

# Policy Implications of Co-benefit: Challenges and Opportunities for China

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# Outline of presentation

- ◆ Review of co-benefits
  - Health
  - Vegetation
- ◆ Introduction to policies of China
  - local air pollution control policy
  - GHGs reduction policy
- ◆ Challenges and opportunities for China
  - Climate change policy
  - Air pollution control policy
- ◆ Conclusion

# Integration of air pollution control and GHGs reduction

## ◆ Integration policies

- How large of Co-benefits, significant enough?
- If so, challenges and opportunities for national government

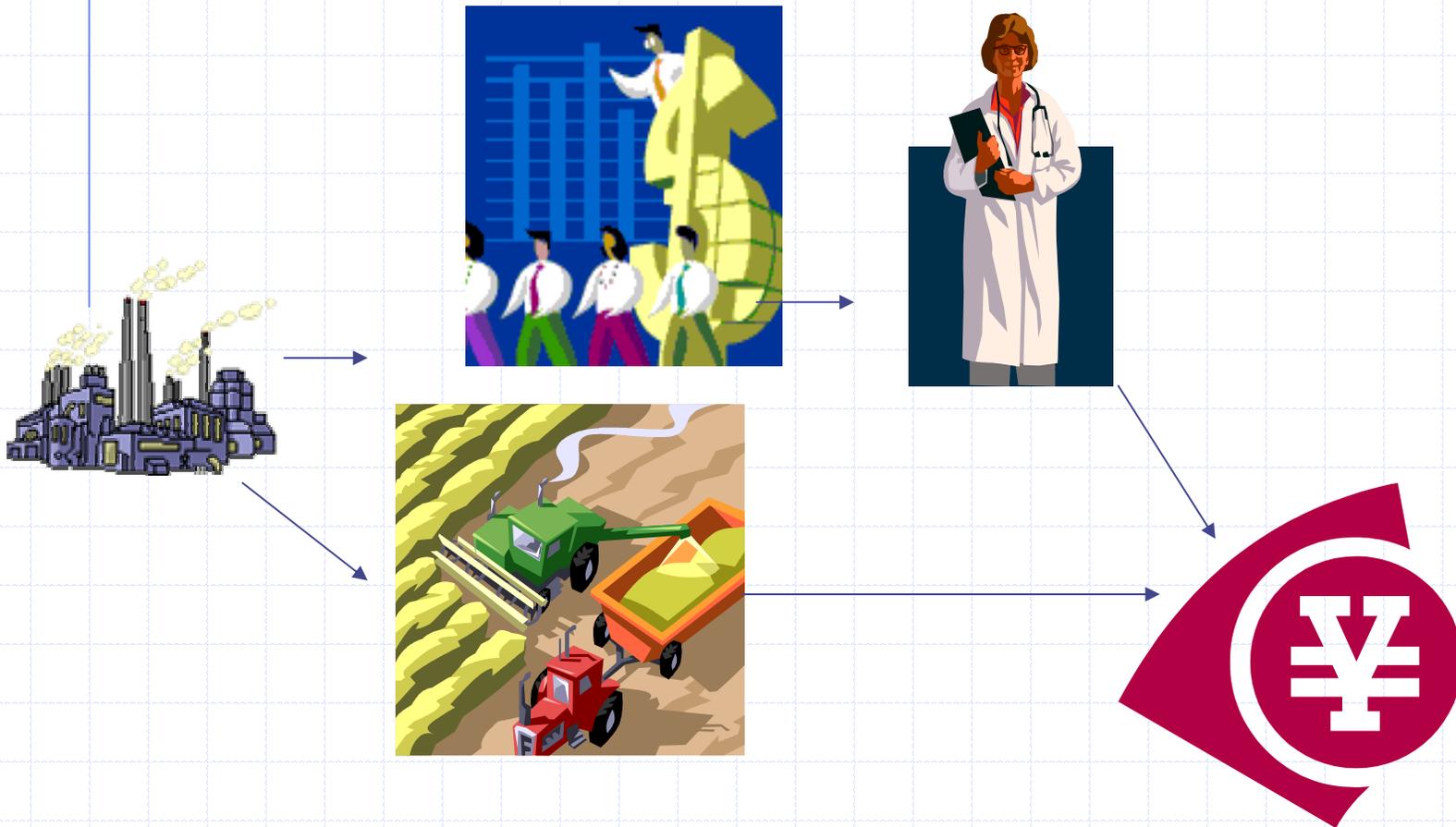
# Review of co-benefits

- ◆ Local air quality benefits of GHGs reduction efforts
  - Health benefit
  - Vegetation
  - Others
- ◆ Global benefits of air pollution control efforts
  - Carbon reduction
  - Others

