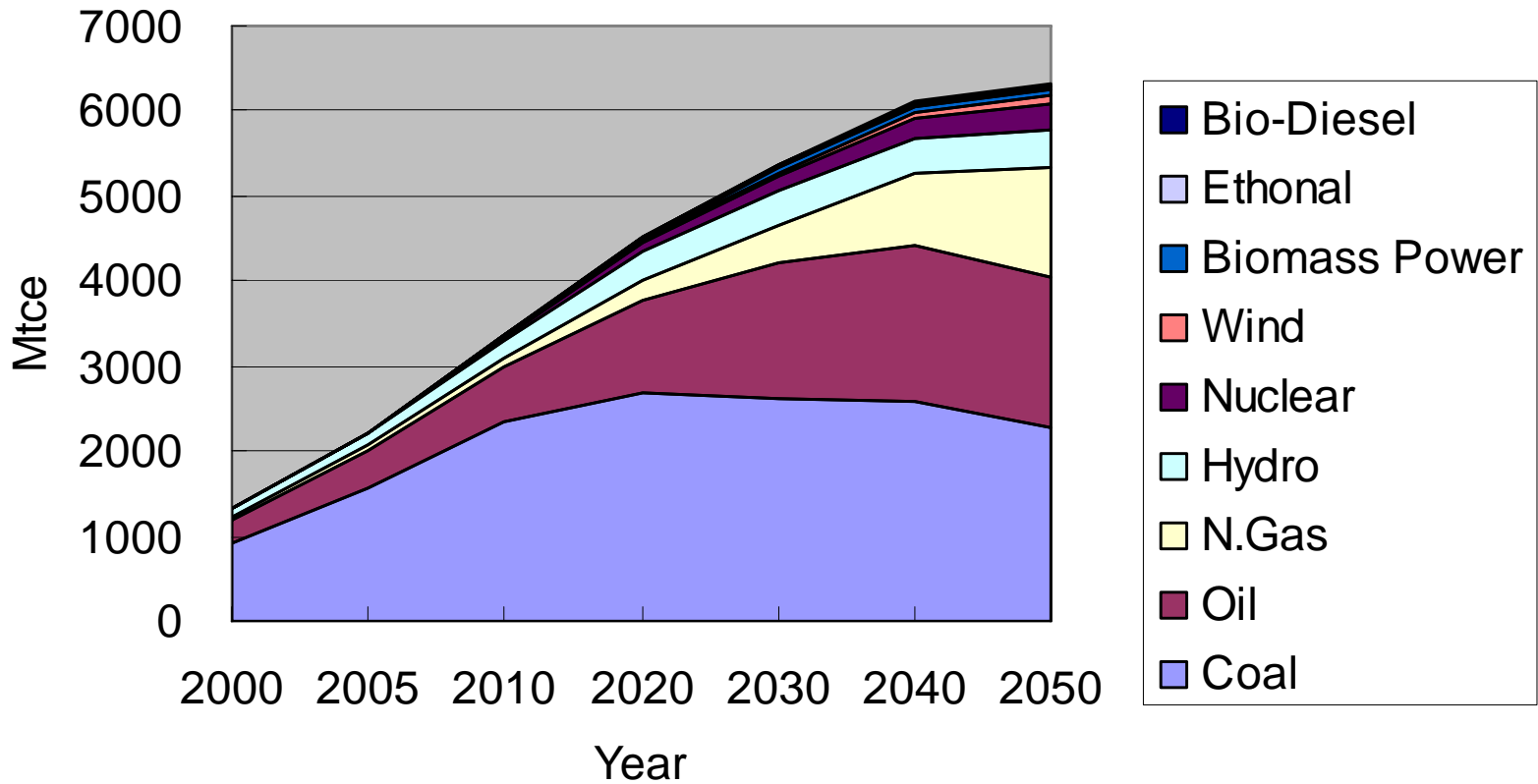


# Low Carbon Societies in China: Challenges and Opportunities

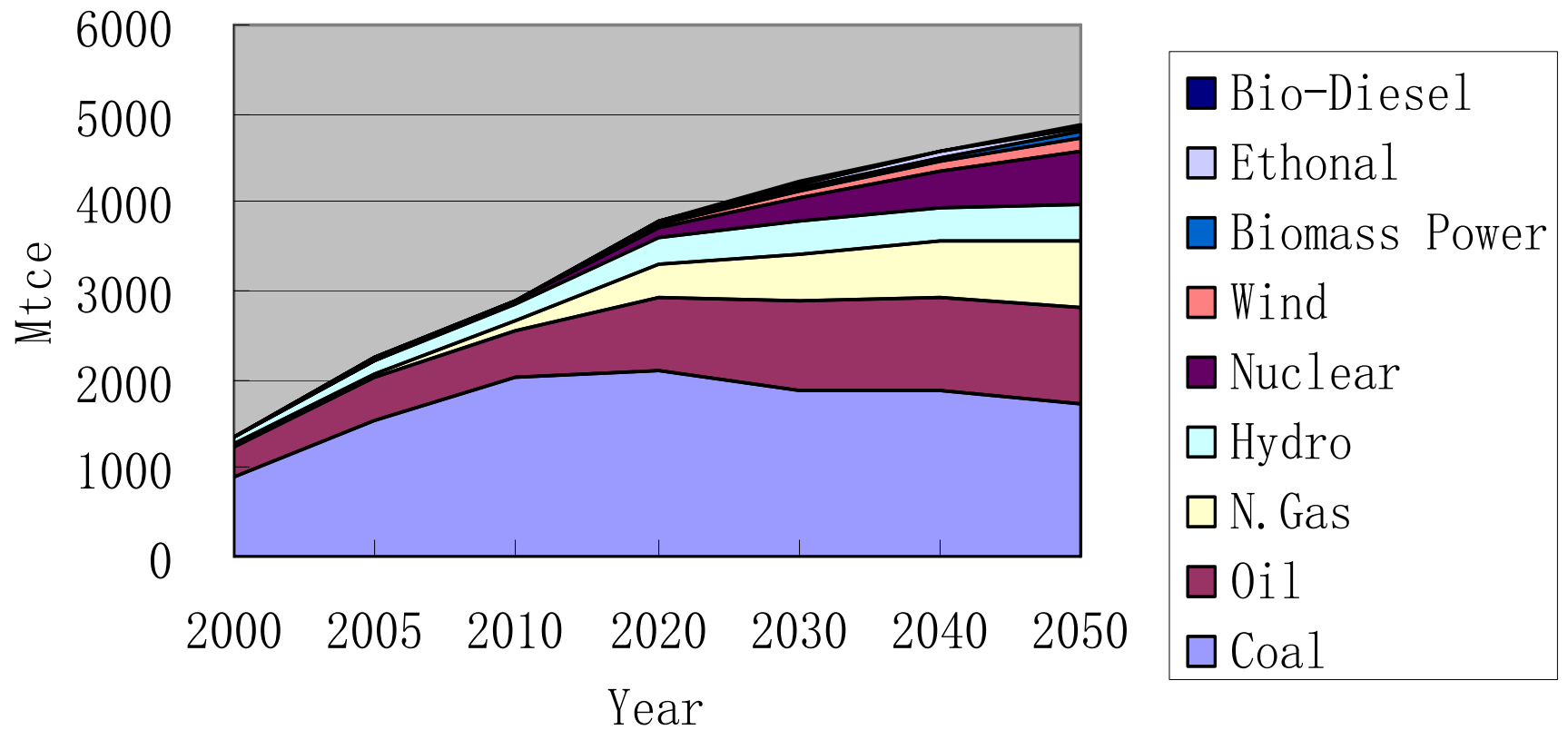
