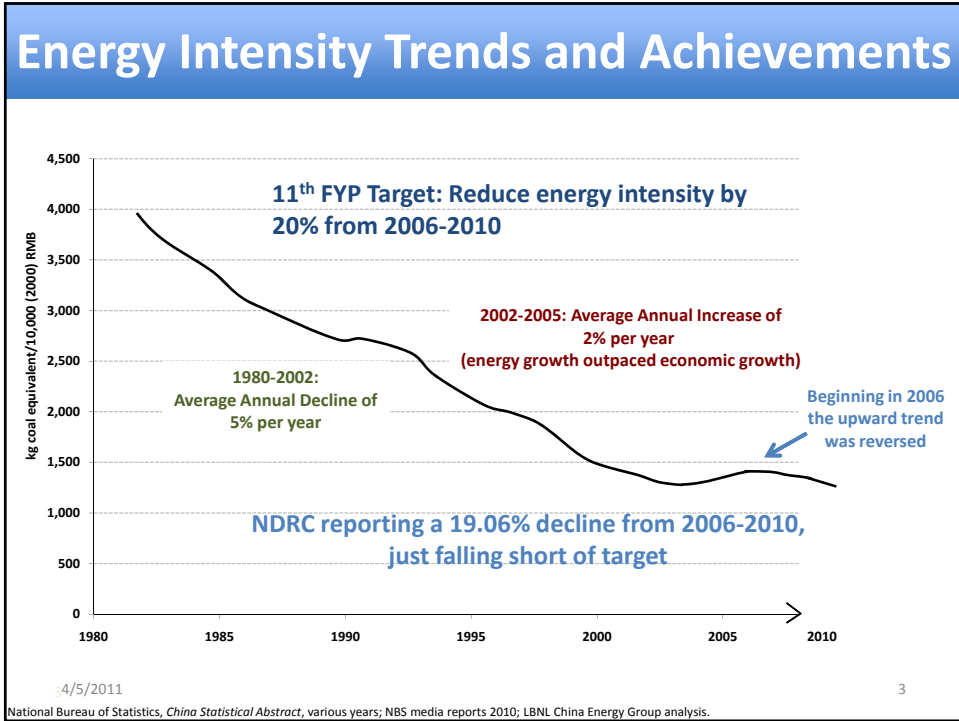


China's Energy and Climate Initiatives: Progress on Renewable Energy and Energy Efficiency

