



DIESEL POLLUTION CONTROL IN BEIJING

AIR POLLUTION IN ASIA AND THE PACIFIC:
SCIENCE-BASED SOLUTIONS

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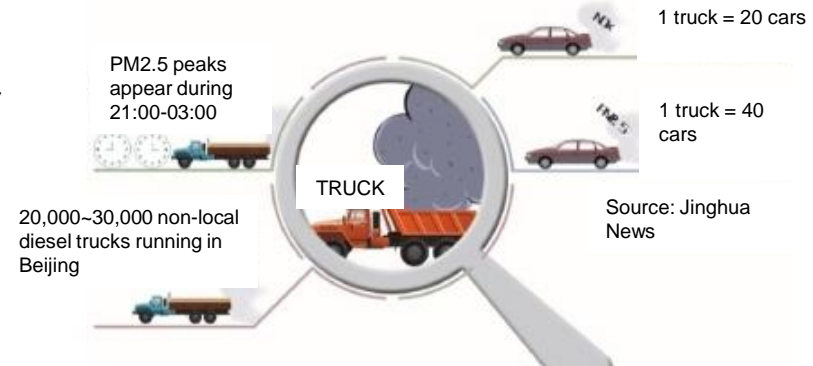
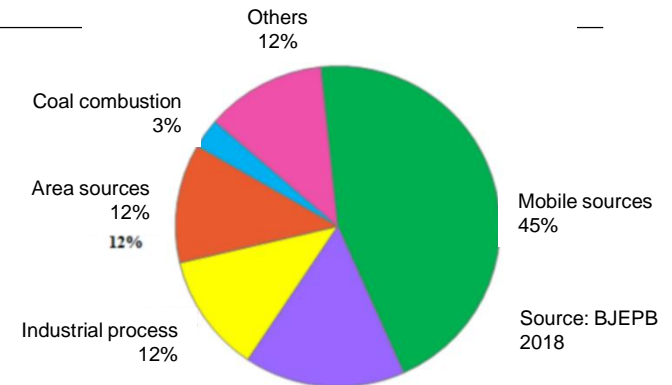
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DIESEL VEHICLE: The Key Source of Air Pollution in Beijing

- I. Beijing has the highest vehicles population among Chinese megacities and the number reached **5.9 million** in 2017 (Beijing Statistics Bureau, 2017)
- II. Vehicle emission became the major local source of PM2.5, contributed NOx, HC and PM2.5 total emission 45%、20% and 31% respectively (Beijing EPB, 2017).
- III. 250,000 diesel vehicles (**ONLY 4%**) , contributed **NOx**, and **PM2.5** total vehicle emission **69%** and **90%** respectively.
- IV. Non-local diesel trucks are worse.

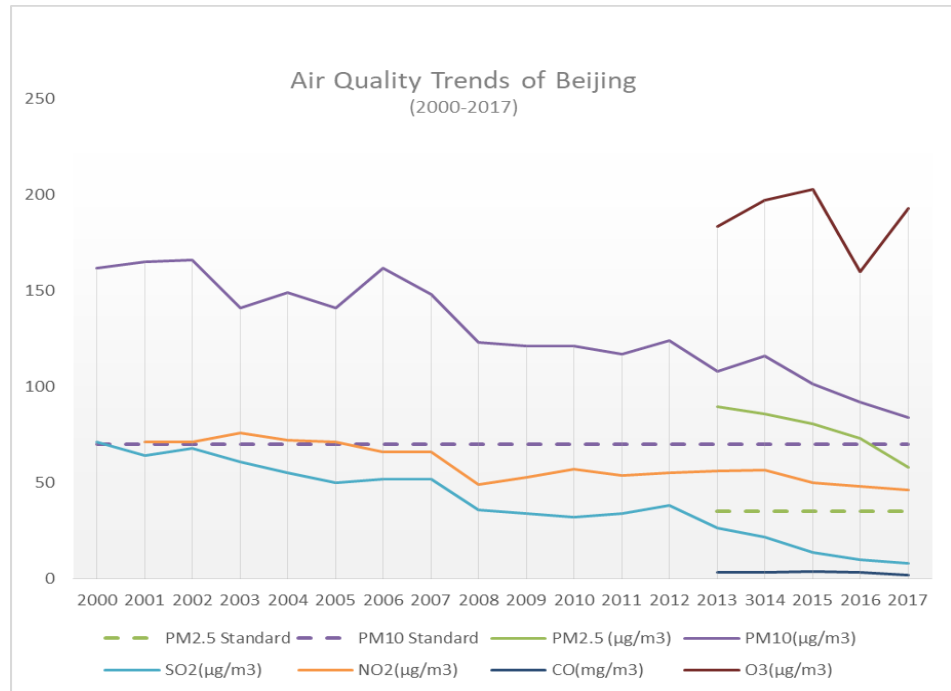


WHAT WAS DONE & OUTCOME

- I. **Upgraded emission standards and fuel quality:** National V emission standards in 2015; National VI fuel quality standards in 2017, results in NOx and PM reduction 4.6% and 9.1% respectively.
- II. **Phased out yellow-label and obsolete diesel vehicles** trucks through providing subsidies and banning policy in urban areas (2017: trucks with standards lower than National III).
- III. **End-of-pipe control**, installed **DPF on 3600 buses** and sanitation trucks etc. in 2016, and **retrofitted 8820 buses** (National IV and V) in 2015 and reduced 2800 tons of NOx per year.
- IV. Strengthened **enforcement** through installing **OBD** on new trucks, frequent **inspection** focusing on non-local trucks (more than 1 million times in 2017) and adopting **remote sensing** system.

AIR QUALITY IMPROVEMENT

The air pollution level of Beijing have been decreasing because of implementation of a series of control measures, the annual mean of **PM2.5** concentration decreased **35.6%** in 5 years, and reached $58\mu\text{g}/\text{m}^3$ in 2017.



Source: China Statistics Bureau and Beijing Environmental Protection Bureau, compiled by author, 2018

SUCCESSFUL FACTORS & OPPORTUNITIES

- I. Implementing **more stringent** local standards and accelerating the upgrading process
- II. **Fuel quality standards** in consistence with emission standards
- III. **Joint enforcement** in the Beijing-Tianjin-Hebei region through unified standards and information sharing system
- IV. Effective **incentives** to make change, including subsidies, banning regulations and penalties
- V. Adopting advanced **technologies** including end-of-pipe abatement techs and monitoring tools
- VI. **Political willingness of authority**

Experiences and lessons learned to be shared with the region: through publications and trainings



Thank You

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