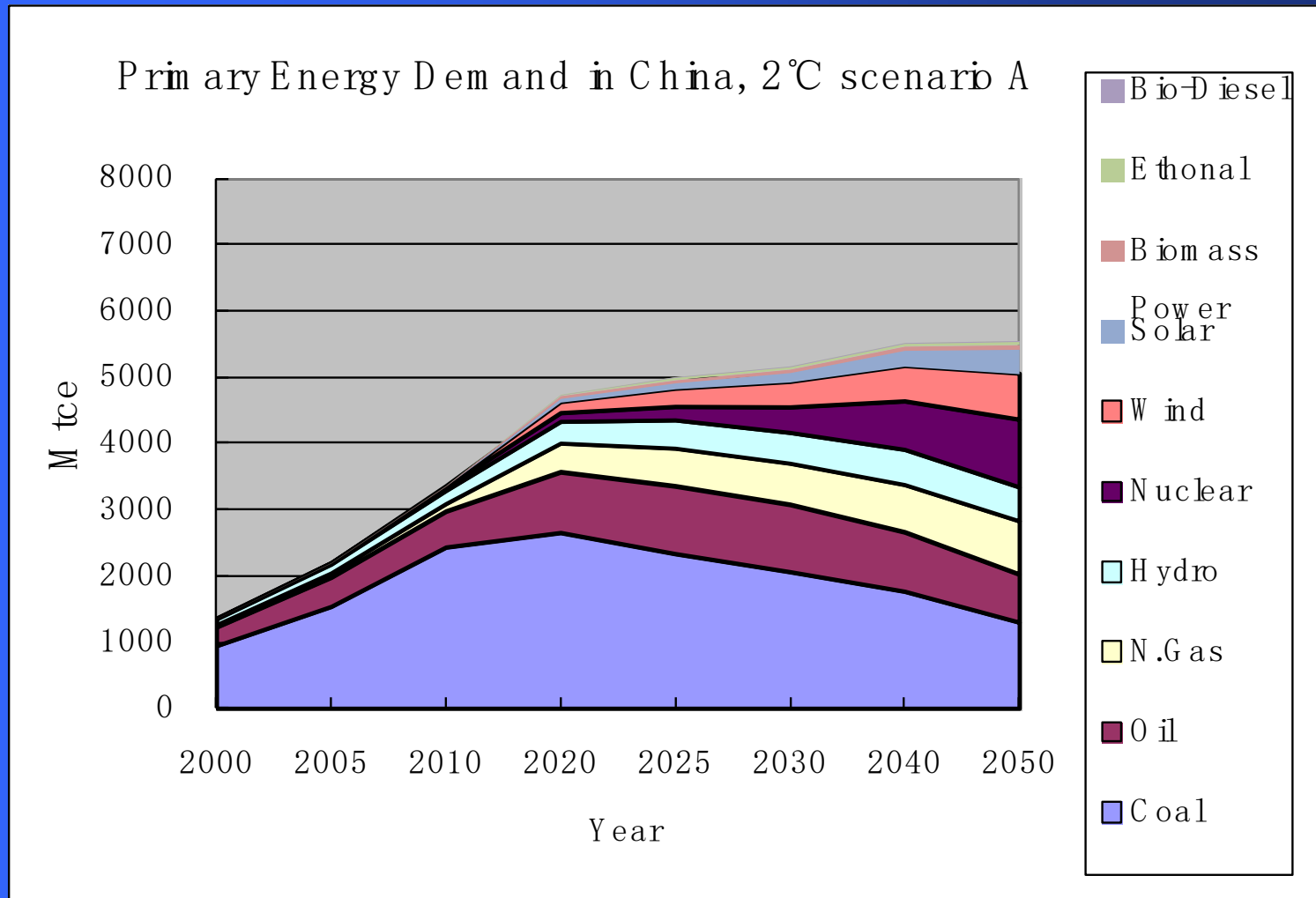


Energy Transition in China Toward to 2050

Jiang Kejun

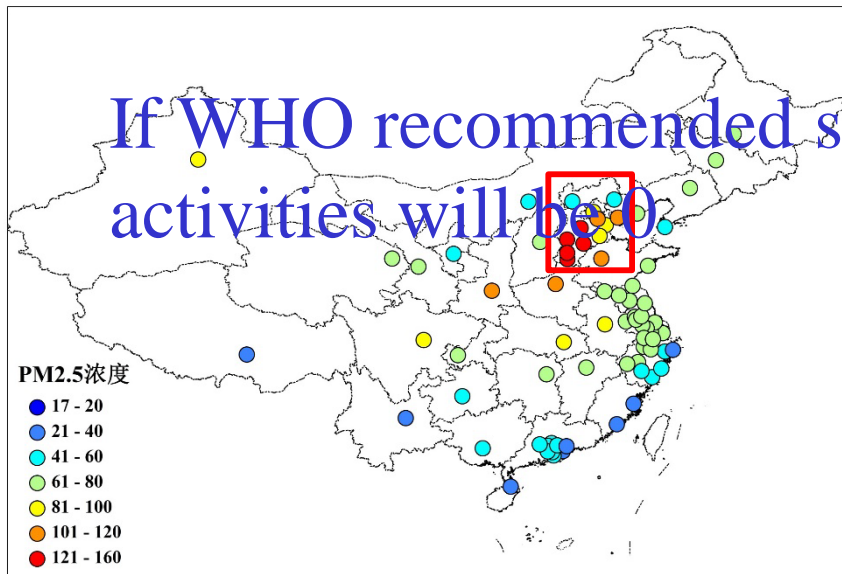
Energy Research Institute, China

We Need Rapid Transition : Put that into 13th Five Year Plan Primary Energy Demand

