

**We can go to the Pathway for the 2 degree global target
- China's CO2 emission -**

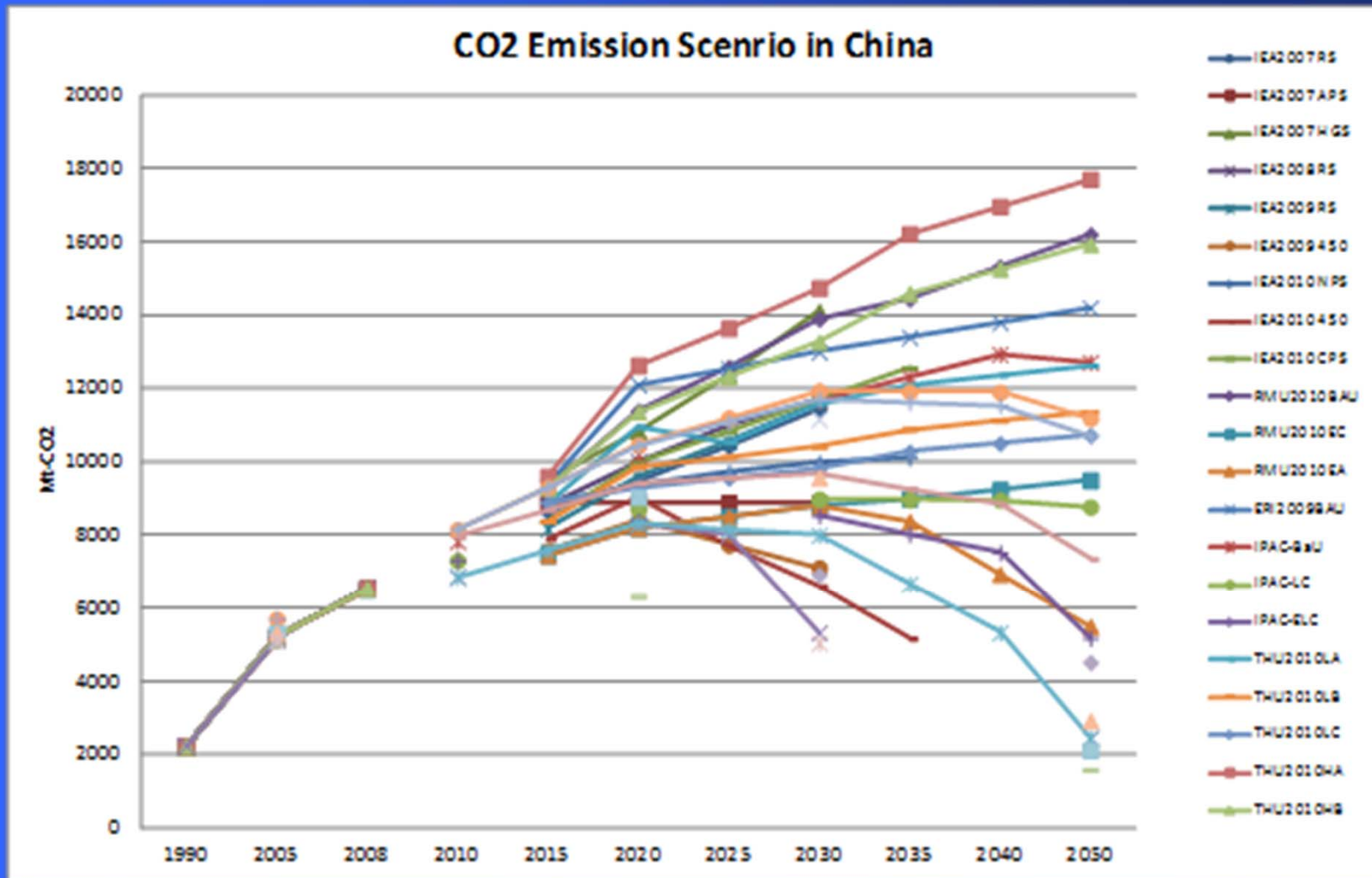
Jiang Kejun

Energy Research Institute, China

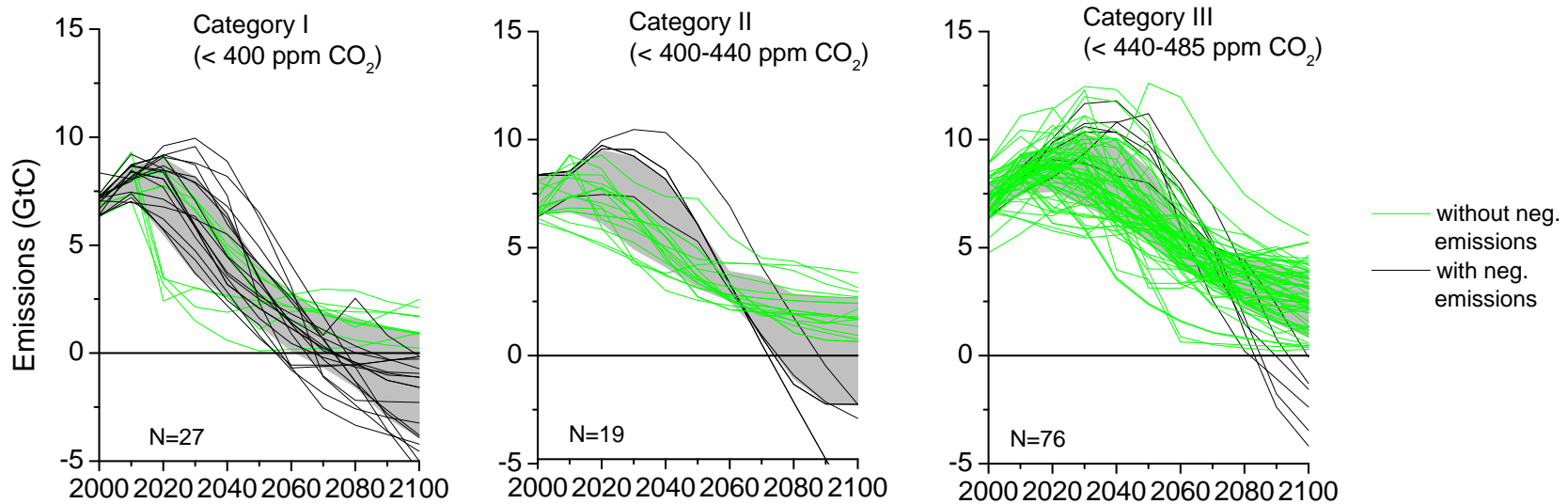
**COP19 Side-event: GHG Emissions Reduction Potential in Asia for the
Two Degree Target**

