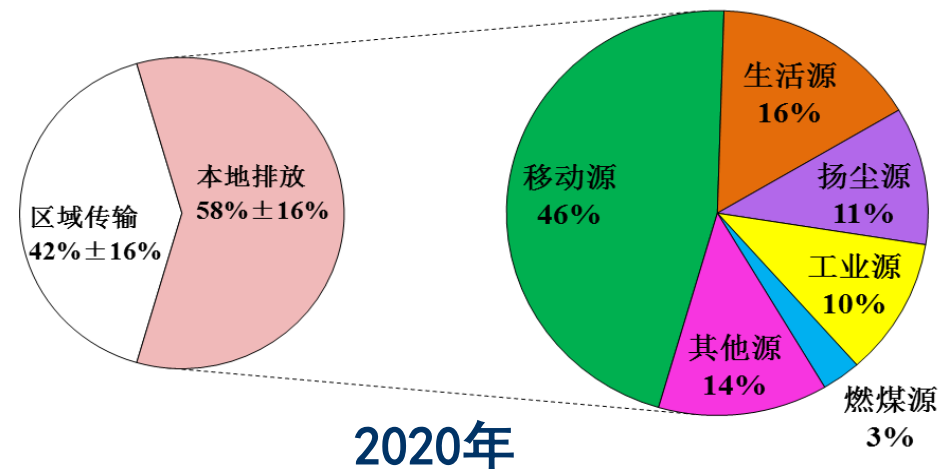
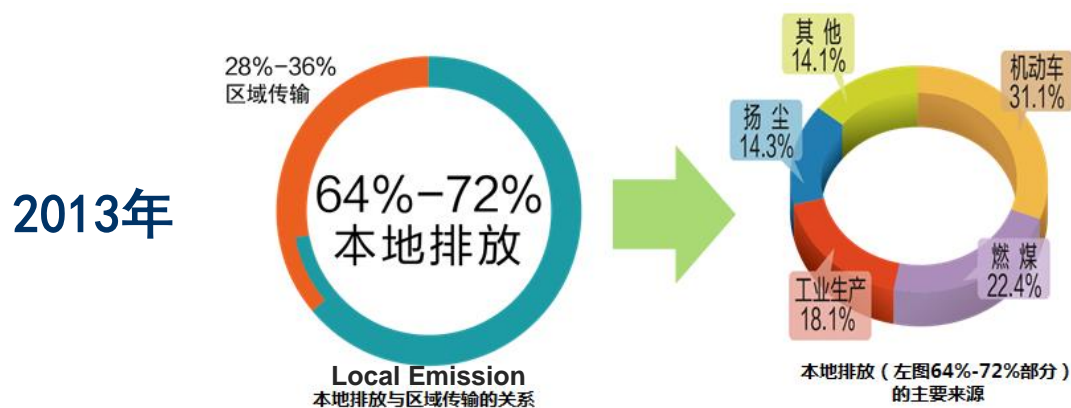
未来工作展望

Outlook in the Future

深化“一微克”行动：精准识别、科学监管

Deepen the "One Microgram" Action: Accurate Identification and Scientific Supervision

- 2013、2017、2020年，完成三轮PM_{2.5}来源解析，精准识别污染来源：**压煤+控车+治污+降尘**
- 现阶段本地排放占六成，其中移动源占比最大，生活源成为第二大源

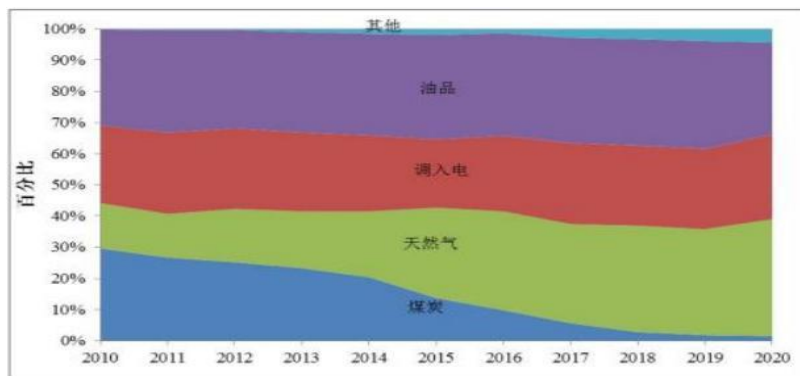


- Completed three rounds of PM_{2.5} source apportionment in 2013, 2017, and 2020, and took measures: coal reduction, vehicle control, pollution control, dust reduction.
- Local emission took 60%, in which vehicle was the primary source, and residential source ranked the second.