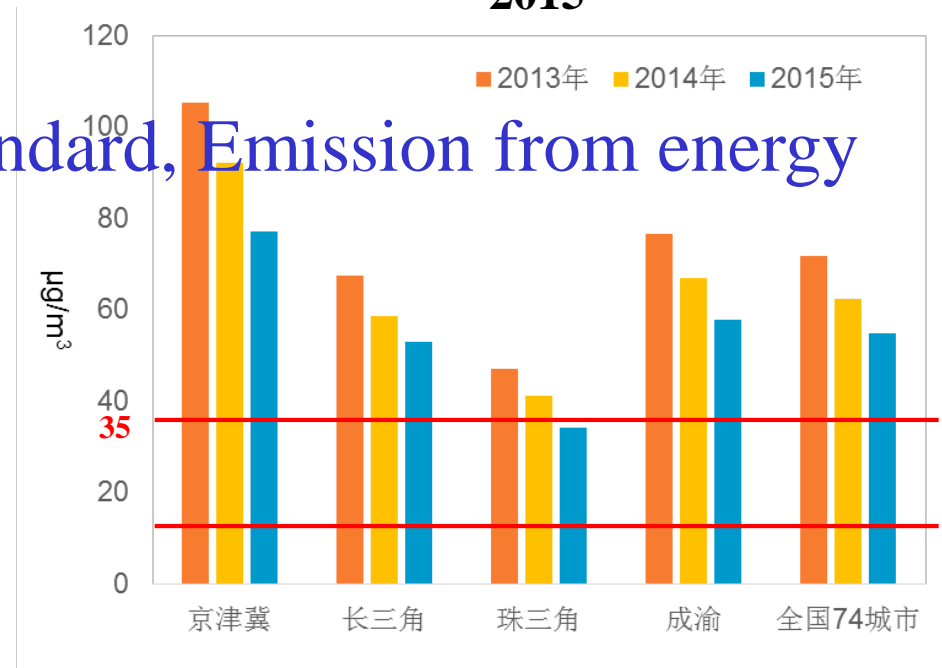


PM_{2.5} Concentration is much higher than standard

PM2.5 concentration of 74 cities in 2013



PM2.5 annual concentration from 2013-2015



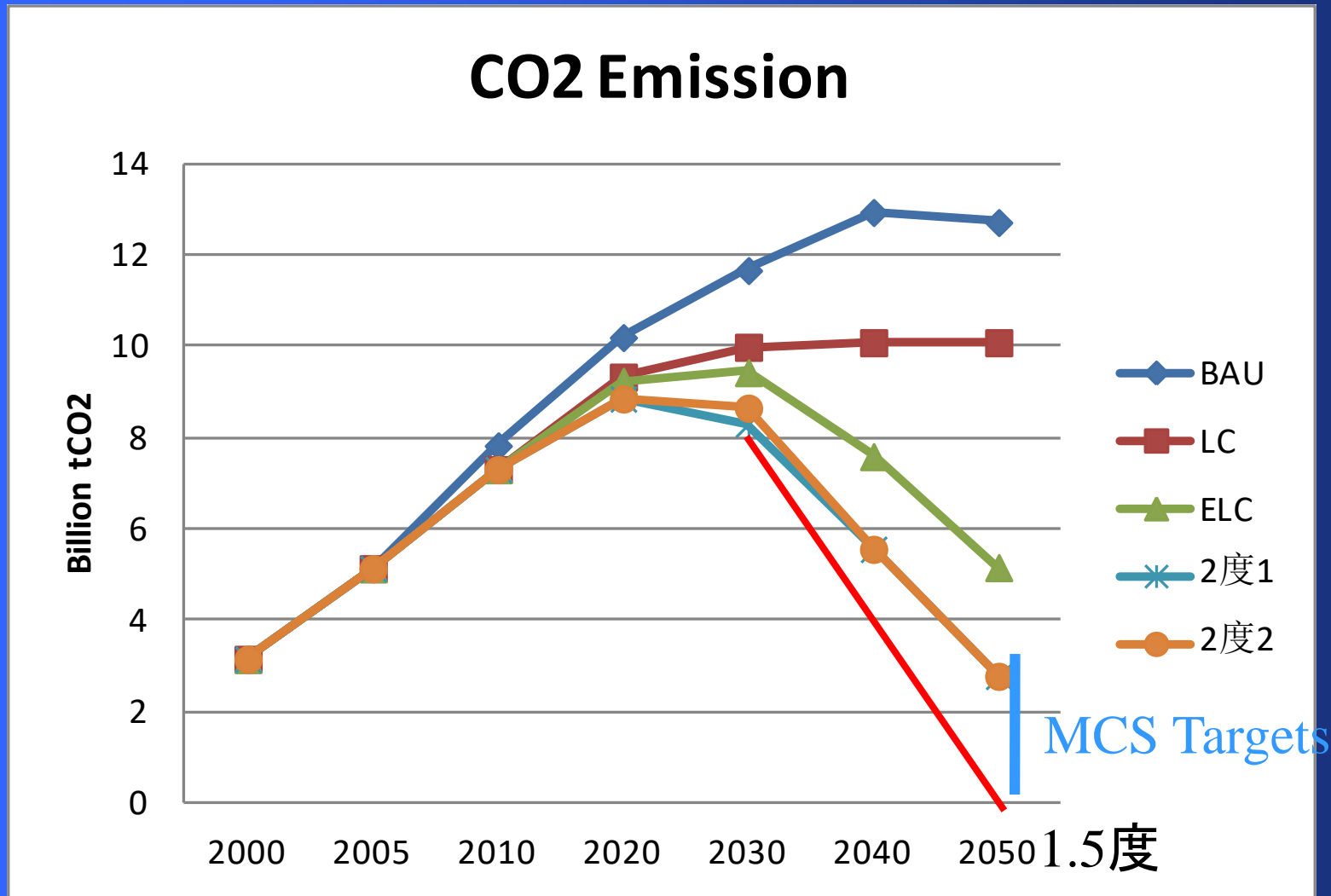
- 2013年京津冀地区所有城市PM_{2.5}年均浓度均超标，区域内PM_{2.5}年平均浓度达106µg/m³，虽2014、2015年空气质量有所改善，但仍大幅超过国家空气质量二级标准。



SUSTAINABLE DEVELOPMENT GOALS



China's MCS: a proposal



Policy roadmap toward to the targets

- Targets setting: 2°C for sure, make effort for 1.5 °C
- Policy design: no loser policies
- Policies in today: strongest, maybe weak in future
- Technology progress will play key-key role
- Need strong climate change strategy to set up long term targets for 2°C and 1.5 °C

No Loser Policies

- Purpose: help sectors which are negative impacted to quit without damages
- Increase subsidy to coal related sectors
- Coal phasing out with the subsidy: increase electricity price from coal fired power plants, make sure to get their investment pay back.
- Policies to support unemployment from these sectors
- Subsidy comes from government budget, and additional charge from power sector