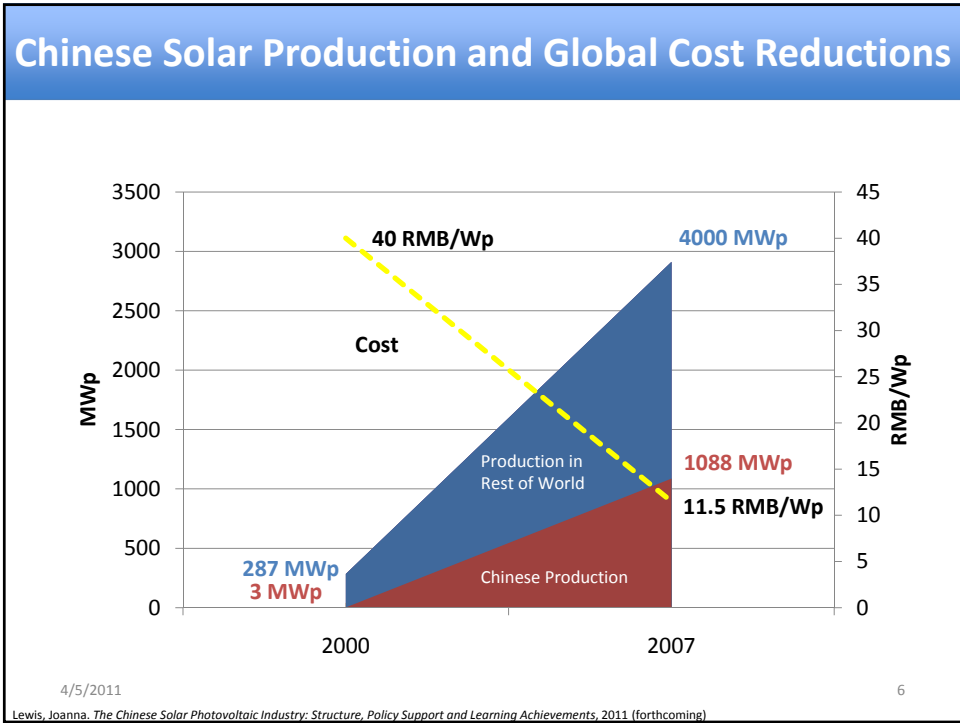
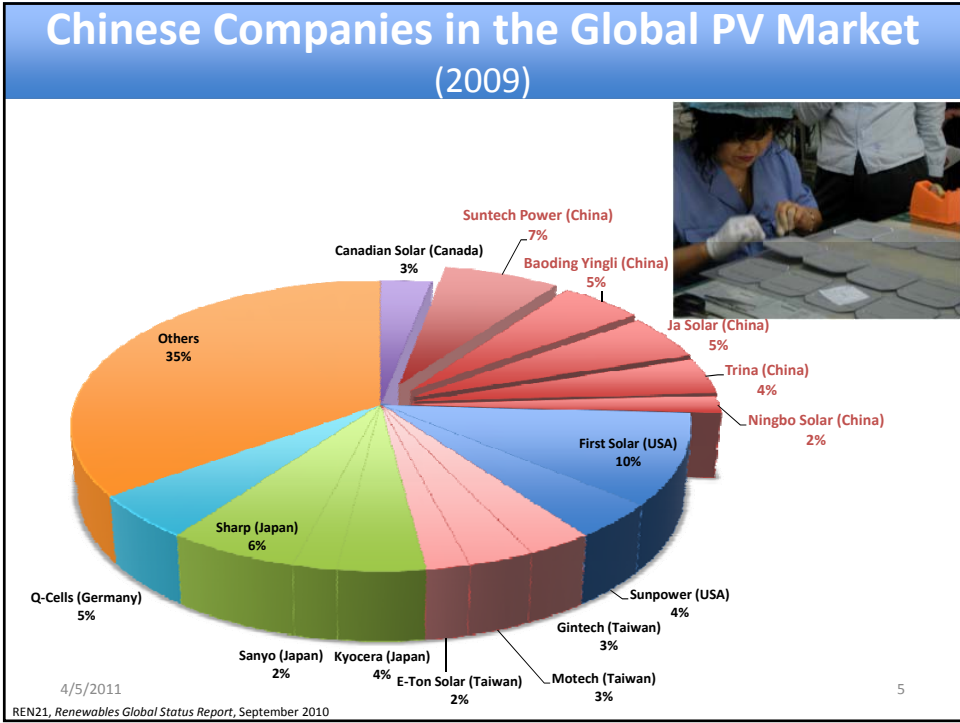


