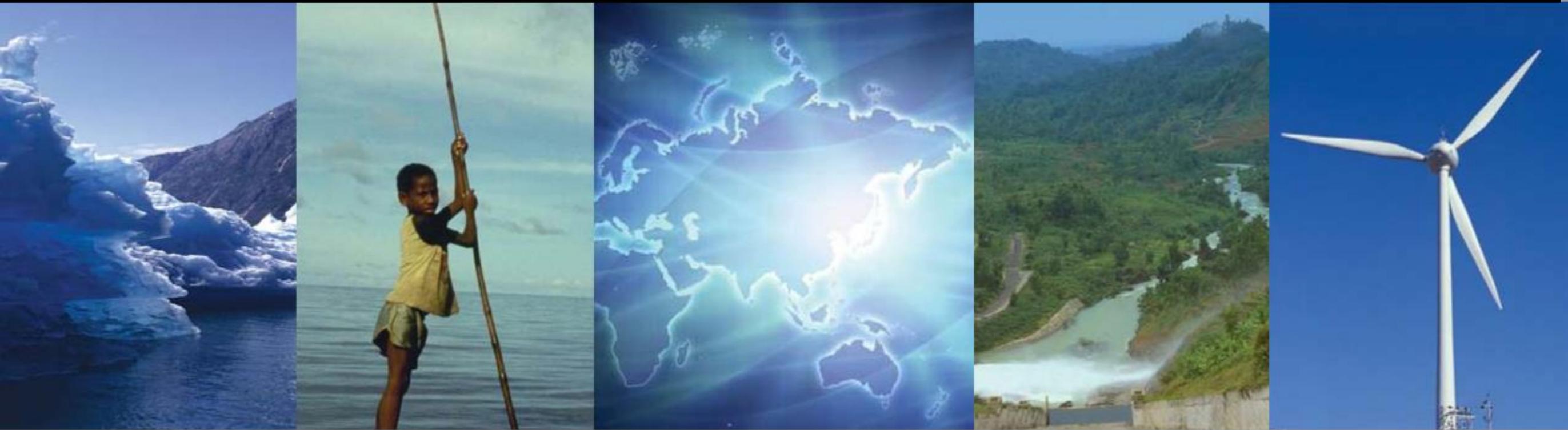




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Case Study

Climate Change Mitigation



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HOW CHINA BUILDS THE WORLD'S BIGGEST WIND POWER MARKET

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Case study method



Participants will be presented with a real-life scenario up to the decision-point.

Participants will then be placed in the role of decision-maker, analyze the information and suggest courses of action

The group will finally look at the actual policies that were pursued and will have an opportunity to discuss these policies.

Imperatives for China to Develop Wind Power

- Rapid economic development
- Over 70% reliance on coal for energy
- Energy security
- Environmental damage
- Social tensions
- New market opportunities