压减燃煤——优化能源结构

Coal Reduction--Optimized Energy Structure

- 全面实施各类用煤设施电力、天然气等清洁能源替代, 全市电厂、锅炉房、工业和居民采暖用煤总量大幅压减, 平原地区基本实现了无煤化
- 开展农村“减煤换煤清洁空气”专项行动,到2023年底,93%村庄、96%村庄住户实现清洁取暖
- 能源绿色低碳转型成效显著, 优质能源消费比重达到**98%**以上
- Implemented the substitution of clean energy such as electricity and natural gas for various coal facilities. The total amount of coal used for power plants, boiler rooms, industrial and residential heating in the city has significantly decreased. The plain areas have basically achieved coal-free transformation.
- Carried out the action of "Reducing Coal for Clean Air" in rural areas. Till the end of 2023, 93% of villages have had clean heating.
- Significant achievements have been made in the green and low-carbon transformation of energy, with the proportion of high-quality energy consumption reaching over **98%**.



2010-2020年一次能源消费结构变化



控车减油——优化交通结构

Control of Vehicles and Fuel--Optimized Transportation Structure

- 调整出行结构
 - 慢行优先、公交优先、绿色优先，大力发展公共交通，轨道交通运营总里程超过1200km，中心城区绿色出行比例**超70%以上**
 - 搭建绿色出行一体化服务平台(北京MaaS平台)，整合地铁、地面公交、步行、骑行、自驾、网约车等方式，向公众提供全流程、一站式出行服务，推出绿色出行碳普惠激励措施
- Adjusted travel structure
 - Carried out the priority of slow traffic, public transportation, and green transportation. The total operating mileage of rail transit exceeds 1,200 kilometers, and the proportion of green transportation in the central urban area exceeds **70%**.
 - Built up Beijing MaaS platform, integrating subways, buses, walking, cycling, self driving, ride hailing and other modes of transportation. Provided the public with a full process, one-stop travel service, and launched green travel with carbon incentive measures.



控车减油——优化交通结构

Control of Vehicles and Fuel--Optimized Transportation Structure

- 调整运输结构

- 市内货运：积极鼓励纯电动等新能源货车优先通行。利用地铁非高峰时段富余运力运输快递
- 城际货运：充分发挥铁路在大宗货物中长距离运输中的骨干作用，持续推动“铁路+新能源汽车”的全链路绿色运输模式

- Adjusted transportation structure

- Urban freight: encouraged the priority passage of new energy trucks . Utilized subways to transport express delivery during off-peak hours.
- Intercity freight: fully leveraged the backbone role of railways in long-distance transportation of bulk goods , and continued to promote the green transportation model "railways and new energy vehicles".



控车减油——优化交通结构

Control of Vehicles and Fuel--Optimized Transportation Structure

- 调整车辆结构
 - 不断严格车辆排放标准，先后6次提高新车排放标准
 - 持续推动老旧车淘汰，“十三五”期间共计淘汰老旧机动车100万余辆。同时，鼓励更新车辆为纯电动等新能源车，已累计推广70余万辆新能源车
 - 提高车用油品标准质量，降低油品中硫含量，加严汽油烯烃、芳烃和馏程限值，以及柴油多环芳烃、馏程限值
 - 本市车辆结构持续优化，国五及以上汽车占比已**超过75%**
- Adjust vehicle structure
 - Raised the new car emission standards 6 times in a row.
 - Continuously promoted the elimination of old cars. Over 1 million old vehicles were eliminated during the 13th Five Year Plan period. At the same time, we encouraged the renewal of vehicles to electric and other new energy vehicles, and have promoted more than 700,000 new energy vehicles in total.
 - Improve the quality standards of fuel, reduce sulfur content, gasoline olefins, aromatics, and distillation range, as well as the range limits of diesel polycyclic aromatic hydrocarbons and distillation.
 - The vehicle structure continues to be optimized, and vehicles above the national fifth standards has exceeded **75%**.