# Review of co-benefits

- ◆ Estimation by ECON, CICERO and PRCEE
  - Bottom-up model
  - Taiyuan City, Shanxi Province
  - Health Impacts
  - Vegetation

# Logic Framework



# Review of co-benefits

## ◆ Results of Estimation

- 1-6 million tons SO<sub>2</sub> per year
- 9,000 – 48,000 life annually saving
- 30 billion RMB Yuan annually

# Review of co-benefits

- ◆ Shanghai case study, as one of IES cities, by Prof. Chen Changhong's group
  - avoided premature deaths due to change in  $PM_{10}$  concentrations will be 647~5,472 in 2010 and 1,265~11,130 in 2020, respectively
  - Estimated Social Benefits of  $PM_{10}$  Reductions will be 113~950 million U.S. dollars in 2010 and 327-2,884 million U.S. dollars in 2020
- ◆ Beijing case study by Prof. He Kebin's group

# Introduction to Air pollution control policy

- ◆ Total emission control (TEC) for industries
  - 3 air pollutants emission caps for local regions
  - Pilot phase of SO<sub>2</sub> emission trading scheme
- ◆ Integrated Evaluation for environmental behaves (including ambient air quality) of major cities

# Introduction to GHGs reduction policy

- ◆ No reduction commitment according to UNFCCC and Kyoto Protocol, if KP is still alive
- ◆ Agenda 21, Sustainable Development Strategy
- ◆ Volunteer-based GHGs reductions in the prioritized fields: energy efficiency, new and renewable energy, as well as reforestation
- ◆ Demonstration pilot CDM projects in selected regions with Annex I countries
- ◆ International cooperation with GEF, UNDP, WB, ADB etc