16:30-18:00, Friday, 15 November 2013

Review for recent CO2 emission scenarios

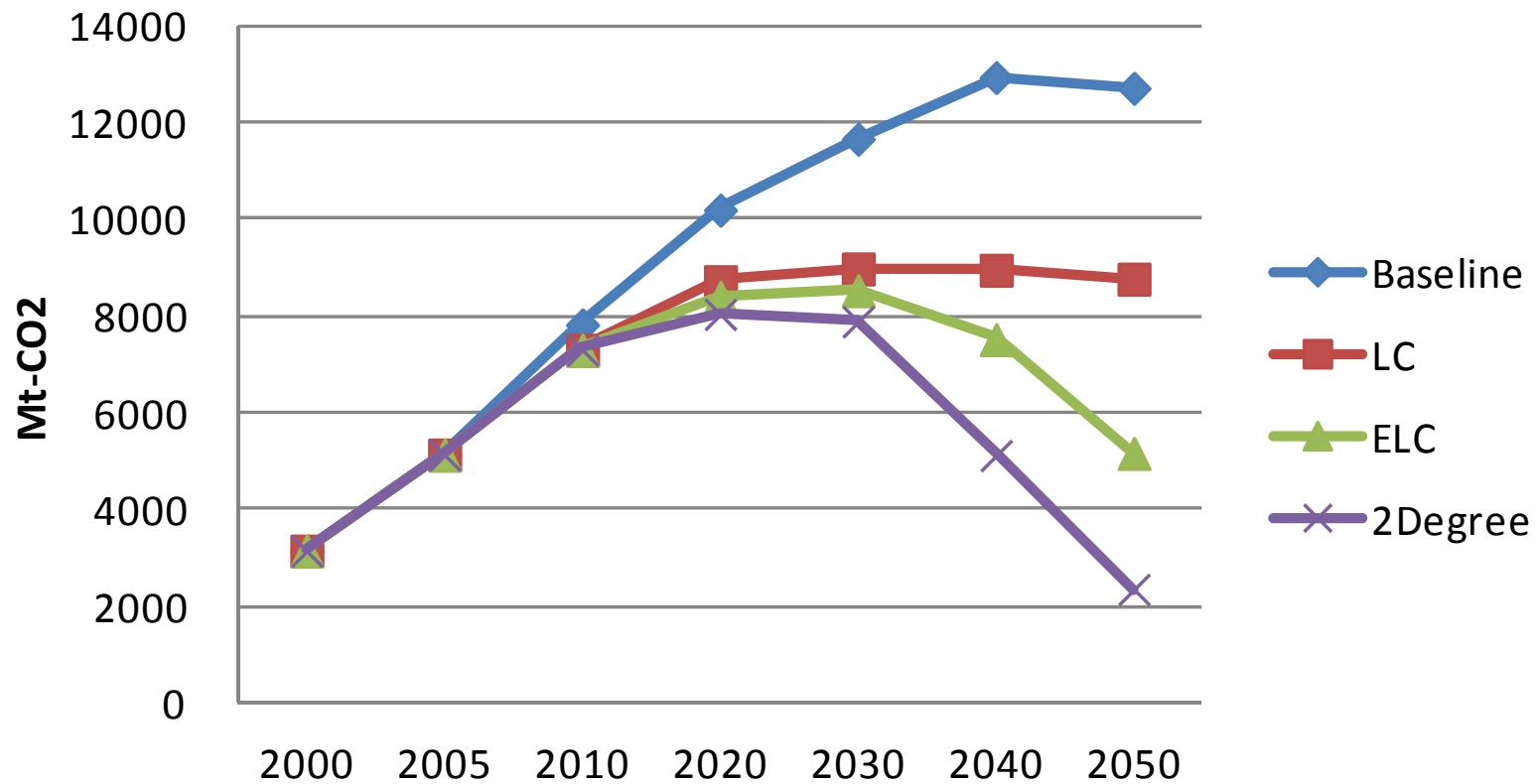


Keyword: Transition – mitigation to reach some climate change targets



Transformation: CO2 emission, a rapid change

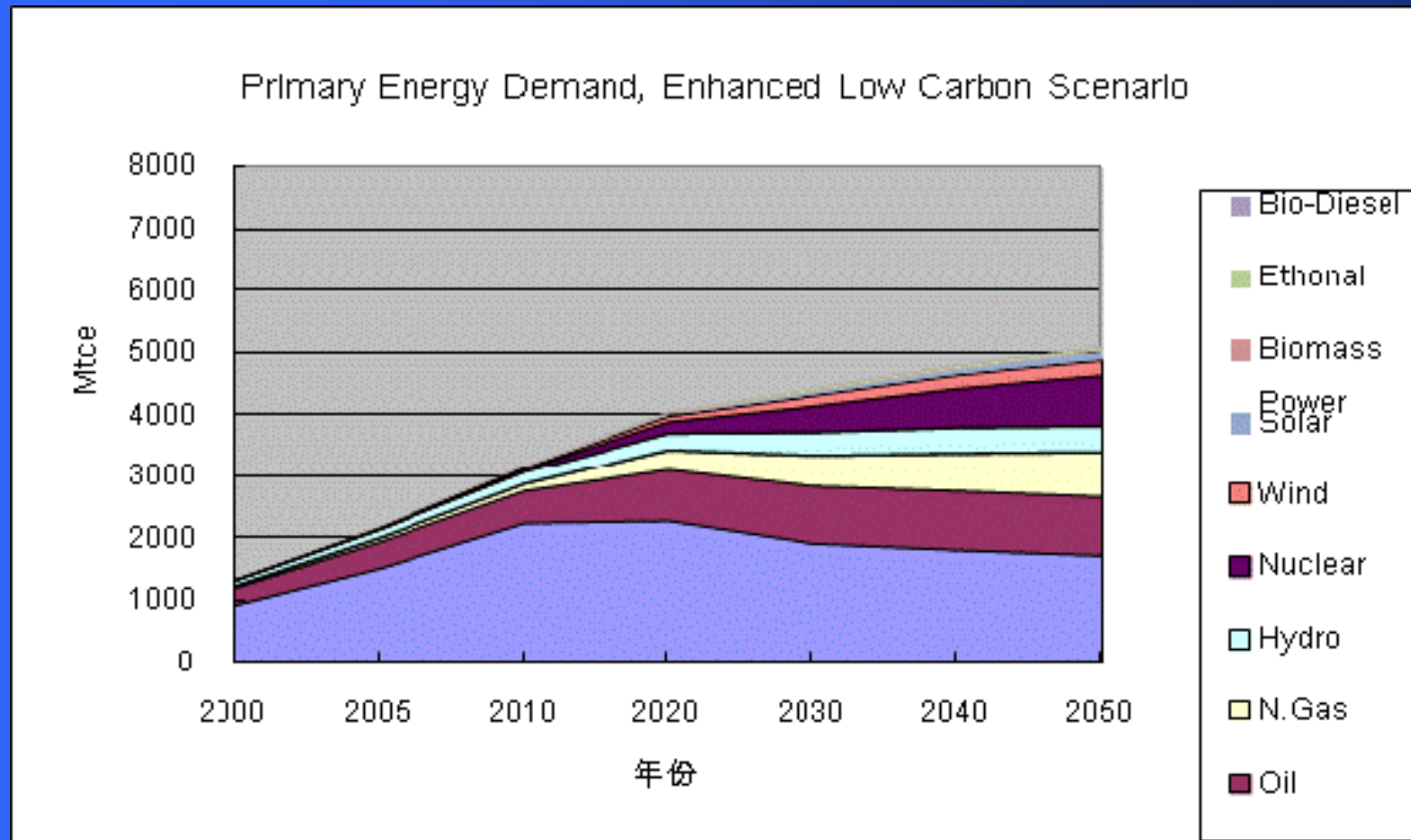
CO2 Emission in China



What's the future of China's low carbon policy: key factors