电动公交车



电动物流车



电动出租车



充电桩

治污减排——优化产业结构

Pollution Treatment and Emission Reduction--Optimized Industrial Structure

- 控新增

禁止新增高投入、高能耗、高污染、低效益产业

- 促淘汰

淘汰退出不符合首都功能定位的一般制造业和污染企业，分类处置“散乱污”企业，坚持减量绿色发展，淘汰高污染高耗能产业，发展高新技术产业

- Control addition

Prohibited new industries with high investment, high energy consumption, high pollution, and low efficiency.

- Encourage elimination

Eliminated manufacturing and polluting enterprises that do not meet the functional positioning of the capital city. Classified and disposed of unqualified enterprises and adhered to green development. Eliminated high pollution and high energy consuming industries, and develop high-tech industries.

北京市产业地图
BEIJING INDUSTRIAL MAP

首页

总体布局

区域布局

行业导引

请输入政策名称



为帮助企业系统了解北京市产业结构和产业布局，快速获取产业政策，我们组织了专家团队和企业、服务企业和项目精准布局，我们组织了北京市产业地图，并持续更新政策和数据，持续优化功能，提高企业服务水平，擦亮“北京服务”品牌，为首都高质量发展提供有力支撑。

北京市产业政策导引

- 1 高精尖产业篇 >
- 2 现代服务业篇 >
- 3 两业融合篇 >
- 4 现代基础设施篇 >
- 5 现代农业篇 >



治污减排——优化产业结构

Pollution Treatment and Emission Reduction--Optimized Industrial Structure

● 强治理

- 率先实施燃气锅炉低氮改造，NO_x排放下降**50%**
- 对工业污染源全部采取了脱硫、脱销、除尘、挥发性有机物治理等措施，实施200多项“环保技改”工程，减排VOCs
- 落实北京市《餐饮业大气污染物排放标准》，推动重点餐饮企业改造
- 第一、第二产业比重下降，第三产业比重增加，全年服务业增加值占全市地区生产总值的比重保持在八成以上，结构进一步优化

● Enhanced governance :

- Implemented the low-nitrogen transformation of gas-fired boilers, reducing NO_x emissions by **50%** .
- Took measures for all industrial sources, such as, desulfurization, sales reduction, dust removal, and VOC management. Implemented more than 200 projects of “Environmental Protection Technical Transformation” .
- Implemented the “Beijing Municipal Emission Standards for Air Pollutants from the Catering Industry” and promoted the transformation of key catering enterprises.
- The proportion of the primary and secondary industries decreased, while the proportion of the tertiary industry increased above 80% with further improved structure.

区域协同发展

Regional Coordination

- 建立机制：健全完善区域大气污染联防联控等10余项协同工作机制
- 能源结构协同：区域内清洁能源供应能力显著增强。截至2022年底，三地可再生能源发电装机较2020年增长50%以上
- 交通结构协同：货运多式联运快速发展，大力发展平谷公转铁物流枢纽，在公铁联运基础上，深化与天津港、唐山港合作联动，开通海铁联运班列
- 产业结构协同：三地坚持资源互配、优势互补，创建国家新型工业化产业示范基地，获批首批国家燃料电池汽车示范城市群
- Establish and improve more than 10 collaborative work mechanisms.
- Energy structure : The clean energy has significantly increased. Till the end of 2022, the installed capacity of renewable energy generation in the three regions has increased by more than 50% compared to 2020.
- Transportation Structure: multimodal freight transport is rapidly developed. Based on Pinggu's public-to-rail logistics hub, the cooperation and linkage with Tianjin Port and Tangshan Port is deepened. Sea rail intermodal freight trains are also opened.
- Industrial structure : The three areas adhere to resource allocation and complementary advantages. National demonstration base for new industrialization industry is built up. These areas become the first batch of national fuel-cell vehicle demonstration city clusters.