Today's policy: already very strong

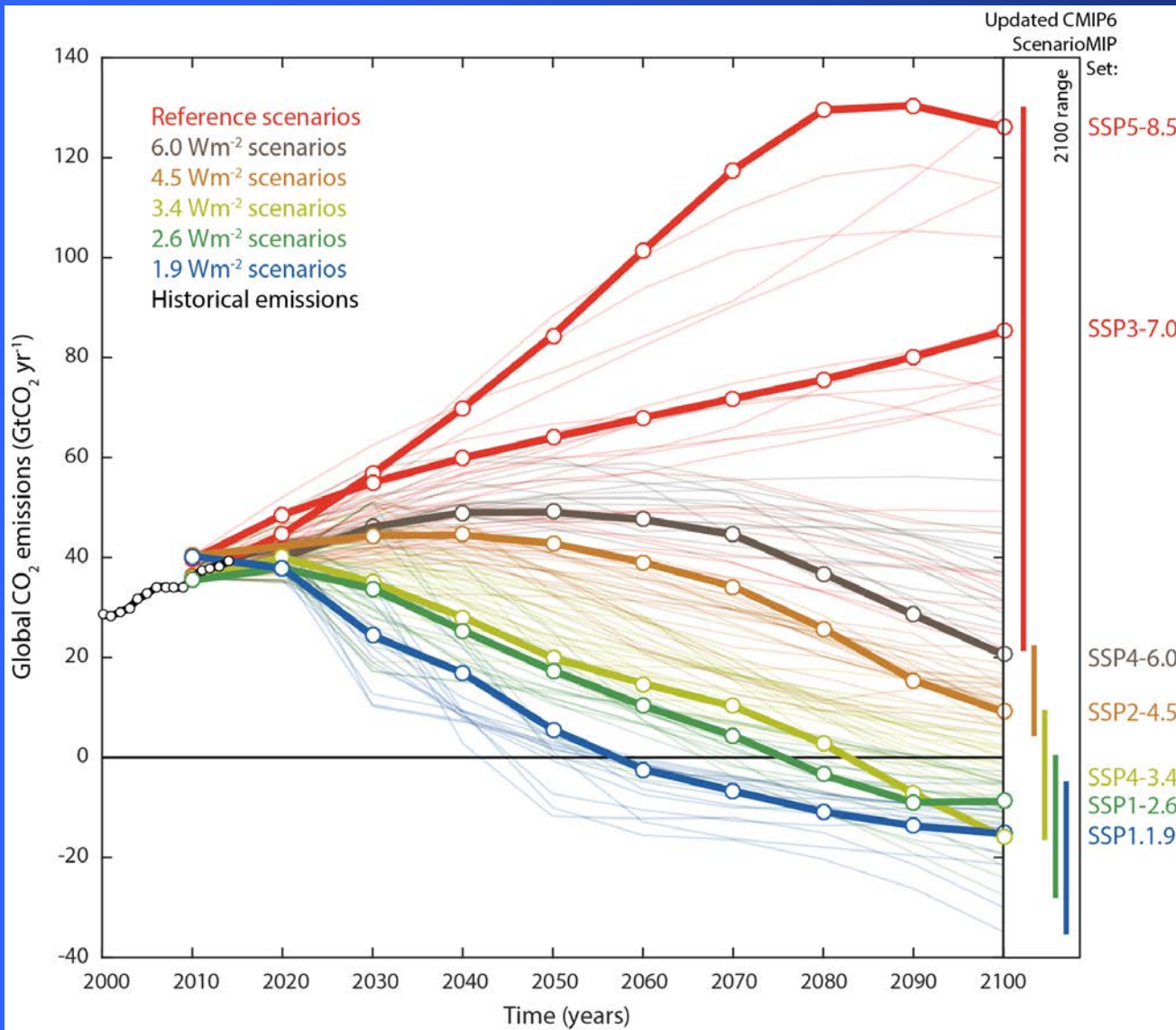
- Subsidy for renewable energy: highest period, then will be reduced to be zero in near future
- Subsidy for electric car: highest period, then will be reduced to be zero in near future
- Subsidy for energy saving
- Budget for unemployment in China's supply side reforming: help more than 3million workers from 2015 to 2017

