



Renewable Energy Planning and Actions in China

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Outline

1 Update of China renewable energy implementation

2 Renewable energy planning in China

3 Renewable energy development incentives

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Due to the encouragement of the Society, renewable energy in China has a fast development process.

As the definition of <Renewable Energy law>(issued in 2005, implemented on Jan.1st 2006), renewable energy including hydro, wind, solar, biomass , Geothermal , tides etc.

Renewable energy development has been clearly stated in the <Renewable Energy law> as the priority technologies to be encouraged by Chinese Government



Renewable energy current situation in China

Installed capacities of renewables:

- Hydro: 145GW with electricity generation of 483billion kwh rank the first place of the world, and account for 20% of the total installed capacity for electricity generation, 850GW of the world total hydro capacity
- Wind: 6GW; increase capacity of 2006-2007 is more than 3GW(CDM 2006 2.7 2007 4.4 GW), achieve increase rate of 148% per year. CDM2008 has reach to 6GW

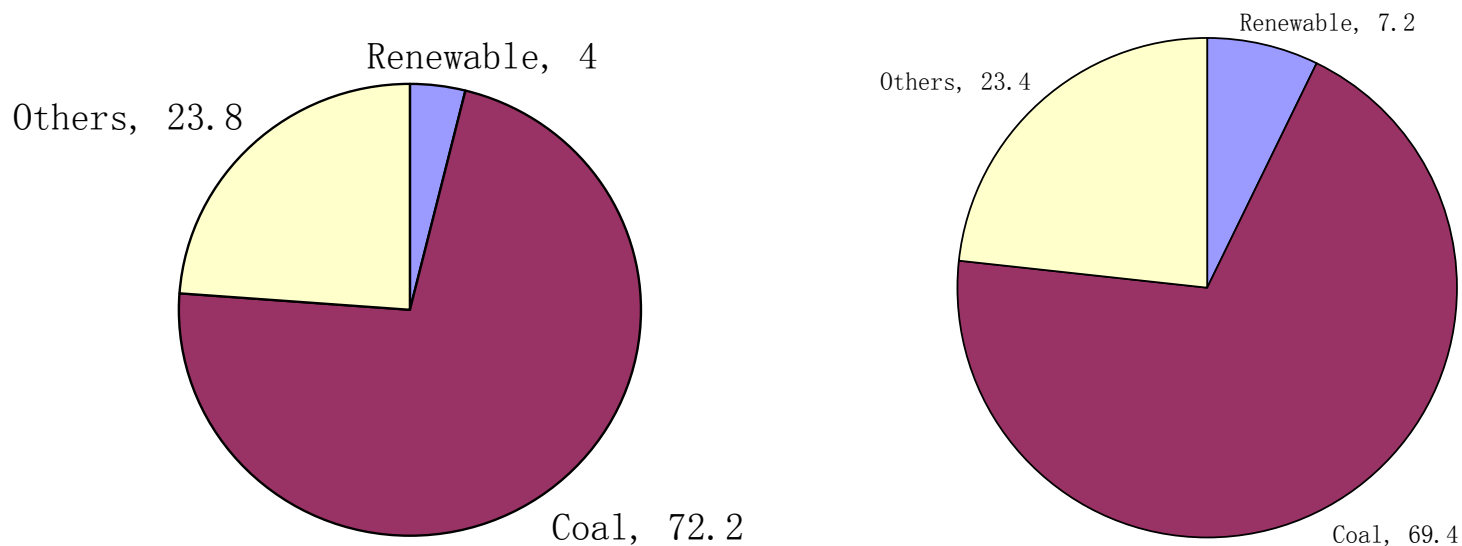


- Solar: Mainly for SWH, the area has been installed heat collector appliances already exceeded 100Million square meters the world biggest consumer in this regard.
- Biomass energy: 3GW biogas projects provided clean energy for more than 80 million rural families.
- Nuclear power : 9 GW 30.5% increase of 2006

(1 gigawatt = 1000 megawatt)

