

China's Green Economy: Opportunities and Issues for the region

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Outline

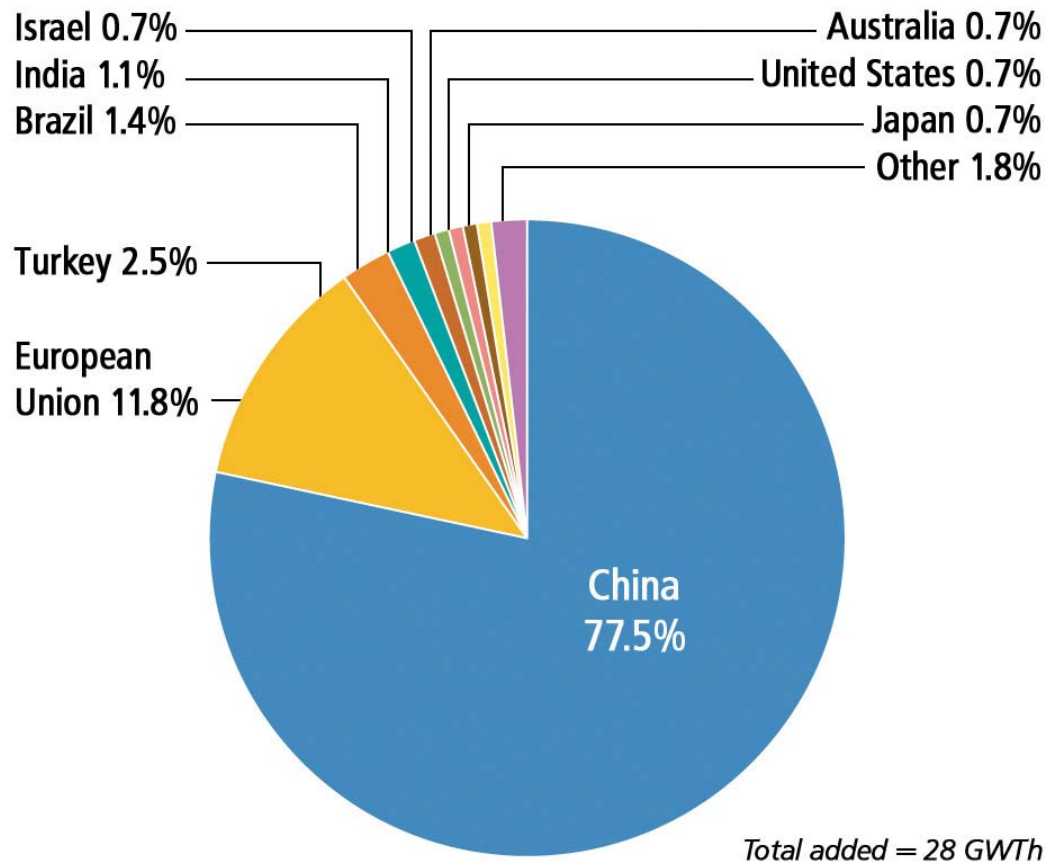
- China's achievements in green economy in the past
- Outlook of China's next five year plan
- Opportunities and issues for Australia, New Zealand and the region

China's achievements in the past

- 11th five year plan (2006-2010)
 - Energy intensity 20%
 - By end of 2009, 15.61% achieved, which is equivalent to about 100 million tce
 - 10% renewable in energy mix
 - By end of 2009, about 10% achieved
 - 10% SO₂ reduction
 - By end of 2009, 13.14% over achieved
 - 10% COD reduction
 - By end of 2009, 9.66% achieved
 - 20% forest coverage rate
 - By end of 2009, about 20%

