



Current Work on Integrated Assessment Modeling in China and Future Collaborations

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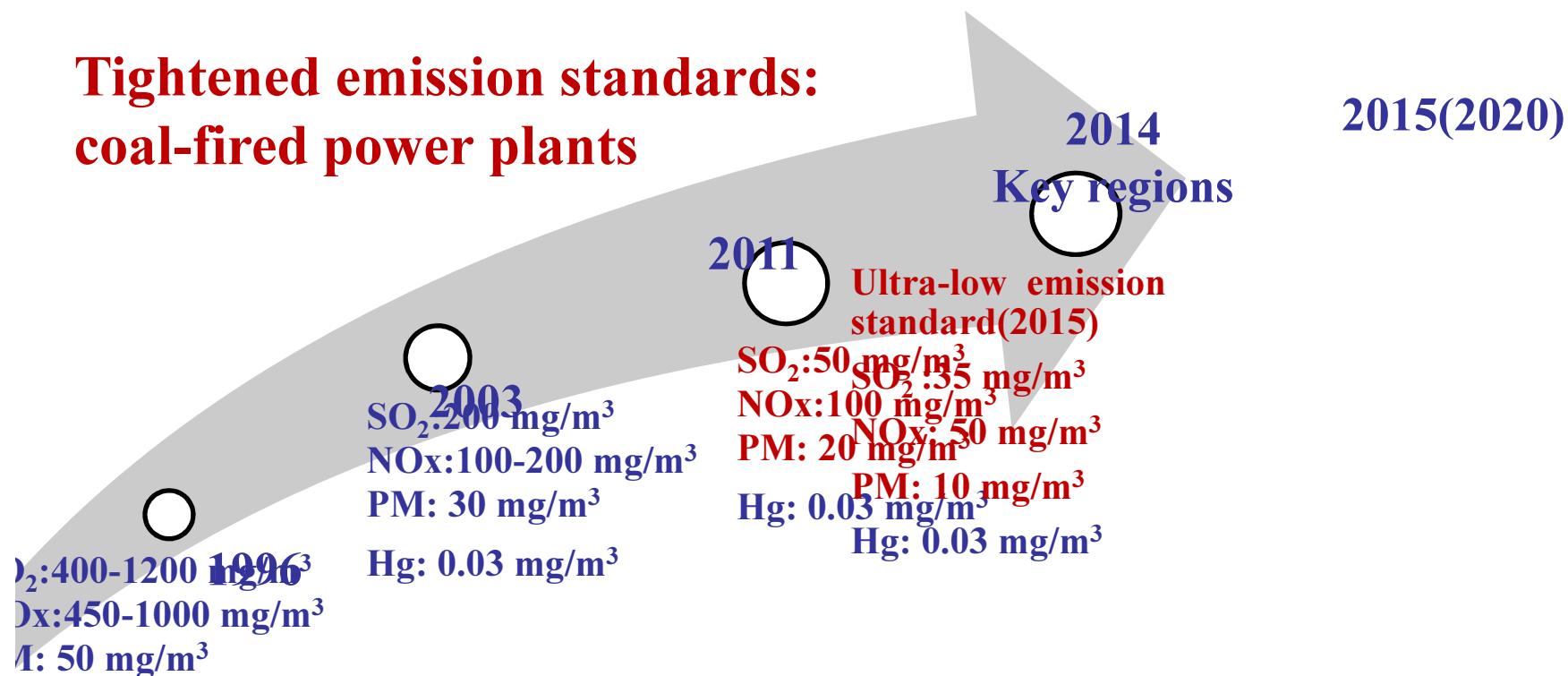
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Outline

- **Recent control measures and emission trends**
- **Projection of air pollutants emissions**
- **Quantification of health effects**
- **Perspectives on future IAM collaborations**