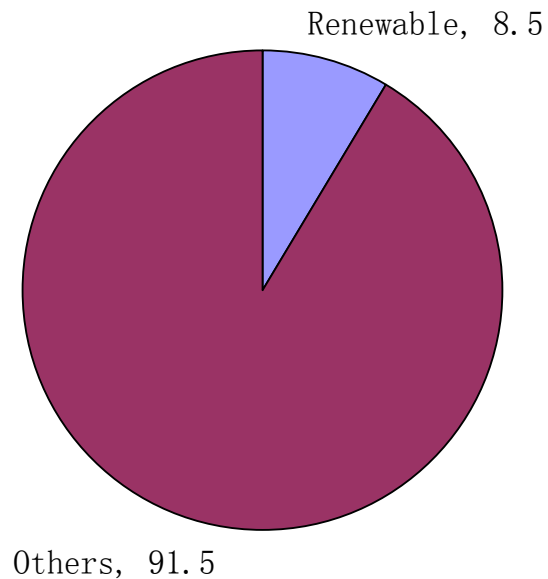


- The share of renewables in energy mix increase from 4% of 1980 to 7.2% in 2007, which help to reduce the share of coal from 72.2% to 69.4%.





The total amount of renewable energy could be converted into around 202 million tons of standard coal, a count for 8.5% of total primary energy consumption of China





Renewable Energy Planning

To address climate change and energy supply securities,
Chinese government hold very positive attitude
toward renewable energies

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Middle and long term planning for Renewable energy

Middle and long term planning for Renewable energy, issued in 2007, state that renewables are planned to take 15% share in energy mix of 2020.



Renewables in the year of 2020

According to this goal, the installation capacity of

- Hydro should be reach 300GW vs. 190GW of 2010, 145GW of 2007
- Wind power, the 2020 30GW vs. 6GW of 2007, 5 times compared with current scale.(In the planning 5GW of 2010 has been exceeded)
- Biomass energy, 30GW of 2020 vs. 2.2GW of 2007
- Solar energy, 1.8GW of 2020 vs. 300MW of 2010, 100MW of 2007



Current to 2020

Unit:GW

items \ year	2007	2010	2020
Hydro	145	190	300
Wind	6	(5)	30
Biomass	2.2		30
Solar	0.1	0.3	1.8

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Fast progress of target

Two year but very big steps:

- Renewable Energy law issued in 2005, state that till 2010 the share of renewables should account no less than 5% of the energy mix;
- Middle and long term planning for Renewable energy (issued in 2007) state that renewables are planned to take 10% share of energy mix in 2010 as well as 15% in 2020.



To balance the development of various renewable energy

Renewable energy planning also require renewable energy

except Hydro should account for 1% of energy mix in 2010,

and 3% in 2020 as well. To encourage diversity of renewable

energy development.



Incentives for RE development

Domestic:

➤ Tariff concession

Key elements of wind turbine Import will implement tax reimbursement policy

➤ Value added tax preference

Compared with the normal value added tax rate of 17%, biogas project are implement 13% rate, while hydro project enjoy 6%

➤ Soft loan

Renewable energy project could apply for soft loan from different sources like special-purpose Soft loan for rural area energy improvement project and special-purpose loan for technology innovation (former Committee of Economic Trade)

➤ Supported price policy

Some type of renewable energy would have supported price policy for example the electricity sold though major electricity grid form coal bed methane and biomass power plants would have 25cent increase price.