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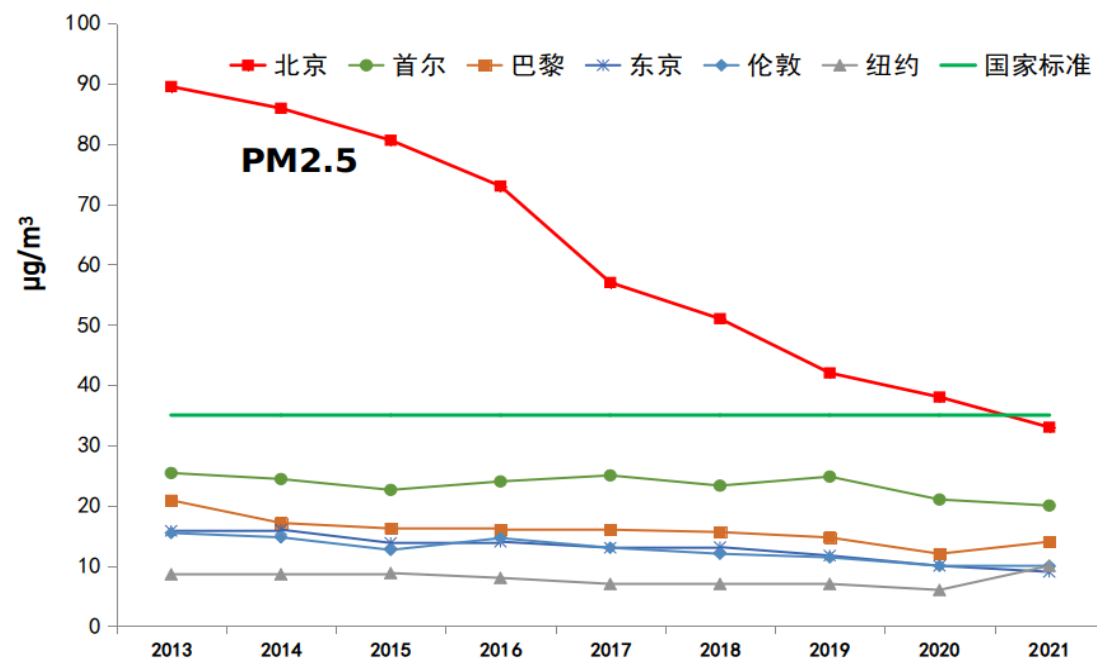
未来工作展望

Outlook in the Future

北京空气质量改善到了爬坡过坎的关键阶段

Beijing's air quality has improved to a critical stage of climbing and crossing obstacles

- 经过长期治理，本市空气质量明显改善，但与**世界卫生组织标准、发达国家大城市、美丽北京建设目标、人民群众对优质生态环境的向往**相比，还存在一定差距。
- 当前大气污染防治工作呈现出**“转段期”**污染特征，减排空间越来越小，大气污染治理**长期性、复杂性和艰巨性**，持续攻坚克难，久久为功。
- Beijing has achieved remarkable results in air pollution control, however there is still a gap compared with WHO standard, other cities of developed countries, the goal of Beautiful Beijing and citizens' higher expectations.
- At present, the air pollution control has entered a “Transition period”, the space for emission reduction is getting smaller and smaller. It is necessary to scientifically understand the long-term, complexity and arduous nature of air pollution control, continue to overcome difficulties, and further strengthen the work.



2013-2021年北京与发达国家大城市PM_{2.5}浓度变化对比

下一步工作

Following work

● 工作思路

深入学习贯彻习近平生态文明思想，以改善空气质量为核心目标，以资源环境承载能力为硬约束，坚持减污降碳协同增效，更加突出精准、科学、依法治污，深入推进“一微克”行动，以生态环境高水平保护助推经济社会高质量发展。

● Work ideas

Keep learning and implementing Xi's concept of ecological civilization. With the core goal of improving air quality, based on the capacity of resource and environmental, we will adhere to the synergistic effect of pollution reduction and carbon reduction. We will develop accurate, scientific, and lawful pollution control and enhance the "One Microgram" action, to promote high-quality economic and social development.

● 重点任务

- 坚持统筹部署。持续深入打好蓝天保卫战
- 坚持系统保护。对标“十四五”生态环境保护规划目标，推动重点任务落实落细落地
- 坚持协同推进。协同推进降碳、减污、扩绿、增长，进一步推进京津冀生态环境协同走深走实
- 坚持创新引领。鼓励先行先试，发挥示范带动作用

● Key tasks

- Persist in planning and deployment. Continuously deepen the battle to defend the blue sky.
- Adhere to system protection. Promote the implementation and refinement of key tasks according to 14th Five Year Plan.
- Persist in collaborative promotion to enhance carbon reduction, pollution reduction, green expansion, and growth.
- Adhere to innovation leadership. Encourage enterprises to play a demonstrative and driving role.

Thanks for Your Attention