# Challenges and opportunities for National Government

## ◆ Climate change policy

- CDM
- Baseline

## ◆ Pollution control policy

- Additional funding
- Incremental costs

# Challenges and opportunities: GHGs reduction policy

## ◆ CDM policy

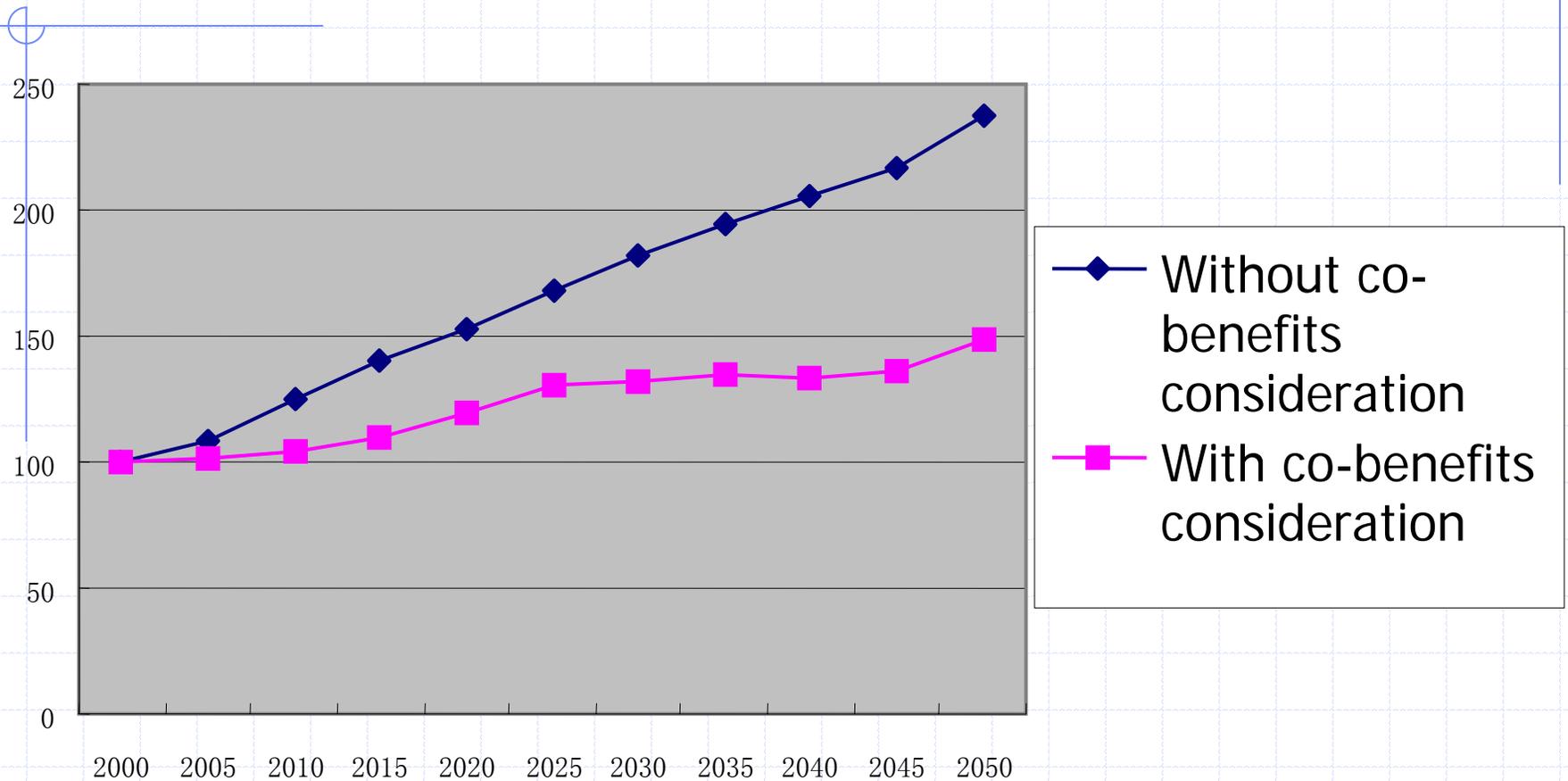
- To support CDM mechanism stronger
- To have more feasible CDM projects
  - ◆ If doing project evaluation of CDM projects with and without co-benefits, obviously more feasible additional conditions for CDM projects, if considering co-benefit of CDM projects
- To have one more tool to encourage local governments and enterprises to implement CDM projects with low CERs price

# Challenges and opportunities: GHGs reduction policy

## ◆ Baseline

- contribution of GHGs reduction by current local efforts, including air pollution control projects (such as total emission control) and other environmental improvements
- Does it change the baseline of China's emission?

# GHGs Emission



# Challenges and opportunities: GHGs reduction policy

## ◆ Baseline

- Carbon contributions
  - ◆ Multiple: GEF
  - ◆ Bilateral: CDM
  - ◆ NGOs
  - ◆ Reserved as CERs
  - ◆ How to deal with the deficit of carbon contributions?

# Challenges and opportunities: Pollution control policy

- ◆ To have an earlier air pollution clean up program than planned, when having additional funding for GHGs reduction contributions
- ◆ To have more feasible air pollution projects, if incremental costs of projects were paid

# Conclusion

- ◆ Co-benefits for China are very significant and shouldn't be ignored
- ◆ Environmental improvement, as same as energy saving and new and renewable energy development, should be put into the priority list of GHGs reduction of China
- ◆ China should support CDM mechanism stronger with consideration of co-benefits
- ◆ China should have more active air pollution programs with consideration of co-benefits
- ◆ GEF as well as other multilateral funding mechanism should pay non-Annex I's contributions of GHGs reduction, at least cover the incremental costs
- ◆ International society should adjust countries' emission baselines with co-benefit concerns



**THANKS!!!**