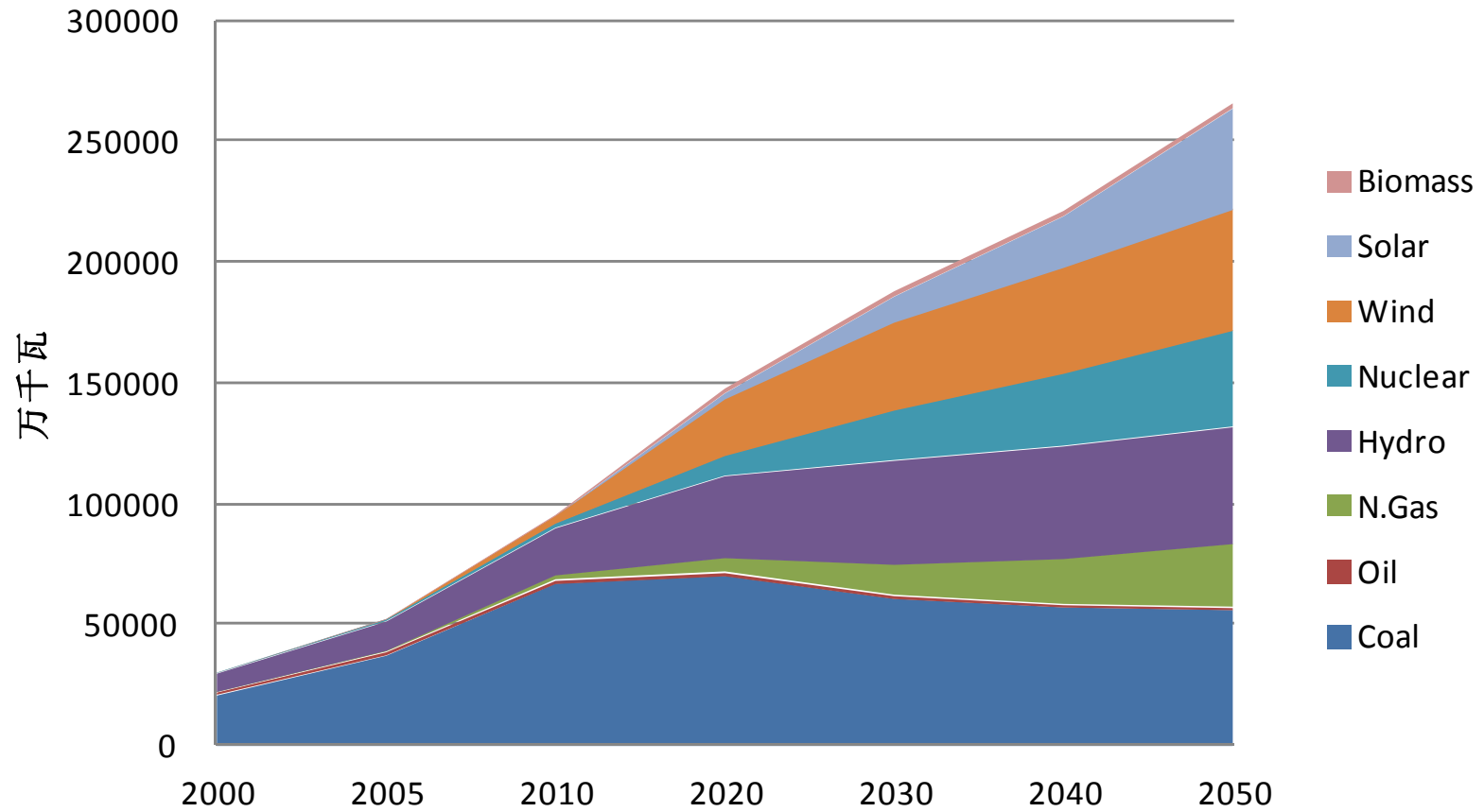
- Economic structure optimization policies
- Energy efficiency policies
- Renewable energy/nuclear power generation oriented policies
- CCS
- Low carbon consumption/ lifestyle
- Land use emission reduction policies: so far relatively poor
- Climate change target: China is key part of that
- Can we pay for it? Cost and benefit