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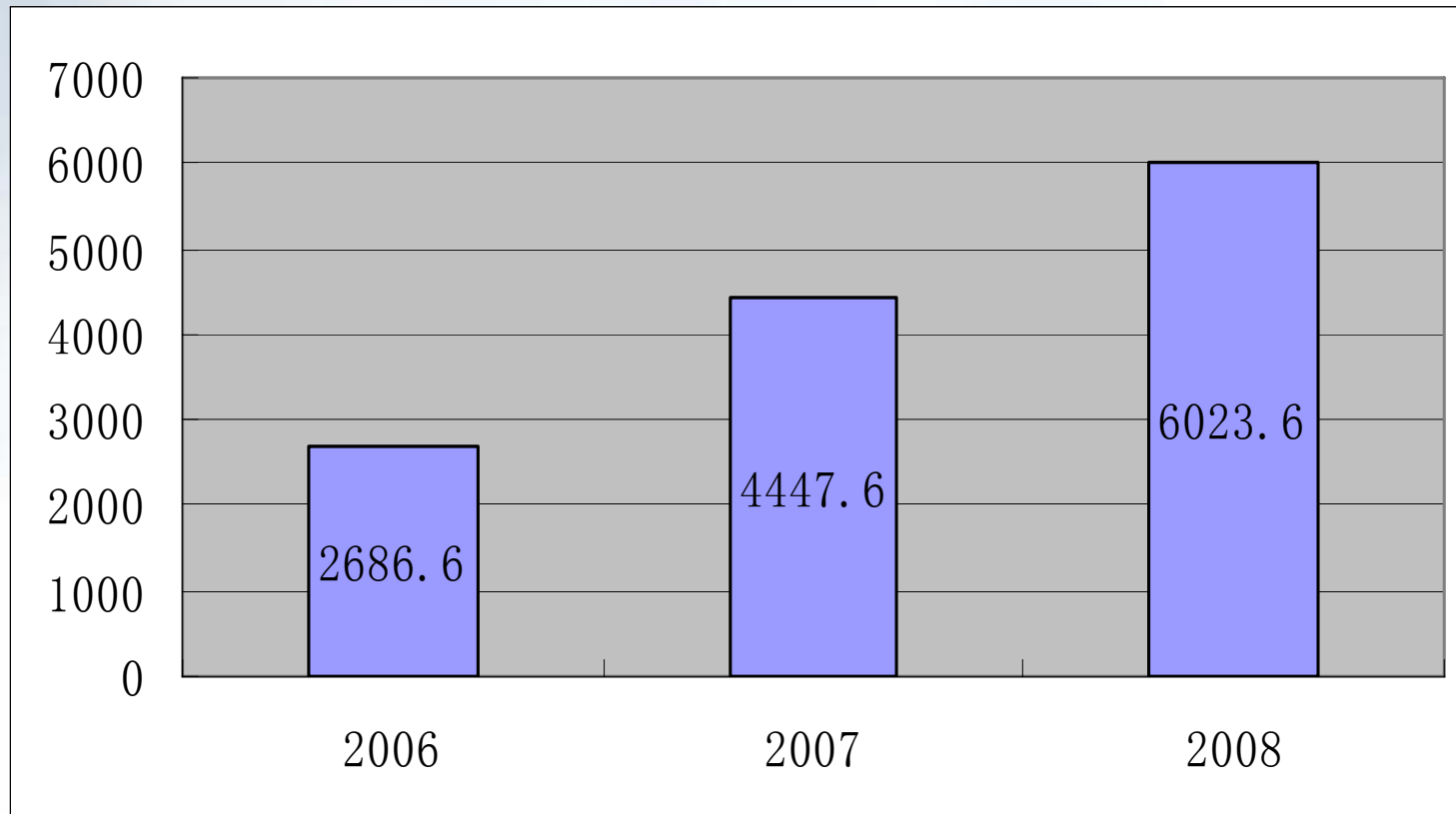
International:

- CDM & Carbon market



Development of wind power station

Installation Capacity			Unit: MW
2006	2007	2008.10	total
2686.6	4447.6	6023.6	13158