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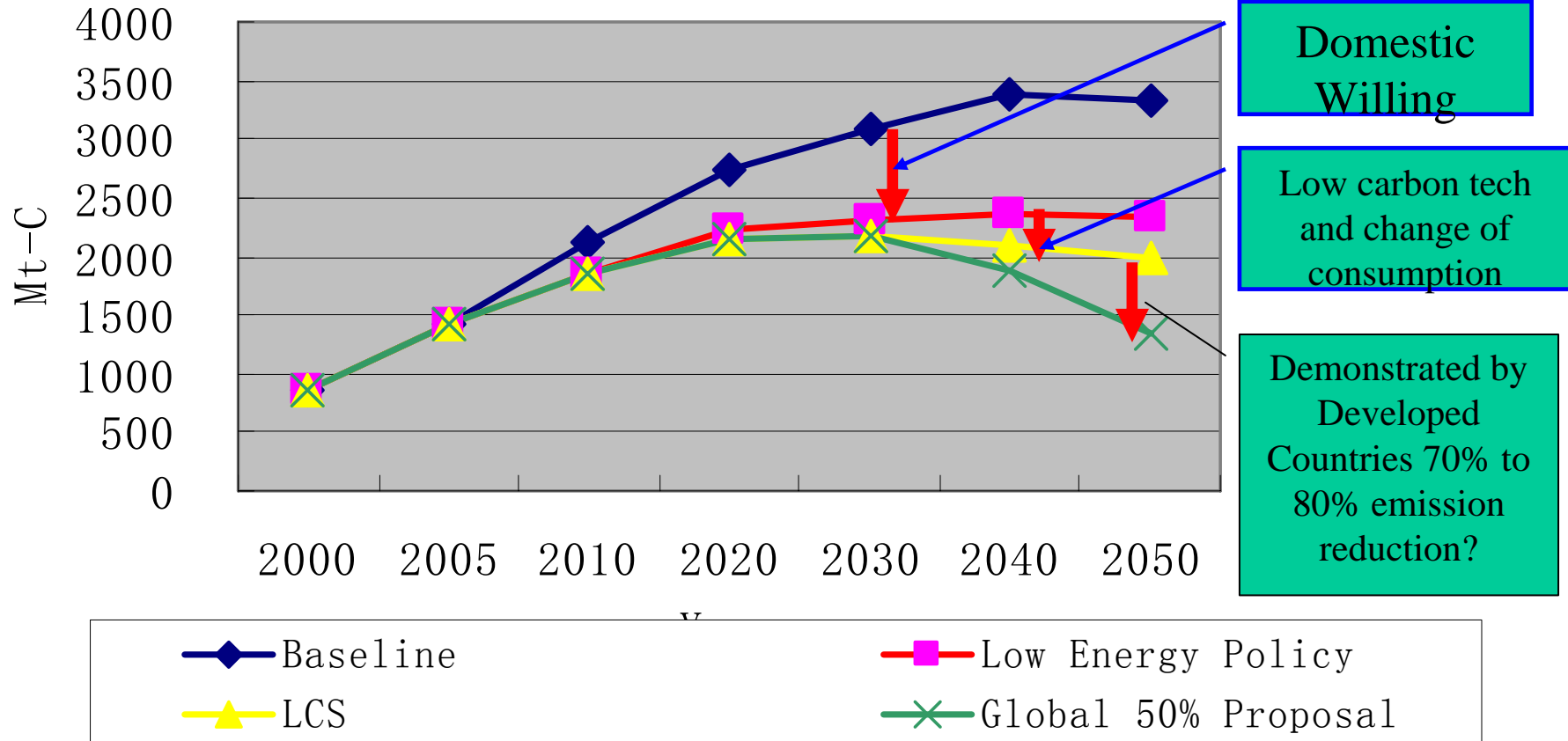
## Primary Energy Demand, Baseline Scenario