Transformation: Energy System

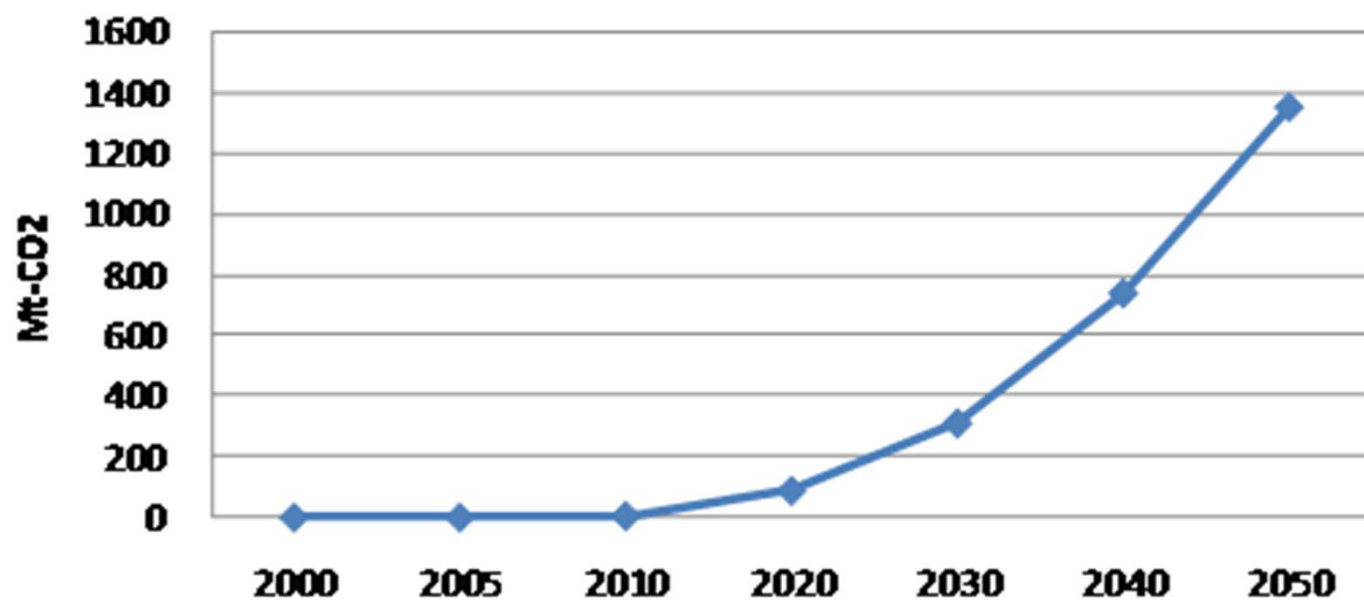


Transformation: Power generation

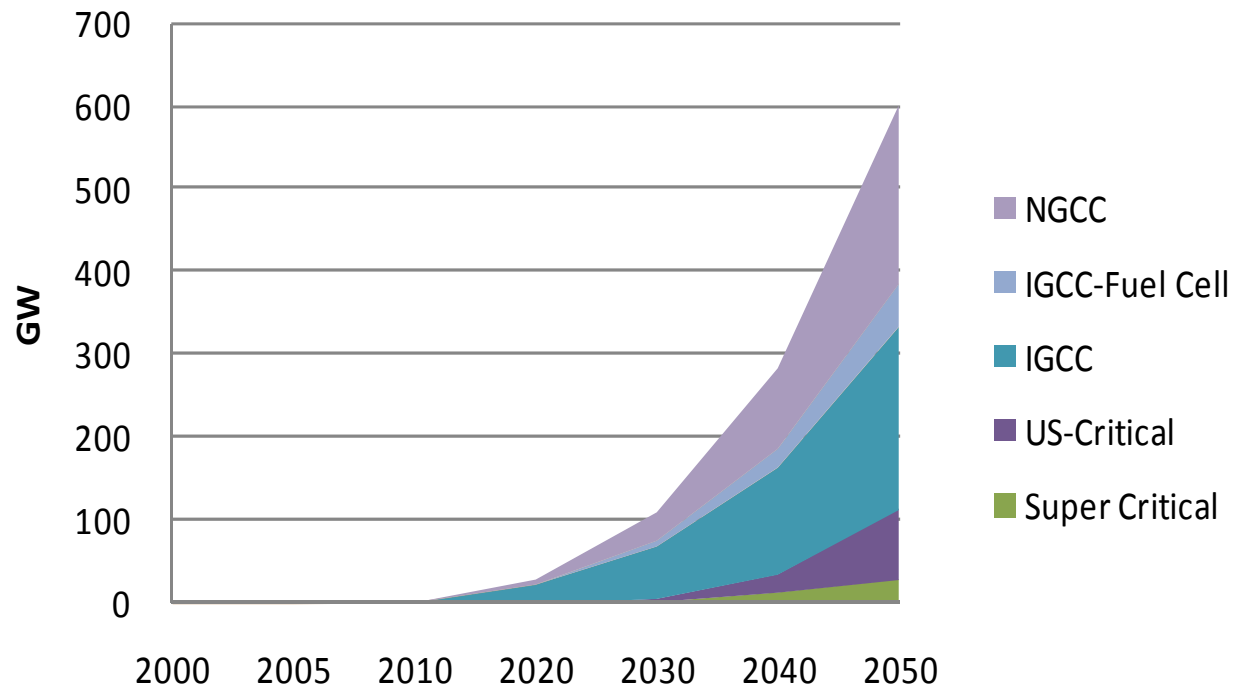
Power Generation Capacity



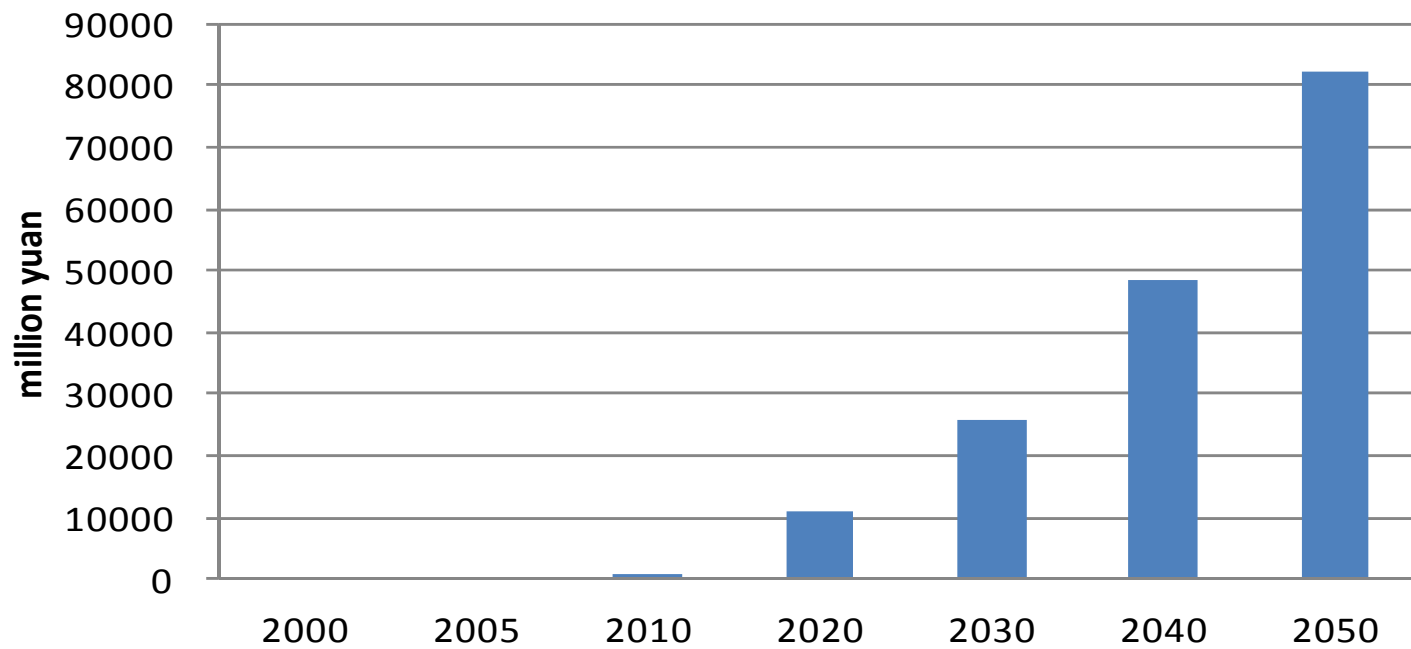
CO2 Emission Reduction from CCS in power generation