Policies for 2 and 1.5 targets not necessarily stronger than today

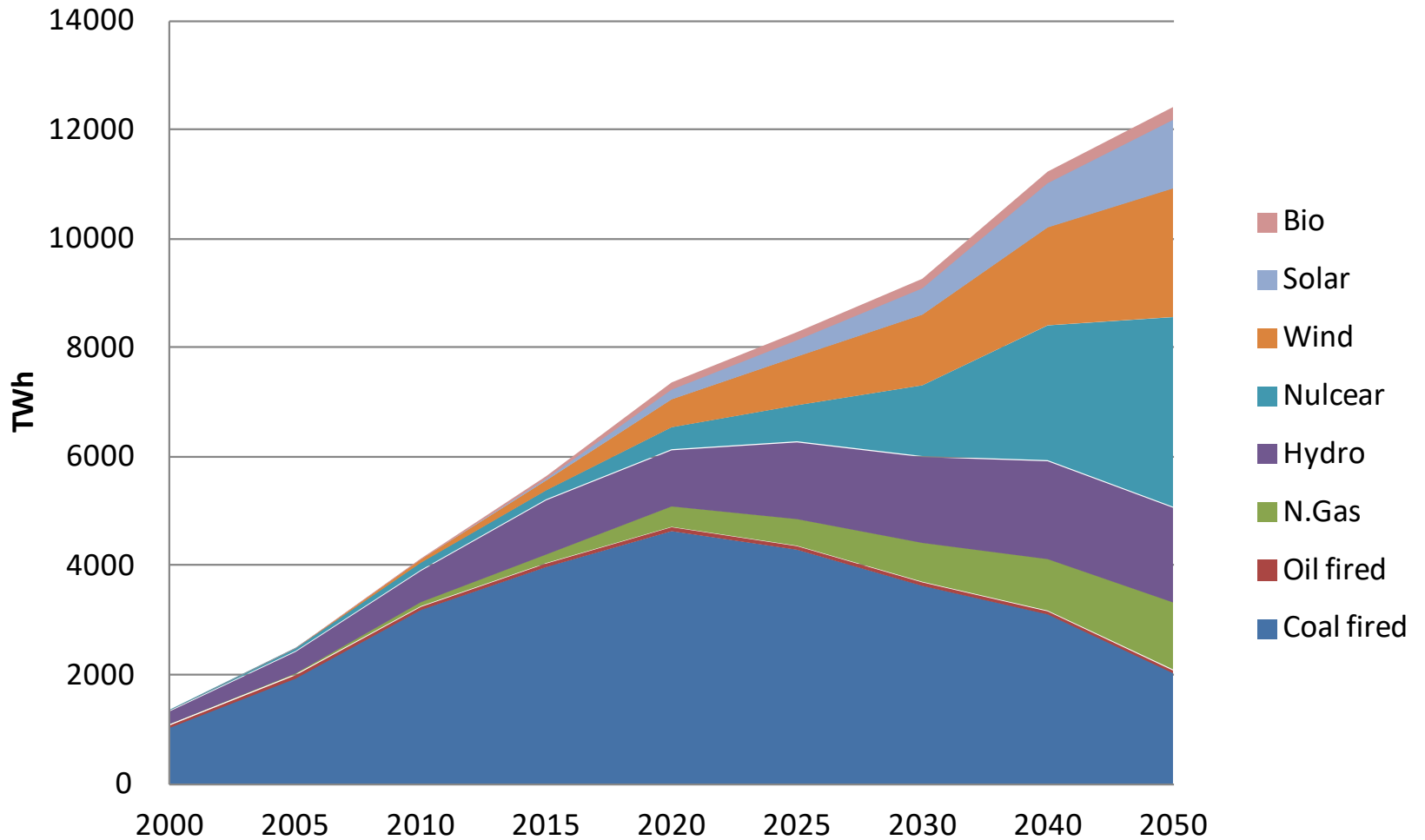
If EU can do, China will also do it.

We can change the world!

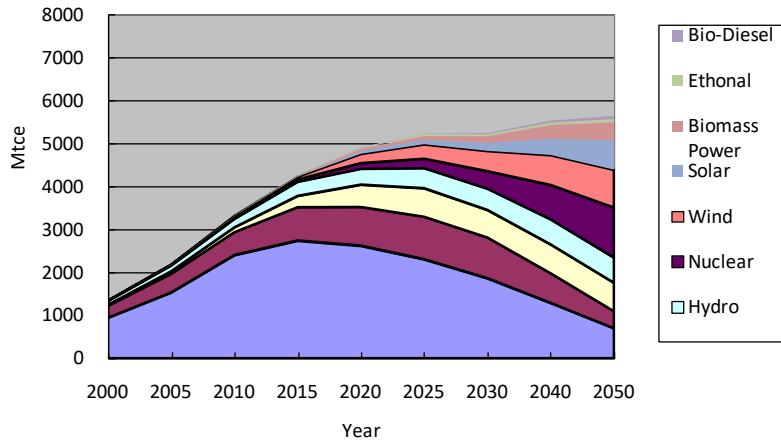
Zero emission future is a big opportunities to promote transition of economy in China.