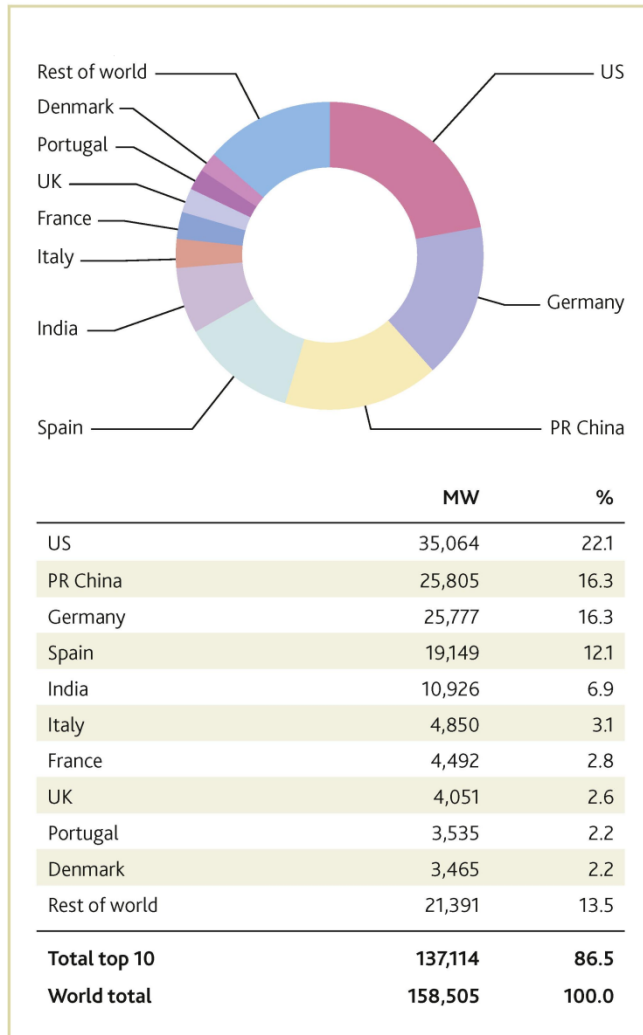
Solar Thermal

Figure 10. Solar Hot Water/Heating Capacity Added, Top 10 Countries/Regions, 2008