Evolution of emission standards

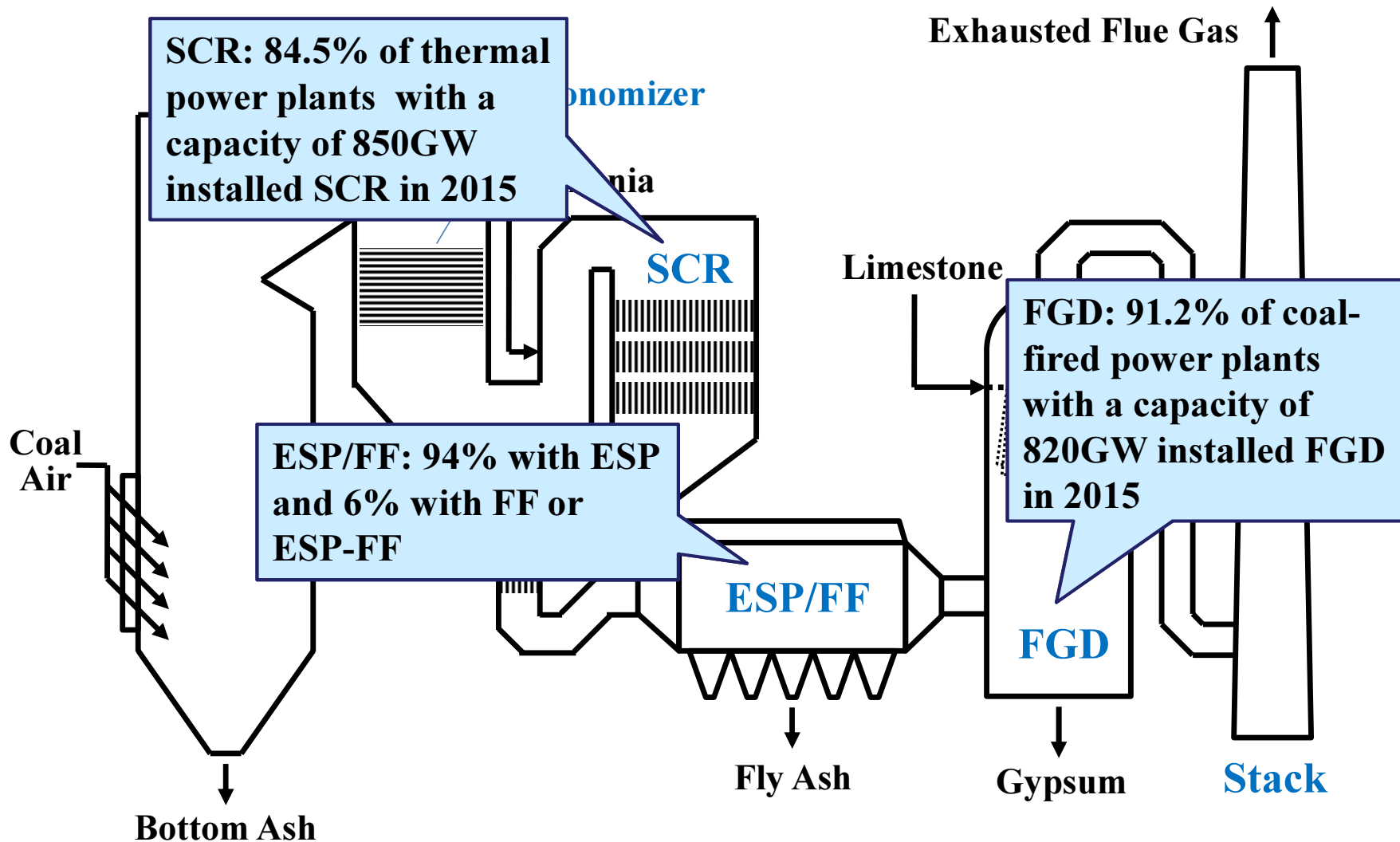
Tightened emission standards: coal-fired power plants