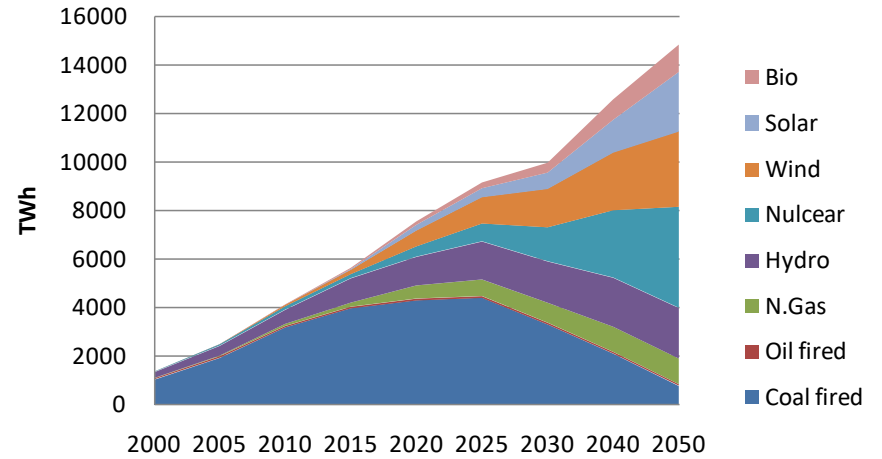
Power Generation, 2°C Scenario A



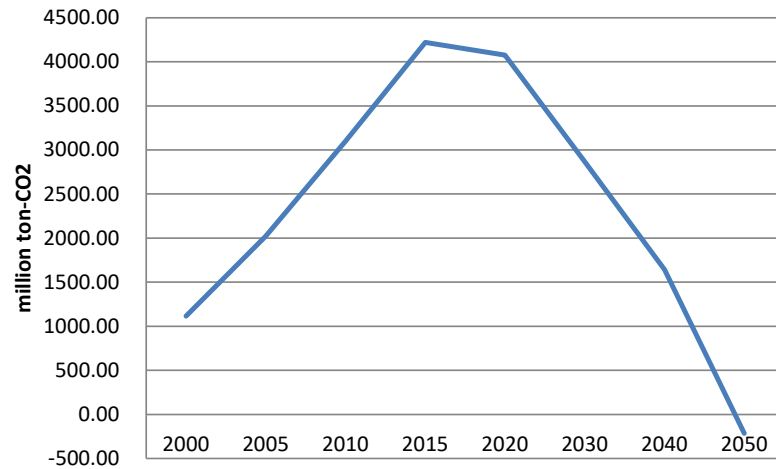
TPE, 1.5°C Scenario



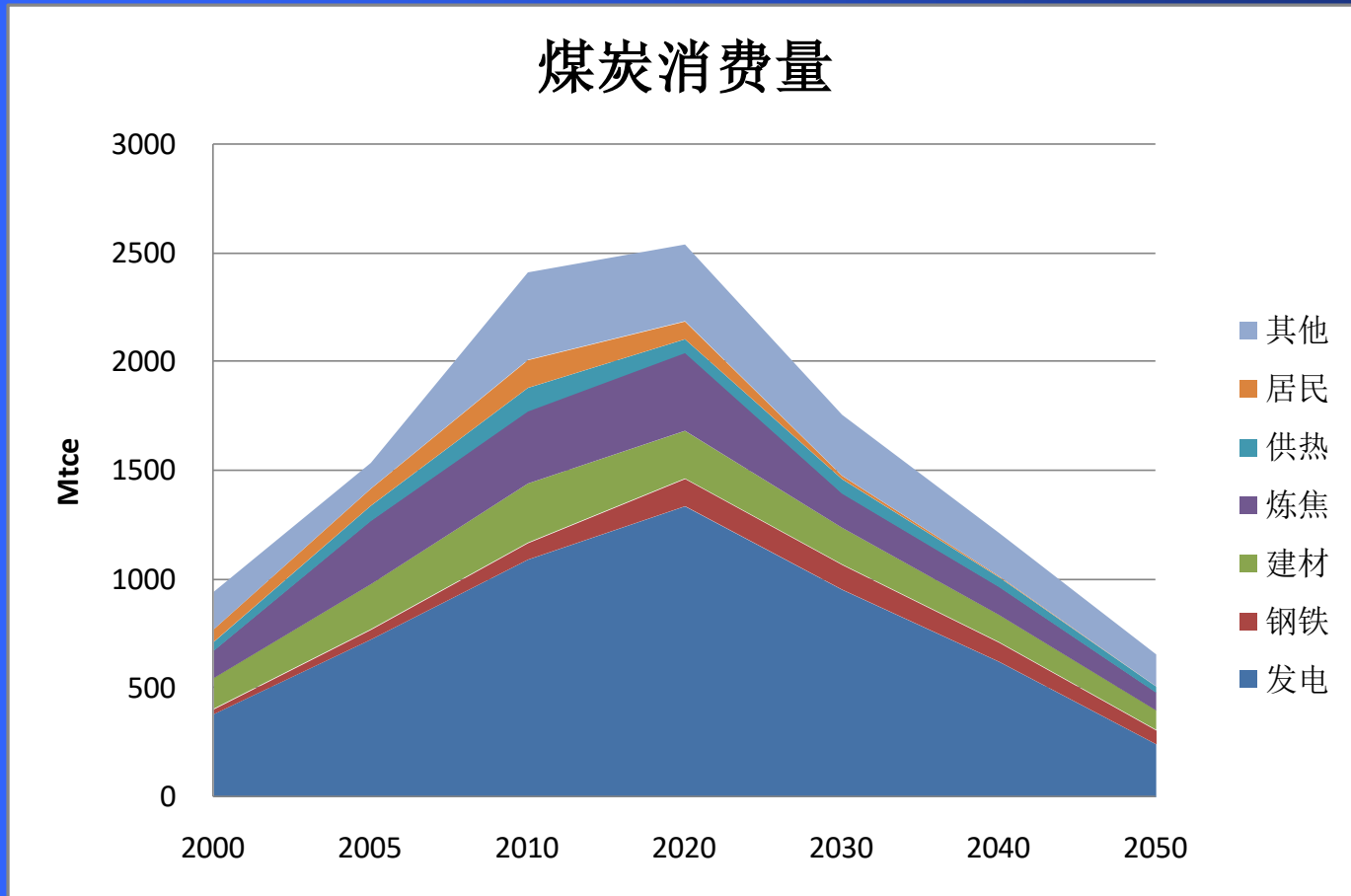
Power Generation, 1.5°C Scenario



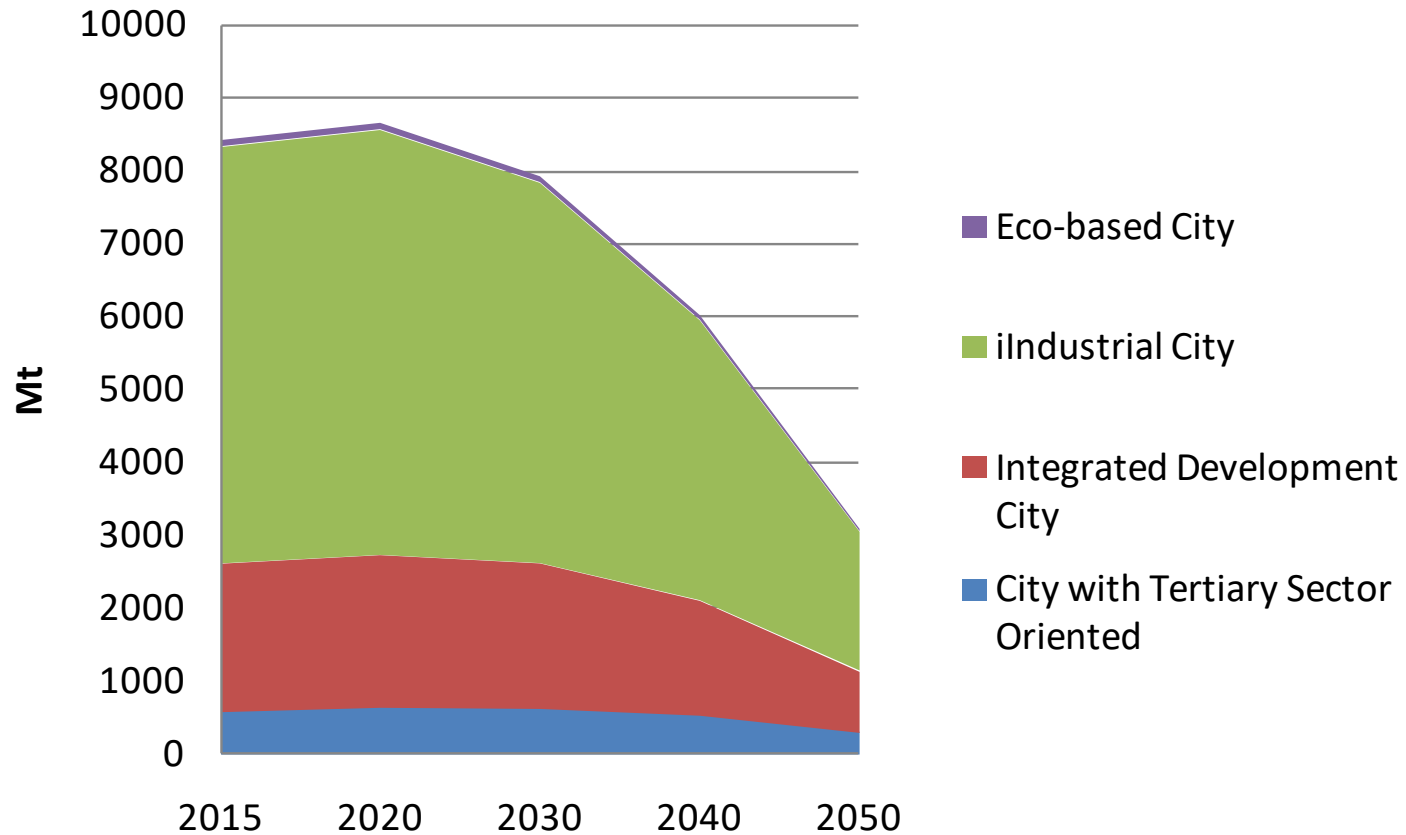
CO2 emission in power sector



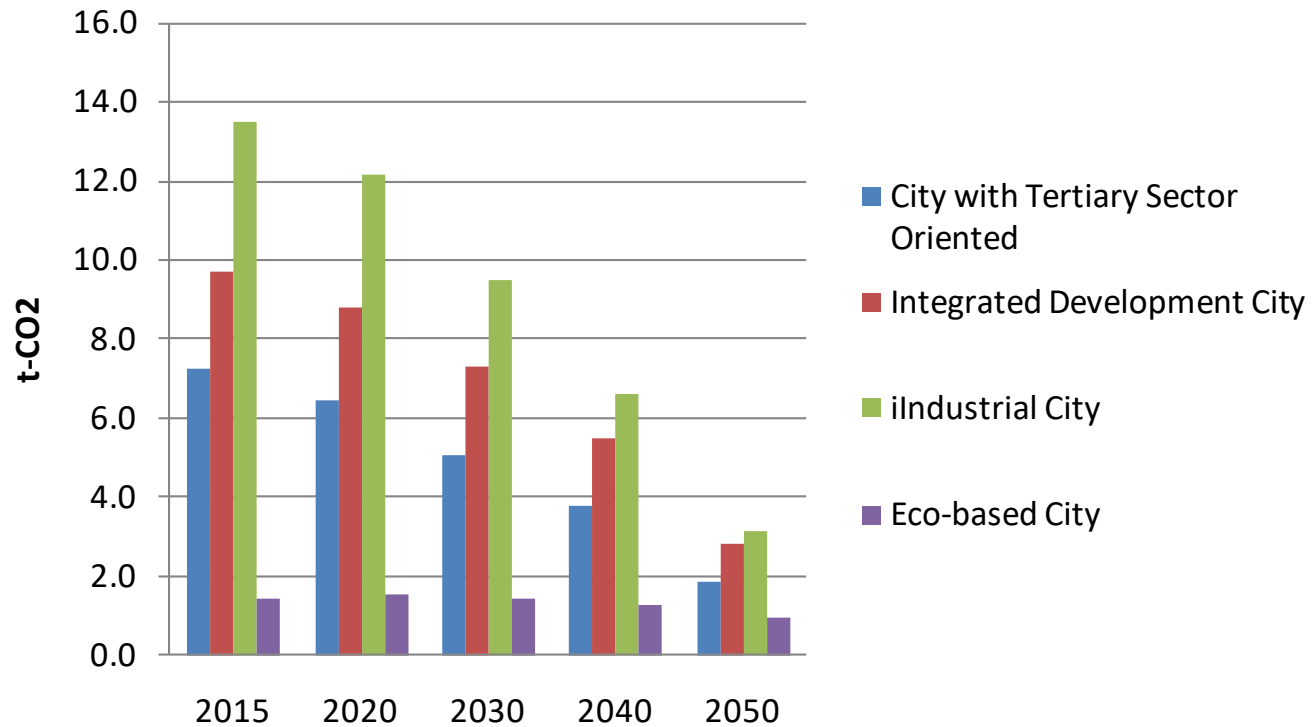