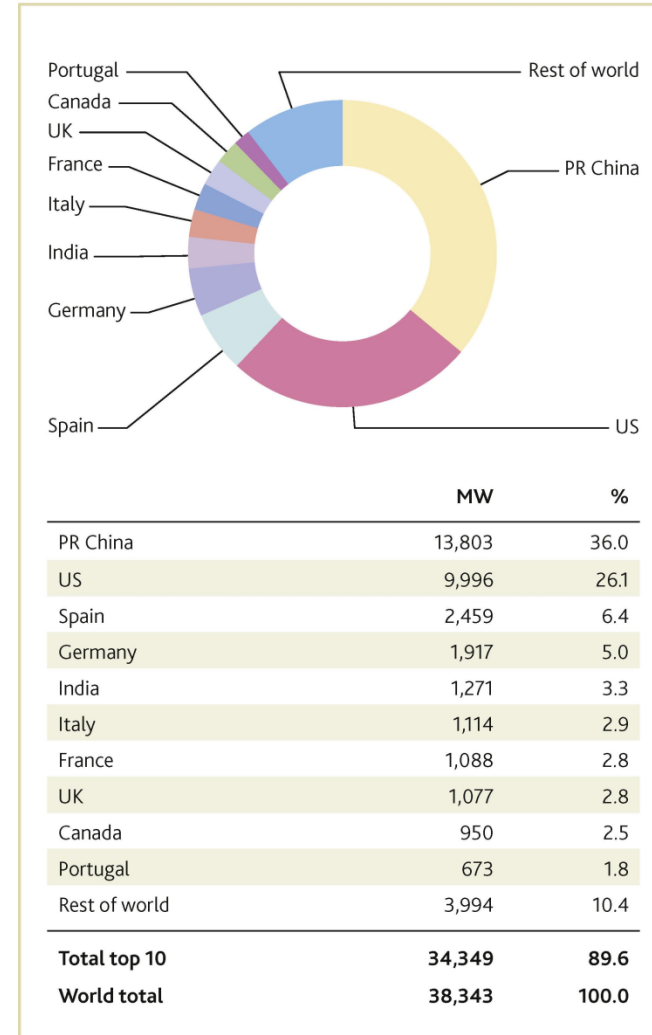


2009 Market Leaders

TOP 10 CUMULATIVE INSTALLED CAPACITY 2010



TOP 10 NEW INSTALLED CAPACITY 2010



Outlook of China's next five year plan

- Draft of 12th five year plan (2011-2015)
 - SO₂ emissions 10% reduction
 - Power sector and non-power sector
 - NO_x emissions x% reduction
 - Power sector
 - Meeting vehicle emissions standards of G4/Euro IV
 - PM
 - Not national requirements, but many cities's priority

Outlook of China's next five year plan

- Draft of 12th five year plan (2011-2015)
 - Carbon intensity 15-20%
 - to reflect 40-45% target
 - Renewable energy taking up y% of total energy mix
 - COD emission, 10% reduction
 - NH₃-N emission, 5-10% reduction, mainly from surface water pollution
 - Polluter's pay discharge
 - Organic farming

Outlook of China's next five year plan

- Reduction approaches
 - Structure adjustment
 - Economy structure
 - Energy structure
 - Low tech, high tech structure
 - Efficiency improvement by engineering and management
 - Energy-saving, energy efficiency improving
 - De-sulfur engineering
 - De-nitrogen engineering
 - Scale control
 - Control scale of production by reducing demand and exporting
 - Iron and steel, cement, coke etc
 - Discouraging exports of high carbon, heavy pollution products

Outlook of China's next five year plan

- Impacts
 - efficiency of energy use to be improved a lot
 - the win-win measure for both carbon and sulfur, nitrogen
 - the low cost (even benefits) measure from economic aspect
 - MIIT is promoting the energy efficiency program for industries
 - changes in energy use towards lower carbon
 - More wind power, solar and small and micro hydro, biomass by y%
 - More natural gas, oil and biomass
 - less coal, from 68% to z%

Outlook of China's next five year plan

- Impacts

- Energy price

- Shadow energy prices increasing
 - Energy price still under control by central government because of social concern and inflation concern
 - Governmental command and control interventions to fill the gap between shadow price and actual price

- Fuel imports

- may increasing for energy security reason and rapid growing conventional vehicles
 - may not increasing due to constrains of geo-politics and electrical cars growing and renewable growing

Outlook of China's next five year plan

- Impacts
 - electricity generation built
 - Coal based:
 - Super-critical, super-super critical and testing IGCC
 - phase out all of the small power plants under 200 MW capacity
 - » Already phased out 70 GW capacity in the past five years
 - Natural gas based
 - Renewable energy
 - Wind
 - Solar
 - Small and micro Hydro
 - Nuclear

Outlook of China's next five year plan

- Means of implementation
 - Moral education
 - Mandatory command and control
 - Public budget
 - 3 trillion CNY budget for environmental components, based on the 11th five year 1.4 trillion CNY expenditures
 - Market based instruments
 - Tax
 - Carbon tax
 - resources tax
 - sulfur and NOx tax/fee
 - Trading
 - SO2 trading pilot
 - 3 carbon exchange offices
 - Trading of renewable quota

Outlook of China's next five year plan

- Whom to be involved to implement the program
 - Producers
 - Consumers
 - Exporters, importers and consumers abroad
 - 23% of carbon emissions
 - 38% of sulfur emissions
 - 18% of COD emissions

Potential opportunities

- Background
 - China's 12th five year plan
 - China's FTA with NZ and hopefully soon with Australia
 - New Climate Treaty in Cancun or
- Business opportunities
 - Investments and technology for manufacturing turbines, PV panels
 - Strong demand for clean coal technology
 - Strong demand for water resources and sewage management, technologies and investments
 - Demand for natural gas
 - High education for low carbon economy
 - High speed low-carbon train to link Melbourne – Canberra – Sydney

Other issues

- China might be
 - Decreasing import of iron ore
 - Decreasing exports of rare earth elements
 - Increasing import of agriculture products
- And then Australia and New Zealand would be

Thanks!

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