

# Renewables Global Status Report 2006

## 2006 世界可再生能源报告

Dr. Eric Martinot  
马天瑞 博士

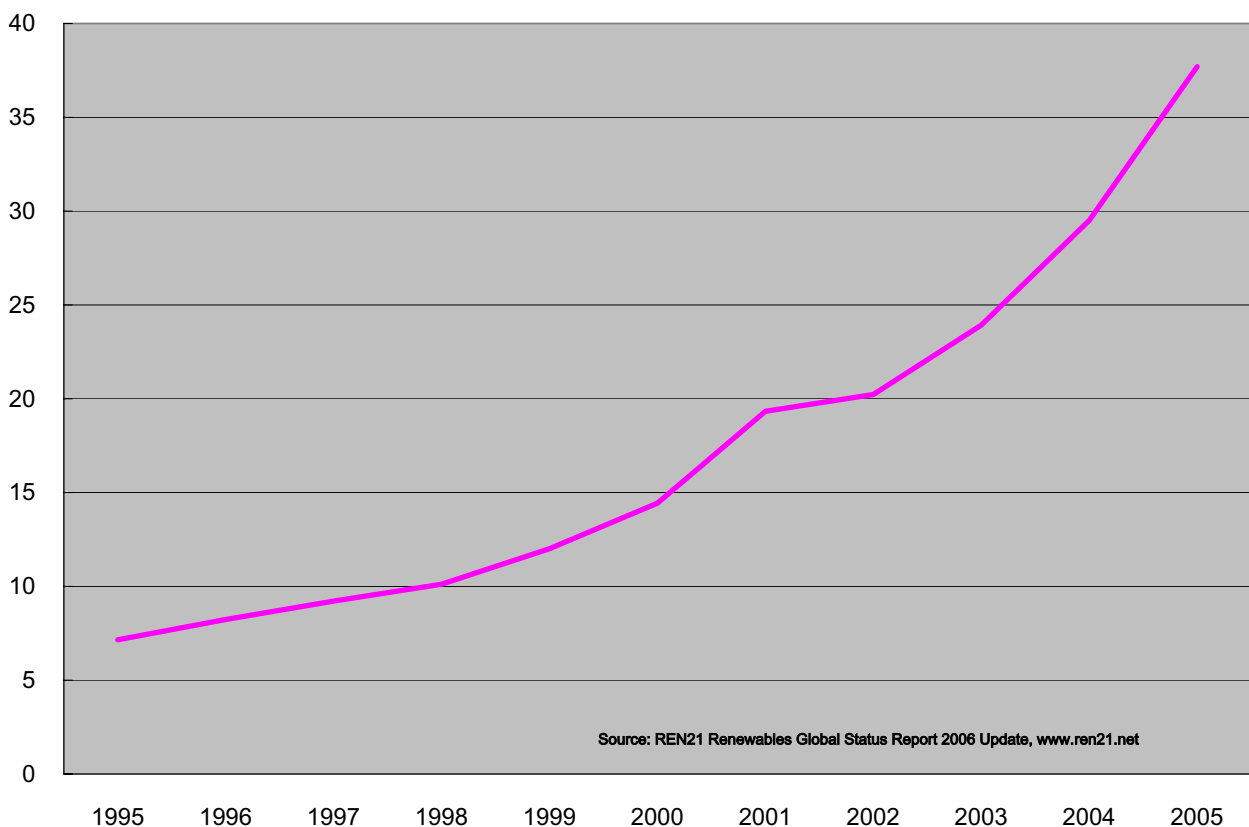
Senior Visiting Scholar, Tsinghua University  
清华大学 客座研究员

Senior Research Fellow, Worldwatch Institute  
世界观察研究所 高级研究员  
martinot@tsinghua.edu.cn

Report sponsored by the REN21 Renewable Energy Policy Network ([www.ren21.net](http://www.ren21.net))  
本报告的赞助者为 21 世纪可再生能源政策网([www.ren21.net](http://www.ren21.net))

Great Wall World Renewable Energy Forum 2006  
2006 长城世界可再生能源论坛  
Beijing, China  
中国, 北京  
October 23-27, 2006  
2006 年 10 月 23 日-27 日

Figure 9: Annual Investment in Renewable Energy 1995-2005 (billion USD)  
图9 : 1995-2005年可再生能源年投资量 ( 10亿美元 )



## Investment Flows

### 投资

- About \$38 billion was invested in renewable energy capacity worldwide in 2005, up from \$30 billion in 2004. Large hydropower investment was an additional \$15–20 billion.  
世界范围的可再生能源年度投资已由 2004 年的 300 亿美元上升到 2005 年的 380 亿美元。另外大水电投资量为 150-200 亿美元。
- China and Germany are the investment leaders, with \$7 billion each in 2005. Investment in large hydropower in China was an additional \$10 billion in 2005.  
2005 年中国和德国各以 70 亿美元的可再生能源投资而居于各国之首。中国同一年度大水电投资额为 100 亿美元。
- An additional \$6 billion was invested by the solar PV industry in new manufacturing plant and equipment (expected to be \$8-9 billion in 2006), and an additional \$1 billion was invested by the biofuels industries in new biofuels production plants.  
太阳能电池工业的固定资产投资为 60 亿美元（预计 2006 年将达到 80-90 亿美元），生物燃料工业的投资额为 10 亿美元。