Coal demand in China



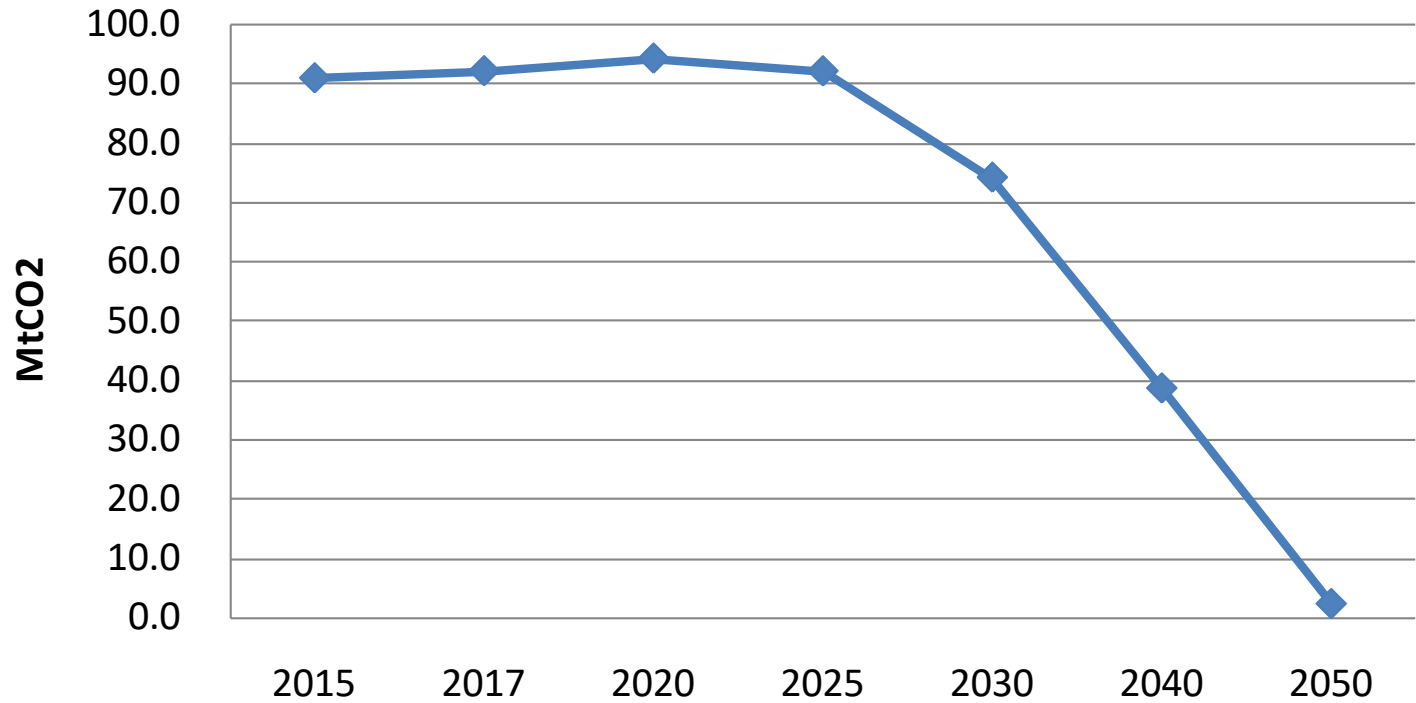
CO2 Emission by Type of City



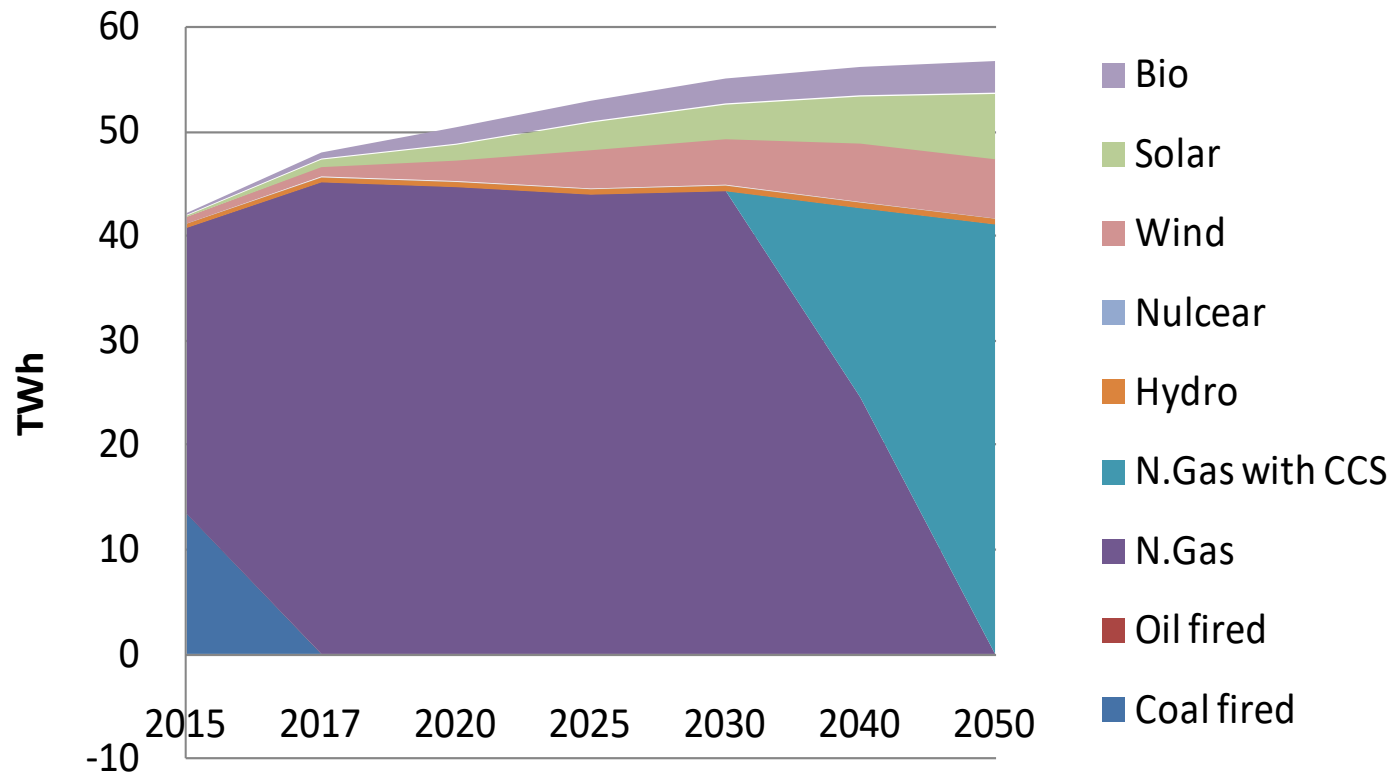
CO2 Emission Per Capita



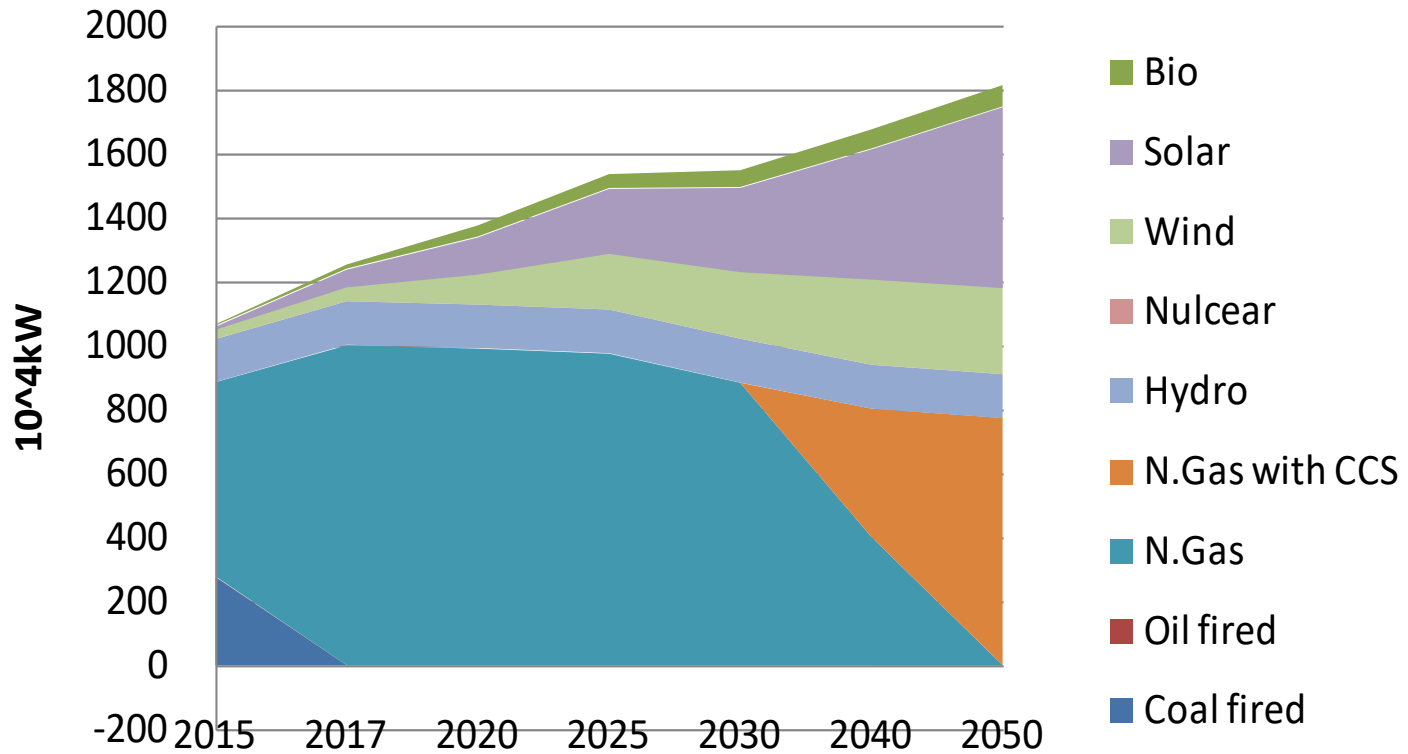
CO2 Emission in Beijing



Power generation in Beijing

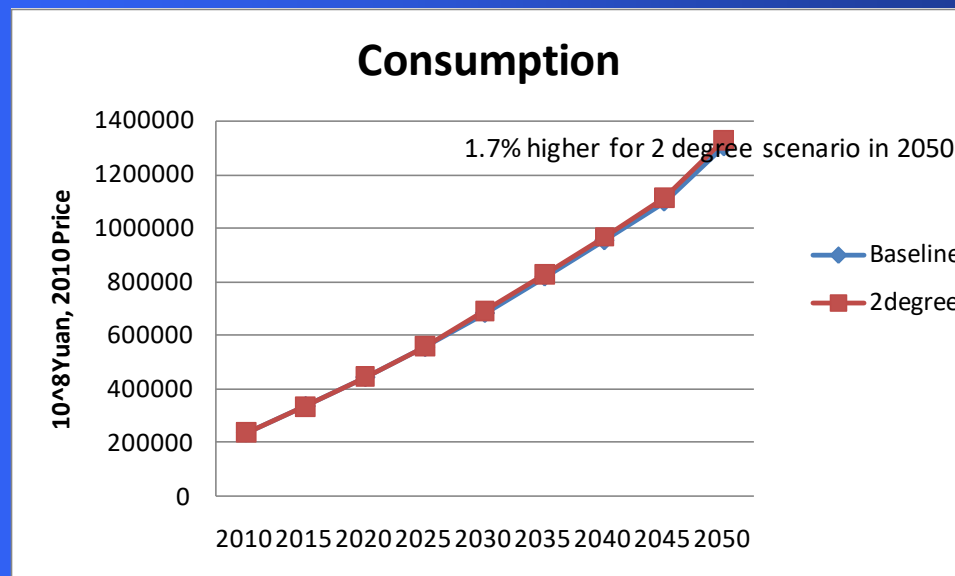