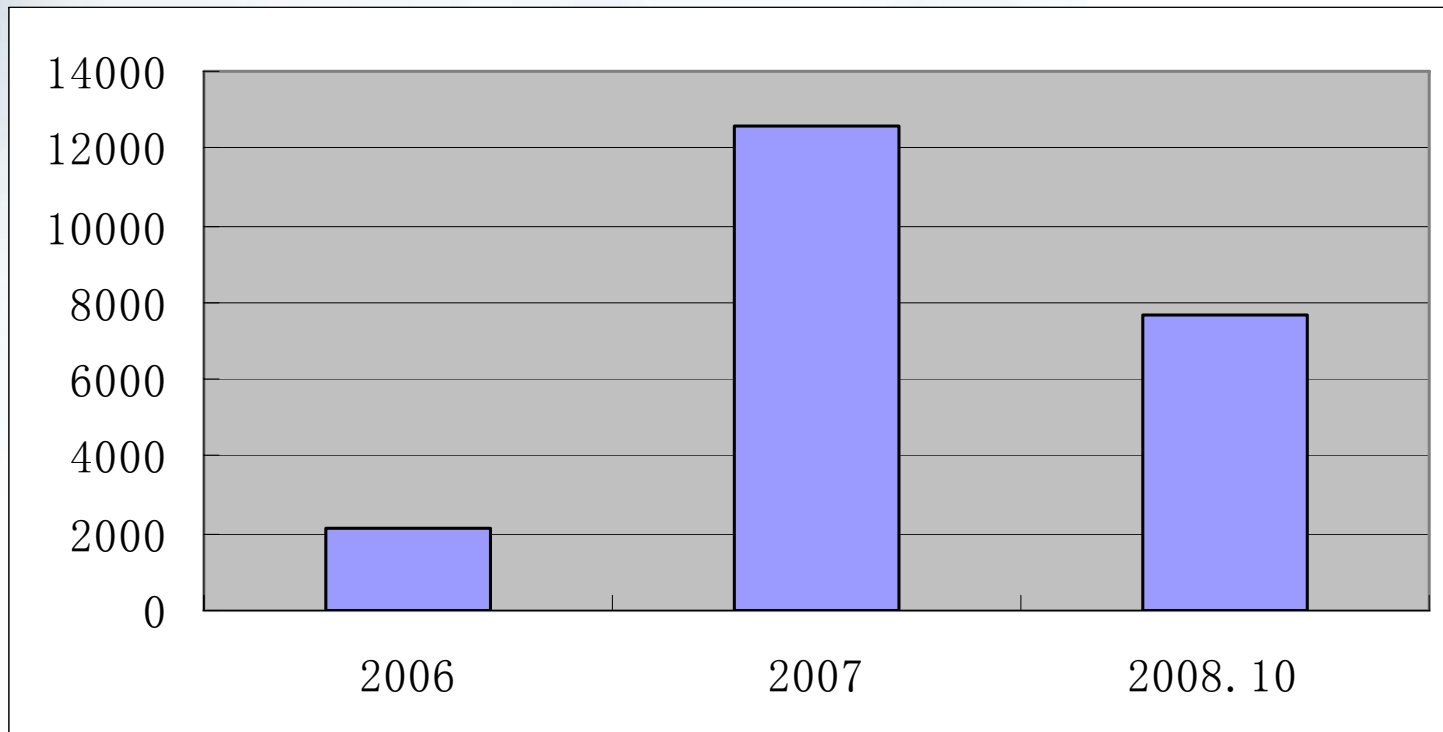
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Development of wind Hydro power

Installation Capacity Unit: MW			
2006	2007	2008.10	total
2139.8	12572.7	7637.4	22350



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Thank You !

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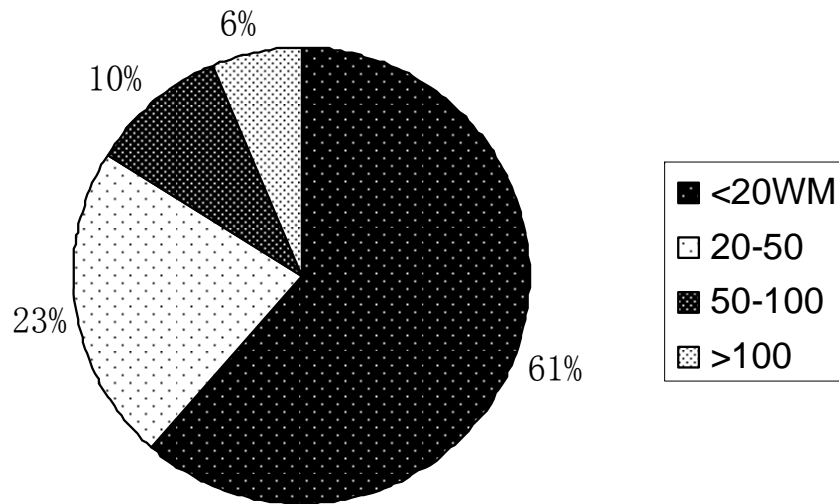


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从已经注册项目的装机容量来看，20MW以下的项目有57个，50MW以下的项目有78个，100MW以下项目为87个，而100MW以上的项目为6个。可见，目前注册的水电项目中，以中小型水电站为主。



capacity	pices
<20MW	57
20-50MW	21
50-100MW	9
>100MW	6
SUM	93



截止2008年8月13日发改委已批准的所有CDM项目来看，如果都能注册成功，水电项目年减排量为将可以达到77, 210, 386CER, 相对于可再生能源117, 940, 336CER的年减排量占到65%，相对与全部CDM 项目293, 631, 092CER，水电项目所占比例为26%。



我国水电项目极具CDM开发的潜力。根据最新水电资源普查结果,我国水电资源可开发量约为5.41亿kW,其中5万kW以下的水电资源约为1.28亿kW。这部分水电资源目前已开发约32%,剩余的68%(约为8600万kW)最适合开发CDM项目。如果能将这8600万kW装机的水电资源的10%按照CDM规则开发成功,可能产生2800万t CO₂的年减排量,所以我国水电仍然是非常有潜力的CDM项目。



谢 谢！

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