Power generation capacity with CCS



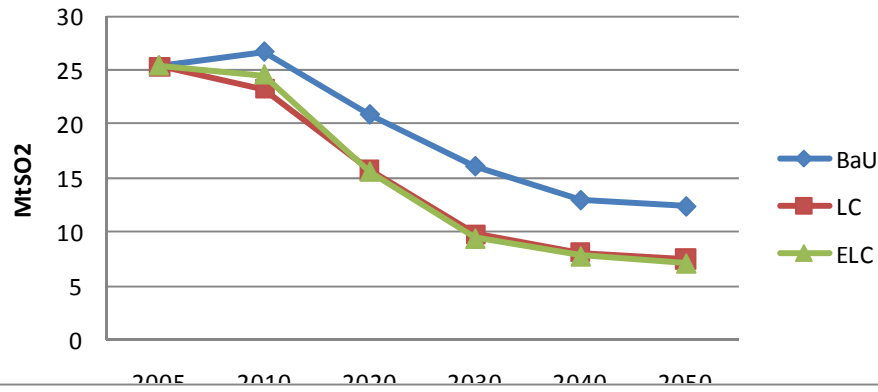
Annual Investment for CCS in China



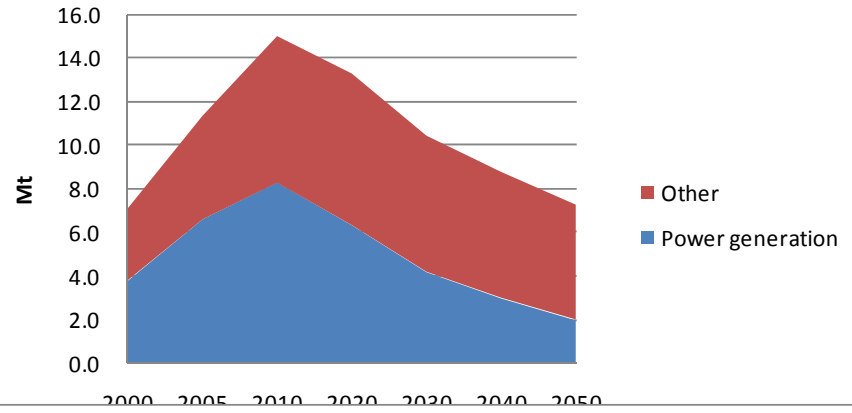
Roadmap for Electric Vehicle Development Technology

	2006-2010	2011-2015	2016-2020	2021-2025	2026-2030
Electric Vehicle Development Objective					
The Amount of Electric Vehicle(10,000)	Few	125	800	5,000	9,400
Quantity of Electric Vehicle Market Per Year(10,000)	Few	25	135	840	880
Electric Vehicle Technology Advance					
The Maximum Speed(km/h)	85	120	140	140	
Cruising Range(km)	112	130	200	350	400
Power Consumption Measuring on One-hundred-kilometer	16-18	14	13	8	8
Technology Advance					
Energy Density(Wh/kg, Wh/L)	90-125Wh/kg	150 Wh/kg;150 Wh/L	225 Wh/kg;200 Wh/L	500 Wh/kg;460 Wh/L	700 Wh/kg
Total Energy Pack Lifespan	16 1000 times	24 1500 times	40-48 3000 times	80-93 3800 times	112-124 3800 times
Cost(Yuan/kWh)	5025	2513	717	503	200
Charging Station Technology and Construction Process					
Charging Station Development Planning(National Grid and South Grid)	325 new charging stations and 1,870,000 charging piles	4,325 new charging stations and 2,840,000 charging piles	10,000 new charging stations and 3,000,000 charging piles		
Charging Station System Construction Process	Conventional charging facility (charging piles)construction; battery replacement mode demonstration; mainly in residency districts or parking of large office buildings	Conventional charging as primary; fast charging and battery replacement charging and battery replacement station mainly at the airport, railway station, hospital, shopping mall or petrol gas station and other public places	Conventional charging as primary; fast charging and battery replacement as supplementary to form an embryo for charging station network system	Improve charging station network system and lay out charging system on the charging cruising range of electric vehicle per time; solar energy charging station demonstration; mobile charging station demonstration	Controlled-charging technology makes electric vehicle be friendly-power consumption load; solar energy charging stations account for 5-10% of market share; mobile charging stations are applied.