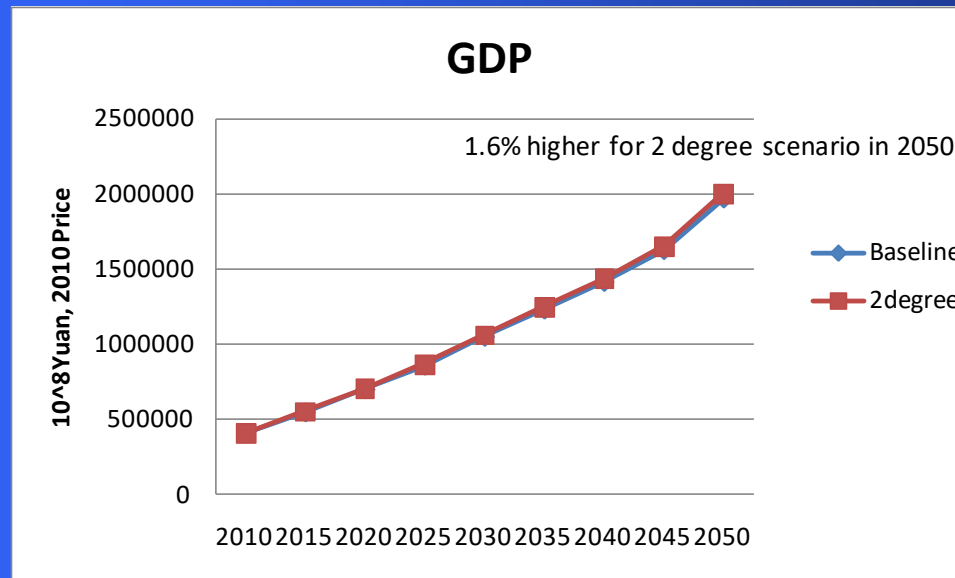


Installed Capacity in Beijing



No carbon pricing needed after 2020

Mitigation Could Increase GDP!



Key policies

- No loser policies: focusing on negative impacted sectors
- Zero-emission cities development strategy
- Carbon neutral industries
- Policies for deep cut without carbon pricing

China's IPCC report: Assessment of China's Climate Change and Eco-system, publish in 2021

- Focusing on 2 and 1.5 targets
- Modeling team are invited to submit scenarios for China: database available soon
- Papers are encouraged to be published focusing on China's scenario, papers from 2012 to 2019 will be included for review