Emission standard of air pollutants for boilers

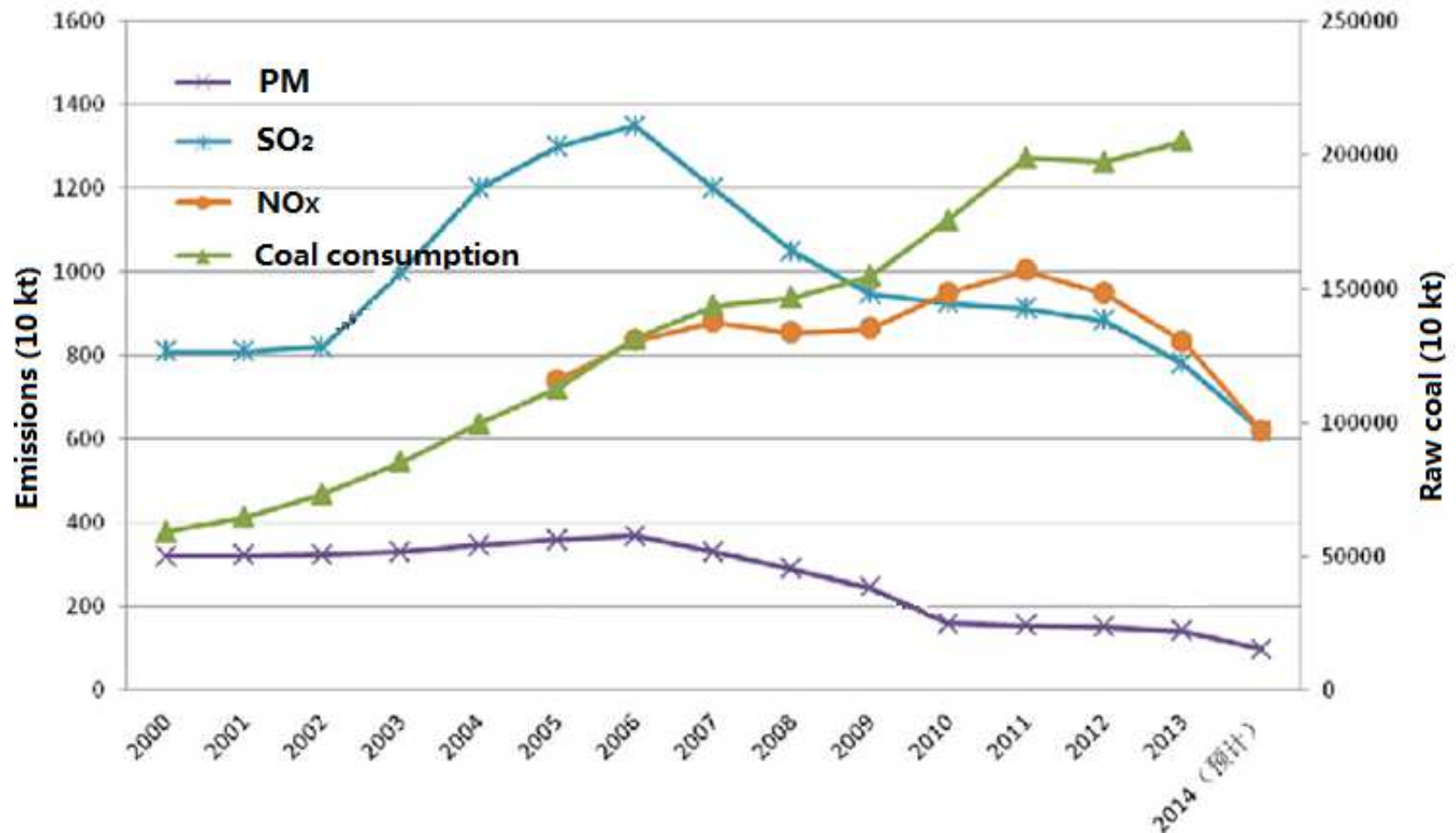
2001	2014
SO ₂ : 900 mg/m ³	SO ₂ : 400 mg/m ³
NO _x : No limit	NO _x : 400 mg/m ³
PM: 80-250 mg/m ³	PM: 80 mg/m ³
Hg: No limit	Hg: 0.05 mg/m ³