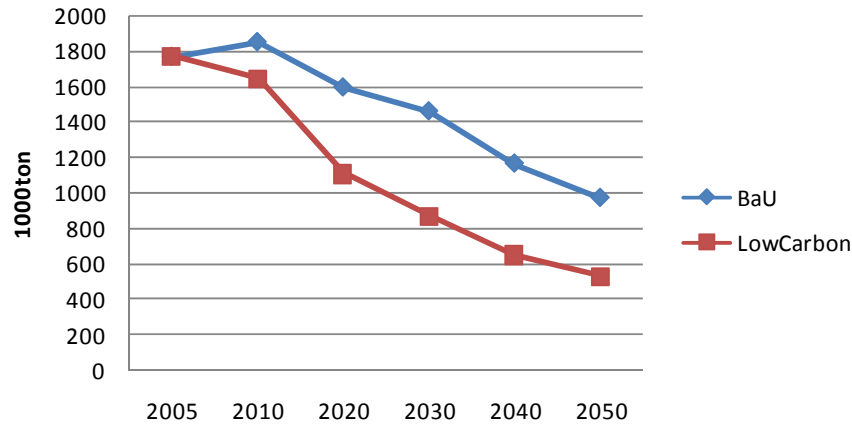
SO2 Emission



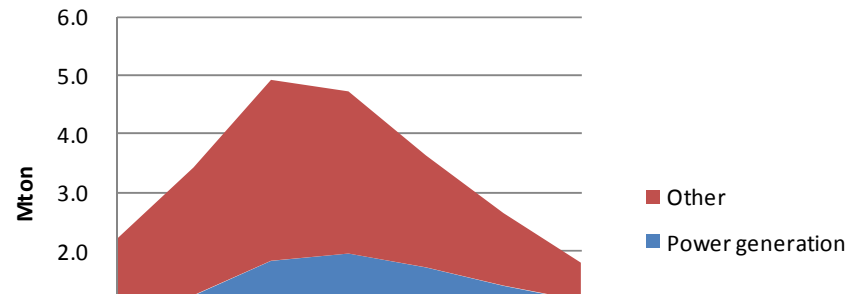
NOx Emission in China, ELC scenario



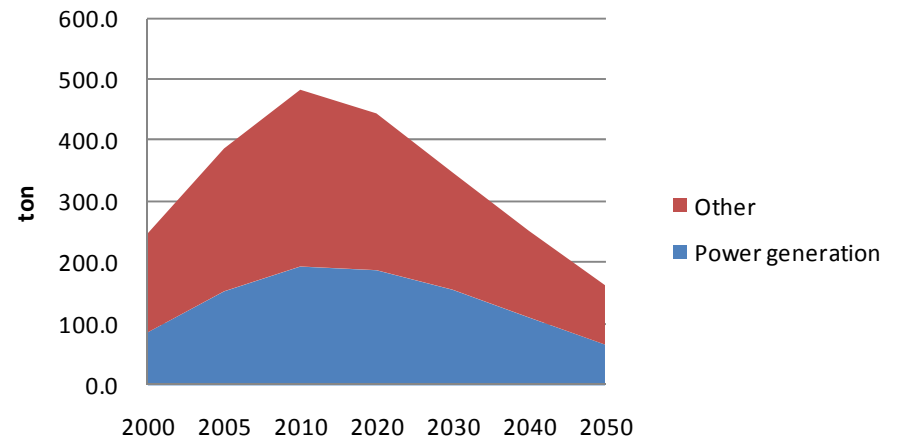
Black Carbon Emission in China



PM2.5 Emission



Mercury Emission



Transformation: Air pollution

Challenges for short term energy system in China

- We are in a rapid change period, energy system need to response right now.
- But it is difficult to make change due to inertia. It could happen in decades in other countries, but maybe 5 to 10 years in China
- Coal peak before 2015? Coal fired power plant peak by 2013?
- Much more natural gas demand
- Energy pricing should be higher, and need public to accept(public education)
- There are still more space for new policies
- It could be a big movement in China's energy system, all aspects

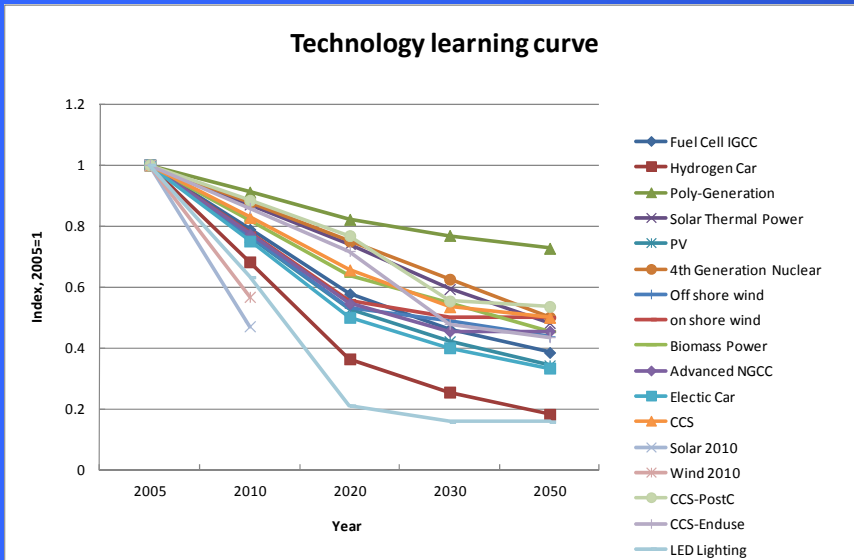
The expected big changes in energy system in China

- Coal consumption start to decrease, coal industry should be ready for it, and make own long-term strategy: local manufacture, export/import, security, clean coal use.
- Much more natural gas demand, need to work out for the supply
- Much faster progress on renewable energy, both centralized and distributed
- Grid should be reconstructed to support the system
- Energy price increase, to cover energy environment externality.
- Large scale of nuclear in
- Much lower growth rate for energy demand in China

Renewable Energy

- Renewable Energy Planning 2006: wind 30GW, Solar 2GW by 2020
- 2009 Energy Bureau: Wind 80WG
- 2010 Energy Planning: Wind 150 GW, Solar 20GW by 2020
- 2013, the 12th Five Year Plan: 20GW of solar PV by 2015, 150GW wind
- February 2013, 35GW PV by 2015
- Now: Wind 200GW to 300GW, Solar 50WG to 120 GW
- Based on the conclusion from Chinese Academy for Engineering, grid in China could adopt these renewable energy power generation in short term.
- By Nov.2013, the plan on renewable energy development could be revised again.

Transformation: Technologies



荣威E50的长/宽/高分别为3569/1551/1540mm, 其定位为A00级紧凑型车。



Price: US\$38000

Subsidy: US\$15000(Shanghai), no need to apply number plate(cost US\$10000)

US\$18000(Beijing), no need to apply number plate(By Oct. 2012, 1.1 million people apply for 20000 number plates per month),

By 2020, Wind 200GW to 250GW, Solar 50WG

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夺宝岛

在线游戏

办中银京东卡

全部结果 > “平板电视机”

所有类目

大家电 (313)

平板电视 (277)

家电配件 (35)

家庭影院 (1)

相关搜索: 平板电视 | 电视机 | 电视 | 液晶电视 | 平板电脑 | 冰箱

“平板电视机” 找到321件相关商品

品牌: 熊猫 (PANDA)

康佳 (konka)

网购上京东
省钱又放心

荣耀四核

热门搜索: 新一代AF

网购上京东
省钱又放心

灯泡

热门搜索: 新一代APU 跑步机 老板

全部商品分类

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全部结果 > “LED平板电视机”

所有类目

大家电 (253)

平板电视 (248)

家电配件 (5)

“LED平板电视机” 找到253件相关商品

品牌: 京东方 (BOE)

夏普 (sharp)

长虹 (CHANGHONG)

价格: 0-2199 2200-3799

品类: LED背光电视 LCD背

广告商品



惊爆价

华 (ROWA) LED23C310A 23英寸
LED液晶电视 USB+HDMI 液晶显
¥999.00

惊爆价

节省补贴
250元

热卖

排序: 相关度 销量 价格 评论

库存: 全国 仅显示有货 商品

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服装城

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全部结果 > “灯泡”

所有类目

灯具 (691)

节能灯 (143)

LED灯 (365)

装饰灯 (15)

台灯 (10)

氛围照明 (13)

吸顶灯 (76)

应急灯/手电 (2)

五金电器 (2)

吊灯 (58)

落地灯 (7)

五金家装 (40)

相关搜索: 节能灯泡 | 节能灯 | 灯 | led灯泡 | 台灯 | 火

“灯泡” 找到1068件相关商品

品牌: 飞利浦 (Philips)

格润莱特

麦辉 (MAWUI)

莱威光电 (

蒙特丽

高朵

价格: 0-69 70-199 200-499 500-1199

排序: 相关度 销量 价格 评论数 上架时

库存: 全国 仅显示有货 商品类型: 全部

- + 礼品
- + 运动器械
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¥6.9
参考价: ¥55.0

60000人收藏, 70000人购买,
80000人安装!