# Primary Energy Demand in China, policy scenario



# CO2 Emission from Energy Activities in China, IPAC Results



# Common Policy Settings in Scenario Analysis

Policy measures	Possible policy tools	Applicability	Effects in laboratory experiments
1. Encourage of energy efficiency investment	Tax/Subsidy	++	The distance between end-use energy intensity in west Europe and China will be lessened by 30% in 2050.
	Low/Zero interest loans	++	
	Information	++	
	Appliances brand/criteria	+++	
	Investment in public transportation	++	
2. Energy tax and the effects	Industrial voluntary agreement	++	Implement the energy tax (for all fuels) with the same standards as the petrol and natural gas tax implemented in industry and transport in west Europe
	“Green tax” - petrol/coal oil tax	+++	
3. Impacts to the end-use energy market	Tax/subsidy, such as the emission standards towards natural gas and bio-fuels	+	Decrease of coal consumption in construction sector
		+++	
4. High efficient and gas-based combined cycle (CC) in electricity generation	Technology and emission standards	++	Till 2050, 15-20% of electricity will use the combined cycle gas.
	System reformation R&D projects		
5. Advanced Clean Coal (ACC) Option including IGCC	Investment	++	All coal-fired power plants realize the high efficiency production since 2010.
6. Decrease in transmission loss		++	Losses during electricity distribution and transmission will decrease to the level of OECD countries (8%).
7. Increase in the share of nuclear power	Technology and emission standards	+	The share of nuclear power in electricity production will increase from 7% (B2-C) to 20%.
	Quota system/Renewable		
8. Increase in the share of renewable energy such as solar power and wind power	energy obligations	++	Renewable energy power generation will increase from 7% to 20% by 2020
	System reformation R&D projects		
	Investment		

## *key technologies in long term*

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- a. Modern renewable energy production technology (solar power and etc)
- b. Advanced nuclear power generation system
- c. Fuel cell
- d. IGCC/advanced clean coal technology/carbon capture and carbon storage technologies
- e. Advanced gas turbine
- f. Unconventional natural gas and crude oil production technology
- g. Synthetic fuel production technology
- h. Ultra-low-power and zero-emission advanced transport technologies

## *20% Energy Intensity Target in 11th Five Year Plan*

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- 20% energy intensity reduction within 11th Five Year Plan(2005-2010)
- Very good for China, not only for energy, but also for environment, economic structure optimization
- Most ambitious target in the world: making full effort to reach the target
- One of the Biggest actions on GHG mitigation: 190million t-C reduction in 2010 compared with baseline, 410million t-C reduction compared with no intensity change

## *Countermeasures announced to reach the target*

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- Allocate target to all provinces.
- 1000 large energy user monitoring program in national level, but local government extend the number for monitoring.
- Government investment on energy saving project: 23.5billion Yuan in 2007 from government budget.
- Energy saving and emission reduction is one key indicator for local chief government official.
- Closing small coal fired power plants, steel making plants, coke making plants etc.
- Strong implementation of 10 energy conservation program in the long-term energy conservation plan.
- Establishing energy conservation statistic data system
- Energy efficiency standard
- Fuel tax/energy tax
- Reduce tax rebate for energy intensive products