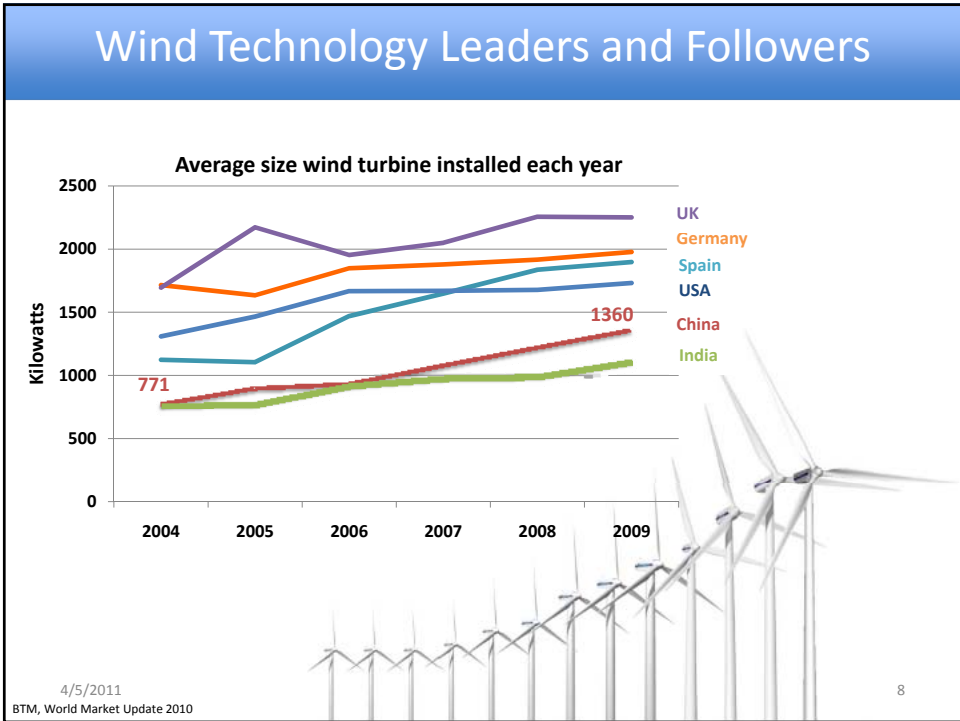
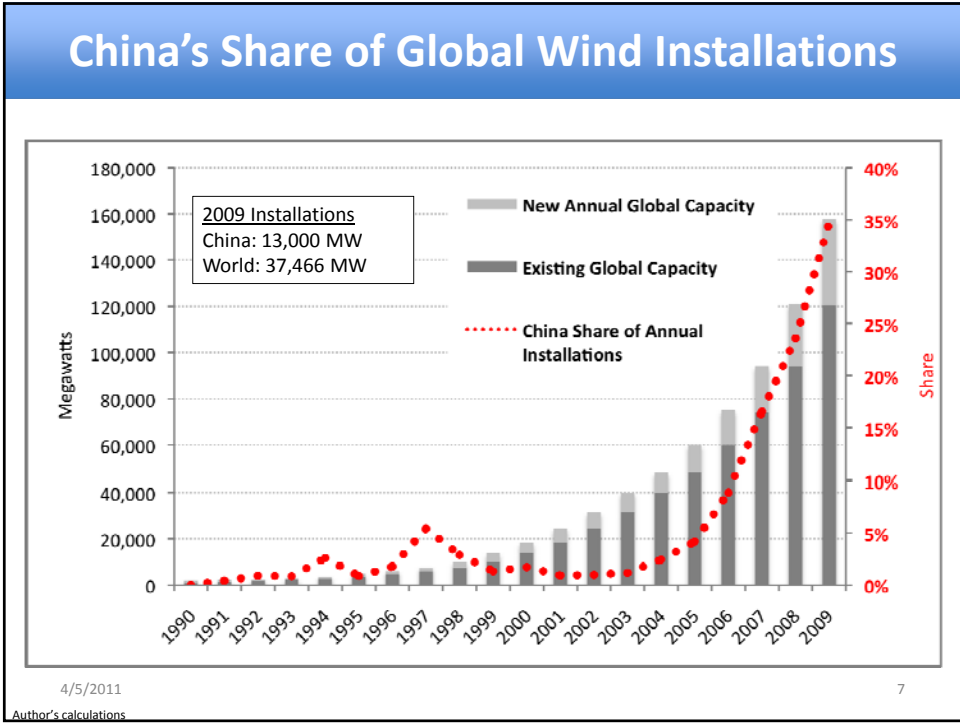
China's Clean Energy Achievements

- Is the **leading manufacturer** of most renewable energy technologies (small and large wind, solar PV, small and large hydro, solar hot water)
 - Became **largest wind market** in the world **largest user of clean energy overall** in 2010
 - Is developing first of its kind government-coordinated **gigawatt-scale wind and solar** projects
 - Invested **\$54.4 billion in clean energy** last year – more than any other country
 - Shut down **72.1 GW of inefficient fossil power plants** and incentivized adoption of more efficient technologies in industrial plants
 - Put in place key improvements in the collection of **energy statistics** and incentives for local **enforcement**
- *Focus today on how this was accomplished, and what is yet to come*



- ## Energy Efficiency and Conservation 2005-2010
- **National Energy Intensity Target:** 20% below 2005 levels by 2010
 - Achieved 19.01% reduction
 - **Top 1,000 Program** targeted large enterprises for efficiency improvements
 - These companies represent 1/3 of China’s energy consumption
 - Industrial sector is 70% of energy consumption so most important target for efficiency improvements
 - **10 Key Projects Program** (MOF) provides financial incentives for implementing energy efficient technology and proving results
 - **Plant Closures:** Inefficient power and industrial plants targeted for closure (over 70 GW of power plants alone shut down)
 - **The 2007 Energy Conservation Law** implements sweeping improvements across the economy, including for monitoring and verification
 - Other programs target end-use energy efficiency of buildings, consumer goods
 - **Industrial restructuring** is the end goal – but shifting from manufacturing to service industries takes a long time
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Policy Timeline for Wind Development