There's every reason to
diversify the energy mix and develop renewable energy

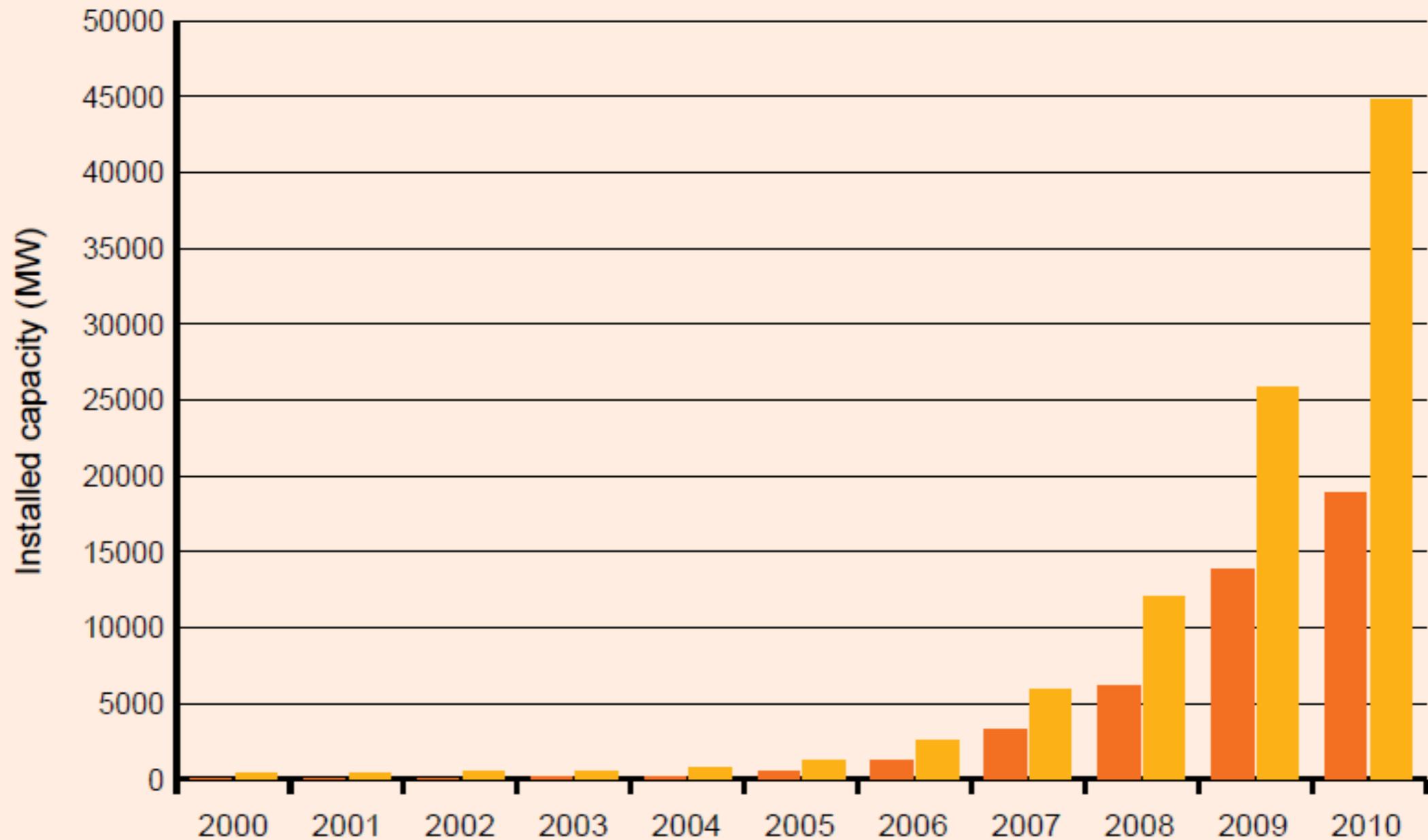
China's Renewable Energy Law came
into effect on January 01, 2006

Wind, Solar, Hydro, Biomass...

Wind is the most technologically-proven,
financially competitive and socially
acceptable renewable technology.



Growth of China's wind power market



Newly Installed Capacity	77	57	66	98	197	507	1288	3311	6154	13803	18928
Total Installed Capacity	342	399	465	563	760	1267	2555	5866	12020	25805	44733

Source of data: China Wind Energy Association

Package of supportive policies

- Clear development targets
- Compulsory purchase of renewable energy power (grid access)
- Stable and favorable pricing mechanism
- Cost sharing for wind power development
- Creation of Renewable Energy Fund



Most commonly used pricing mechanisms

Feed-in-tariff

A feed-in-tariff system offers a guaranteed rate for all generated wind power fed into the national grid, in order to provide wind power developers with more certainty as to the profitability levels. Feed-in tariffs have contributed to the success of the wind power industries in a number of countries, including Germany and Spain.

Concession bidding system

In a concession bidding system, developers bid to provide wind power at the cheapest prices. This competition mechanism aims to lower the cost quickly. However, bidding systems in countries such as the United Kingdom have so far had little success in promoting market growth, mostly because developers bid so low that they later decide not to implement their projects.

Renewable portfolio standard (RPS)

The RPS mechanism places an obligation on electricity supply companies to produce a specified fraction of their electricity from renewable energy sources. Certified renewable energy generators earn certificates for every unit of electricity they produce and can sell these along with their electricity to supply companies. The US uses this system.

Question 1:

What would you do if you were to design a most effective pricing mechanism for China's wind power development?



What actually happened



- China tried concession bidding system first:
 - ✓ Starting in 2003;
 - ✓ By 2007, five rounds of bidding had been organized with a total installed capacity of 3.35GW;
 - ✓ Prices too low, projects abandoned.
- In 2009, a feed-in-tariff system was set up.
- In addition, the big power companies were required to produce 5% of total electricity from non-hydro renewables.

Key Lessons

- At the early stages of market development, prioritize support for wind power developers over efforts to lower the price of wind power.
- Feed-in tariffs provides a stable market environment with greater certainty of profitability.
- The use of a concession-bidding model for the purpose of price discovery could risk discouraging potential investors.



Question 2:

What would you do if you were to design a most effective policy to encourage local manufacturing?



What actually happened

- In July 2005, a 70% localization requirement was announced.
- In 2009, the Chinese government revoked the requirement.
- By 2006, inspired by the huge market potential:
 - ✓ the major international manufacturers had already started to move their production to China;
 - ✓ many of the biggest Chinese heavy industry manufacturers had also established new production lines for wind power equipment.



Key Lessons



- A stable and favorable market environment is what ultimately creates the demand that promotes local manufacturing industry.
- However, with the growing global wind market, each country should decide for itself whether it makes more economic sense to support local manufacturing or to import.



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Thank you

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