Application of air pollution control devices



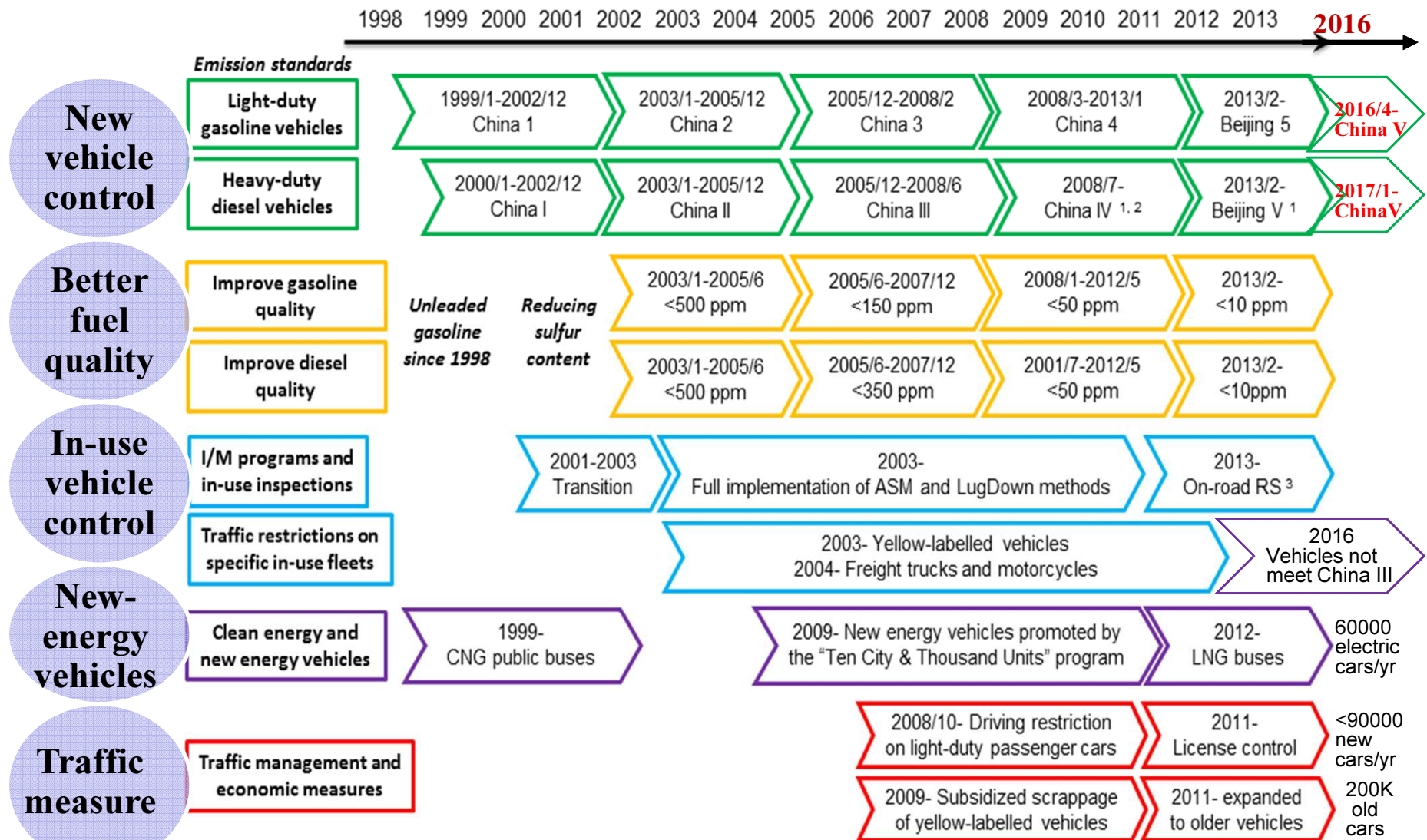
Reduction of emissions from power plants

Although coal consumption increased 60%, the emissions of PM, SO₂, and NO_x in 2015 were 9%, 15%, and 22% of that in 2006.