- 1994: Provisions for On-Grid Wind Farm Mgt
- 1996: RE Fund, start of local content requirements
- 1997: Ride the Wind Program, Double-Increase Program
- 1999: Low interest loan program for wind farm development
- 2001: 863 High Tech Program for Wind Energy R&D**
- 2002: VAT reductions on wind electricity
- 2003: Wind Concession Program begins**
- 2006: National Renewable Energy Law; R&D support for 2-3 MW turbines**
- 2007: Mid and Long Term RE Implementation Plan
- 2008: MOF subsidy to turbine manufacturers for demonstrations
- 2009: Feed-in tariffs for wind established; six 10 GW+ wind bases announced**

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Policy Outlook: 12th Five-Year Plan (2011-2015)

- Targets
 - **Non-fossil energy target:** 11.4% of total energy use by 2015 (15% by 2020)
 - **Energy intensity target:** 16% reduction 2011-2015
 - **Carbon intensity target:** 17% reduction 2011-2015
- Strategic industries redefined
- Carbon policies

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Strategic Industries Redefined

	The <i>old</i> pillar industries	The <i>new</i> strategic and emerging industries
1	National defense	Energy saving and environmental protection
2	Telecom	Next generation information technology
3	Electricity	Biotechnology
4	Oil	High-end manufacturing (e.g. aeronautics, high speed rail)
5	Coal	New energy (nuclear, solar, wind, biomass)
6	Airlines	New materials (special and high performance composites)
7	Marine shipping	Clean energy vehicles (PHEVs and electric cars)

- “Pillar industries”** – strategically important for national security and public interests (over 70% of SOE assets and profits concentrated in the “old” pillar industries)
- Receive access to dedicated state industrial funds; increased access to private capital
- Supported by national industrial policy (tariffs, preferential loans, R&D funds)

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Decision on speeding up the cultivation and development of emerging strategic industries (国务院通过加快培育和发展战略性新兴产业的决定) http://www.gov.cn/jdhd/2010-09/08/content_1698604.htm; HSBC, *China's next 5-year plan*, October 2010. 11

Carbon Policies

- Carbon intensity target**
 - 17% reduction 2011-2015, and a 40-45% reduction in carbon intensity from 2005 levels by 2020
 - Long term target was announced prior to Copenhagen (Nov 2009) and short term target is enshrined in China’s 12th Five-Year Plan
 - Will require larger amounts of low-carbon non-fossil energy
- New national carbon inventory**
 - Required by Cancun Agreements
 - Used domestically to set goals for emissions reductions by region and sector
- New carbon policies...**

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Carbon Policies

- **Carbon tax?**

- “China is to impose an environmental tax on heavy polluters under an ambitious cleanup strategy being finalized in Beijing”
- “The environmental tax could come into force in 2013, with potential pilot programs in select provinces before national implementation”
- “Carbon dioxide, a key concern given China's status as the world's biggest greenhouse gas emitter, may be included in the system at a later stage, though the issue is being debated”


- **Carbon trading?**

- “The Chinese government wants to begin a pilot program in a single sector or city to test the impact of an emissions cap on growth ahead of a possible nationwide move to carbon trading”
- “China’s plan to begin carbon trading may be held up by negotiations with cities and industries over how to set a limit for emissions”
- “The use of market-based mechanisms represents a departure for the communist government from previous five-year plans”
- **“China’s carbon-trading pledge signals new world order”**

Quotations taken from various media reports, including: <http://www.guardian.co.uk/world/2011/feb/04/china-green-tax-polluters>; <http://www.sigrand.cn/china-introduce-environmental-tax-polluting-industries>; http://business.timesonline.co.uk/tol/business/industry_sectors/natural_resources/article6850773.ec; <http://www.bloomberg.com/news/2010-10-07/china-carbon-trading-plan-may-be-held-up-by-its-economic-growth-priority.html>

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