¥6.90

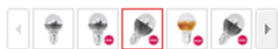


买五送一

满五送一 亮昀美LED灯泡e14尖泡蜡



买五送一



亮昀美LED灯泡E27 LED灯具节能灯大螺口
球泡光源QPJ014 3W白光 3W单品买五送

¥5.80 直降

★★★★★ 已有10077人评价

北京有货



3W

云科技 芯照明



佛山照明 LED灯泡 3W超炫E27暖白光球
泡 2支装

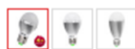
¥30.00 直降

★★★★★ 已有3205人评价

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¥6.9
参考价: ¥55.0



V瓦特沃LED灯泡球泡E27大螺口led光源 3
W 3W贴片正白 3W (继续狂欢 3w 6.9

¥6.90 直降

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佛山照明 LED灯泡 3W透明全柱E14暖白
光尖泡 5支装

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限量
1000套



VNC3W经济型天花灯LED一体化背景墙射
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☑️3W☑️正白☑️E27球泡



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3w/5w/7w e27螺口灯 lamp 3W球泡~JDC1

¥5.70 直降

★★★★★ 已有490人评价



全民
百货



佛山照明 LED灯泡 3W透明全柱E14暖白
光蜡尾尖泡 5支装

¥115.00 直降

★★★★★ 已有107人评价



全民
百货



佛山照明 LED灯泡 7W超炫银E27暖白光