Coal consumption and air pollutant emissions from thermal power plants

Evolution of vehicle emission control



¹ only implemented for public fleets; ² for freight trucks and long-distance coaches, they complied with the China IV emission standard from July 2013 as required by the Ministry of Environmental Protection; ³ remote sensing test

Trends of air pollutant emissions from vehicles

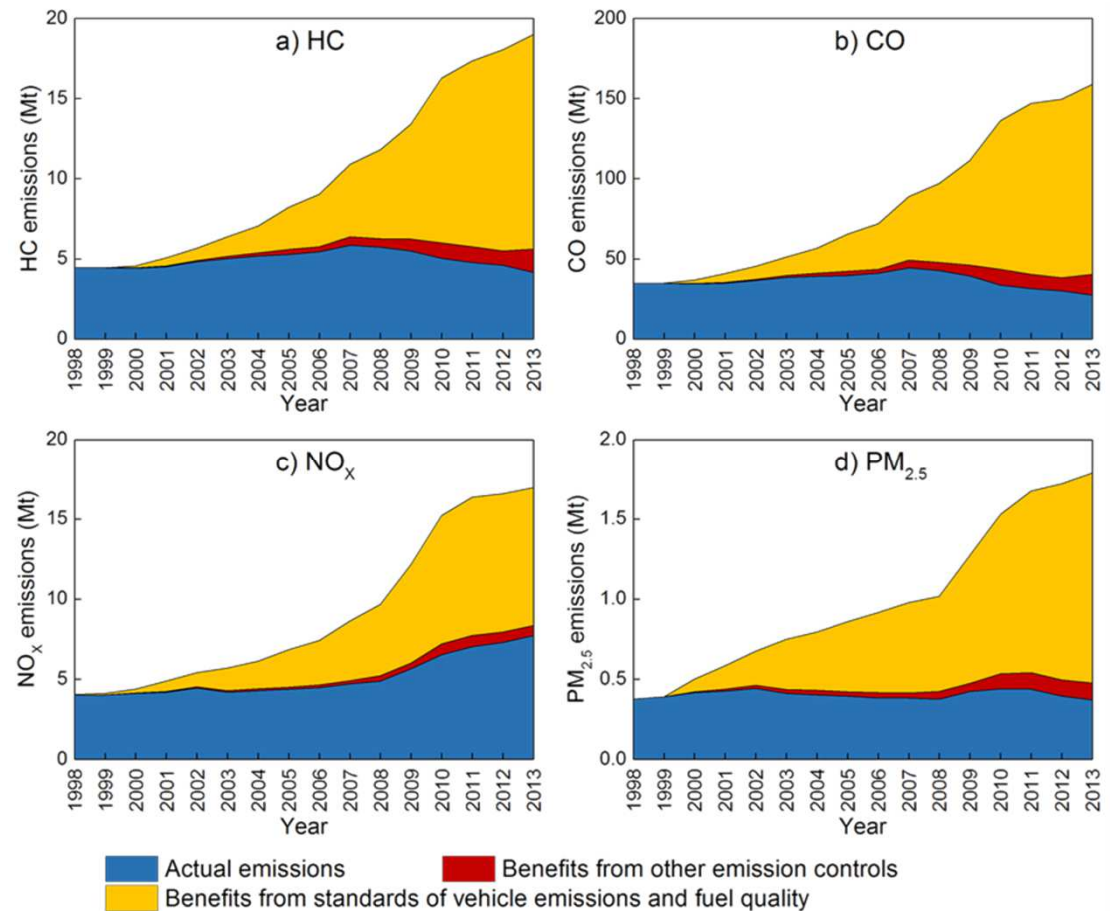
Although vehicle population increased by over 5 times in the past 15 years, the national vehicle emissions started to decline:

HC and CO: peak in 2007

PM_{2.5}: peak in 2010-2011

NO_x: peak in 2013

Vehicle-related emissions in Beijing started to decline much earlier than the national level: peak in 2000-2002.





Regional air pollution control policies

- National emission control target for both SO₂ and NO_x
- 12th FYP on air pollution control for key regions
- Implementation of NAQQS, including PM_{2.5}
- Air Pollution Prevention and Control Action Plan
- Air Pollution Prevention and Control Law