球泡 2支装

¥76.00 直降

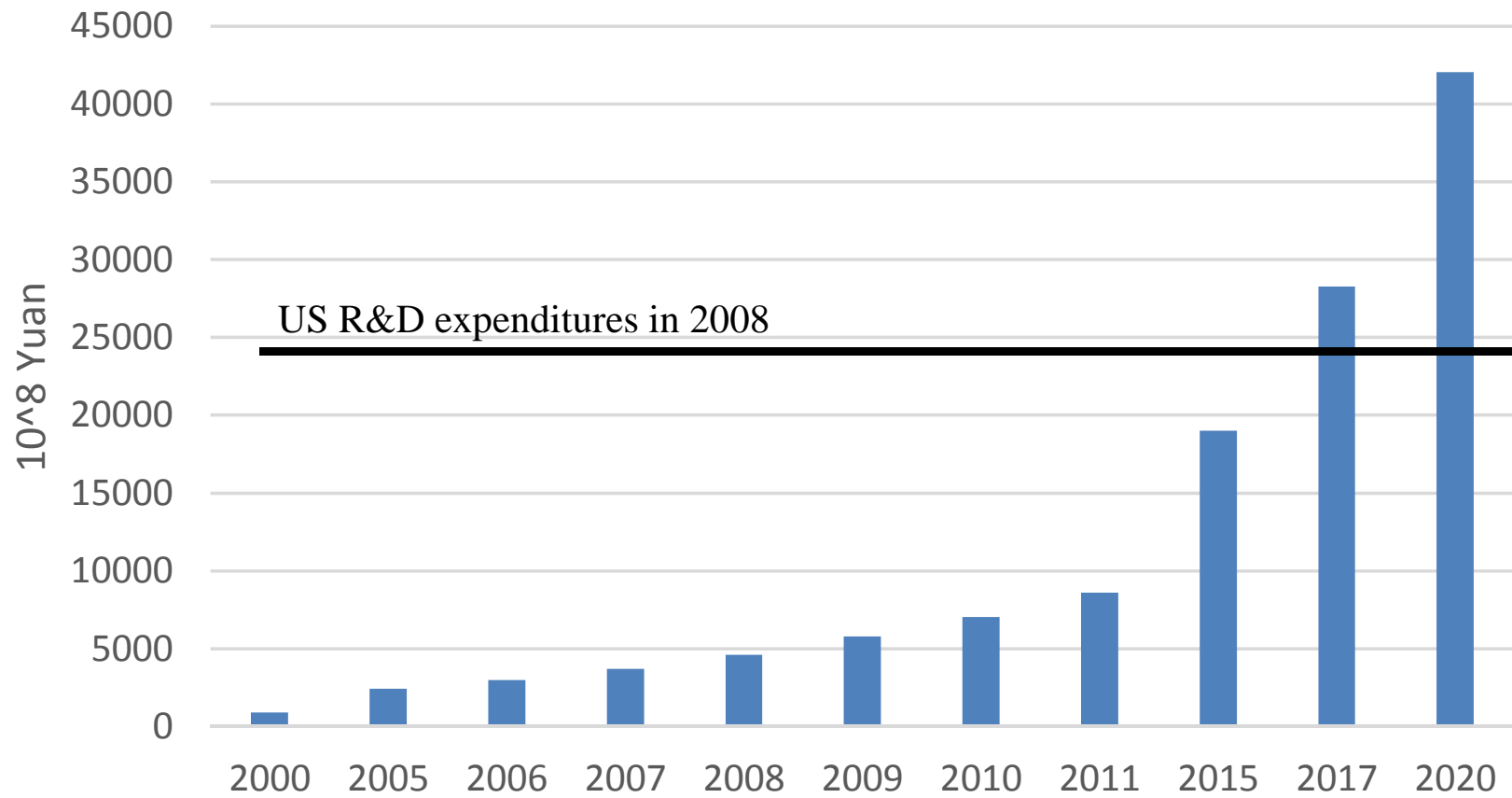
★★★★★ 已有450人评价

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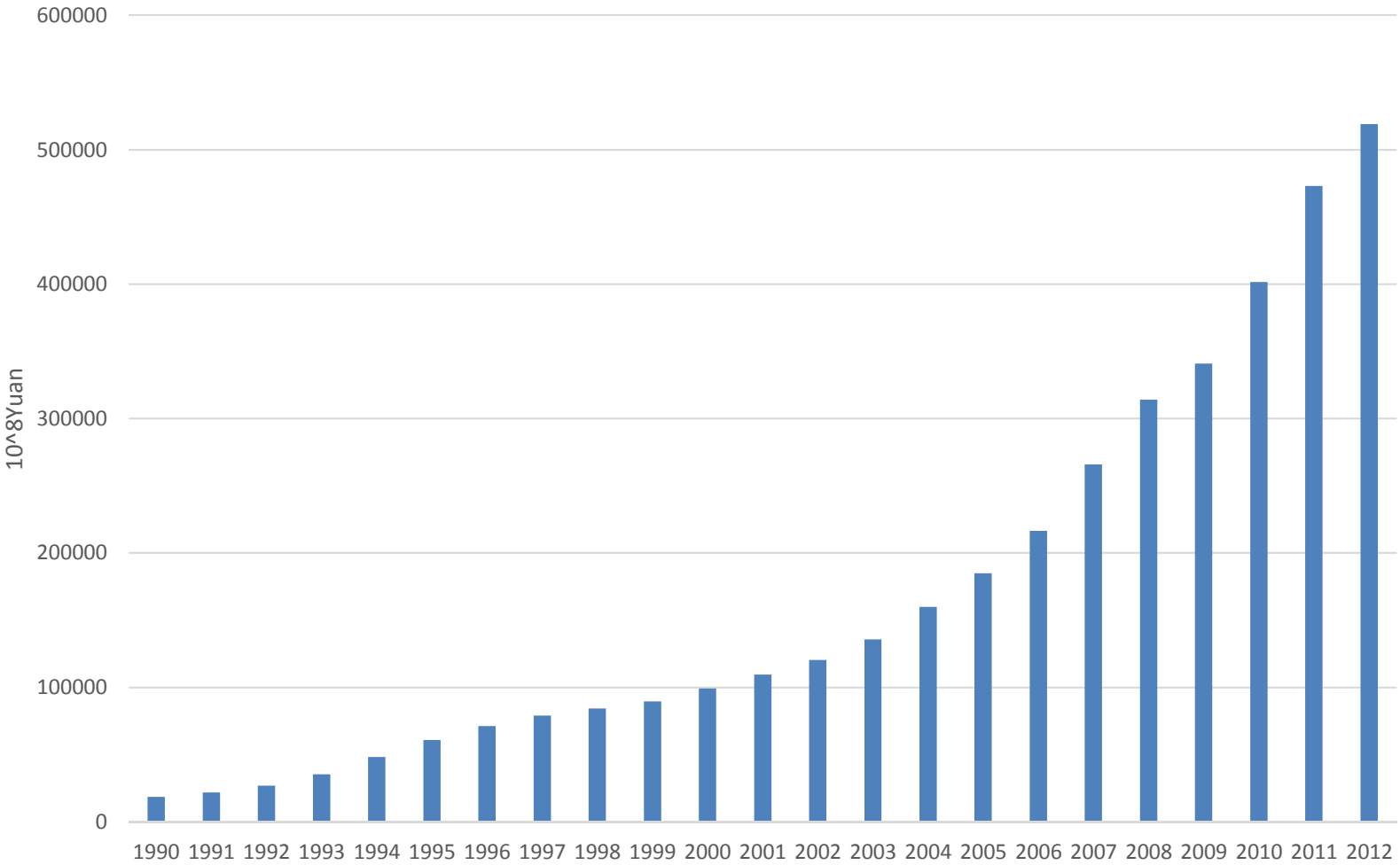
The New Five Year Plan on Air Pollution Control

- From 2013 to 2017
- Target: 30% improvement of air pollution
- A package of policies
- In which: reducing coal use in key areas including Beijing-Tianjin-Hebei region, Yangtze Delta Regions, Pearl River Delta Region
- Clean oil supply for vehicle, upgrade emission standard and oil quality
- Regulation on diffusion on high efficiency cars

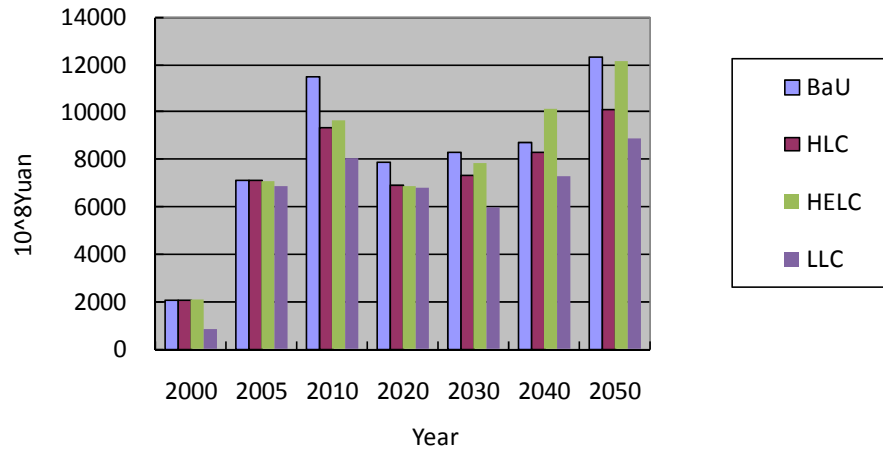
R&D Expenditures in China



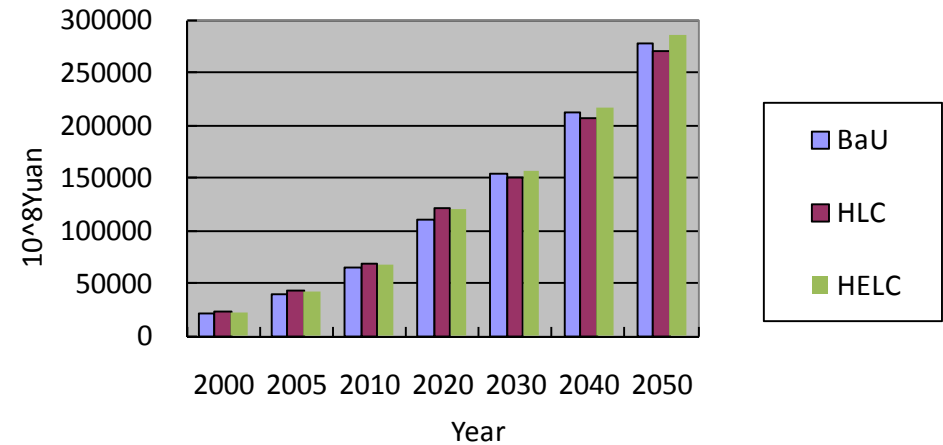
GDP in China, current price



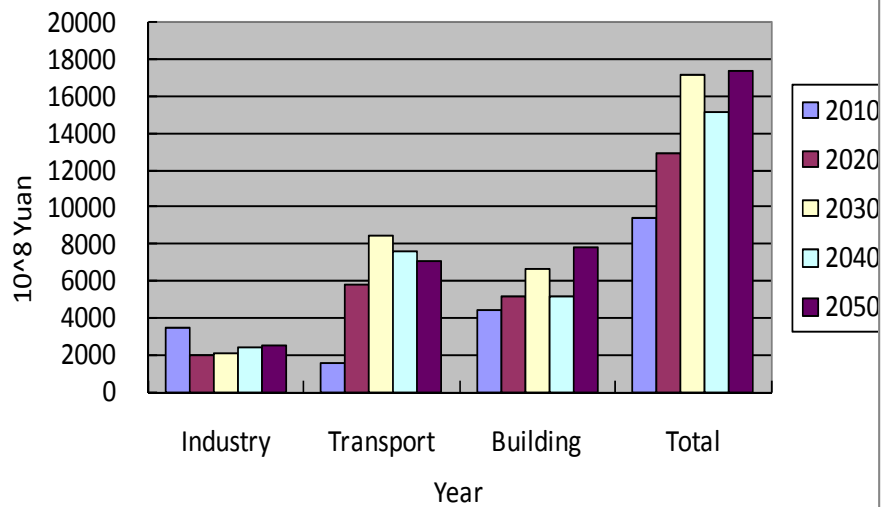
Investment in Energy Industry in China



Energy Expenditures in China



Additional Investment in end use sectors in ELC



GDP Loss, %