## Investment Flows (continued)

### 投资（续）

- Large commercial banks are starting to notice renewable energy, and several are adding renewable energy investments to their lending portfolios.  
大商业银行开始关注可再生能源，有些已经开始把可再生能源投资作为他们新的投资方向。
- \$500 million per year for renewable energy goes to developing countries from KfW, World Bank, GEF, and many other donors and programs.  
德国复兴银行，世界银行，全球能源基金以及其他一些捐赠者和项目每年向发展中国家的可再生能源项目投资 5 亿美元。
- Government support for renewable energy was on the order of \$10 billion in 2004 for the United States and Europe, including budget funds and policy support.  
美国和欧洲 2004 年对可再生能源的政府支持在 100 亿美元的量级，包含资金支持和政策支持。
- US and Europe provide more than \$700 million per year for research and development.  
美国和欧洲每年在研发领域投入 7 亿多美元。

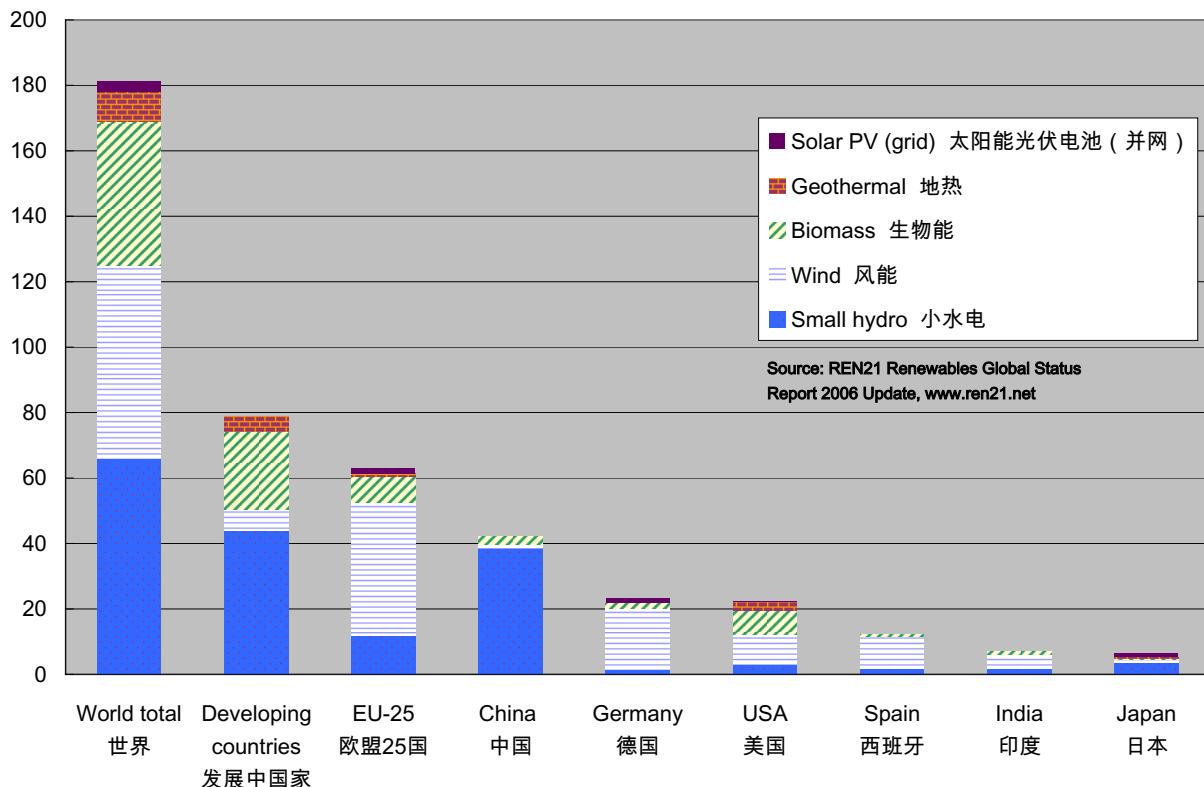
## Global Market Overview – Power Generation

### 全球市场概览-- 发电

- Global renewable power capacity increased from 160 GW in 2004 to 182 GW in 2005 (excluding large hydropower). This is 4% of total global power capacity.  
全球可再生能源发电容量从 2004 年的 160 GW 增加到 2005 年的 182 GW（不含大水电），占全球总装机容量的 4%。
- Developing countries account for 45%, with 80 GW.  
发展中国家占 45%，为 80GW。
- China has the largest installed capacity of any single country, followed by Germany, the United States, Spain, and Japan.  
中国在所有国家中装机容量最大，其次是德国，美国，西班牙，日本。

Figure 4: Renewable Power Capacities in 2005 (GW) for Developing Countries, EU, and Top Six Individual Countries (excluding large hydropower)

图4：2005年可再生能源容量(GW)，发展中国家，欧盟和前6名国家（不含大水电）



## Global Market Overview – Power Generation

### 全球市场概览-- 发电

- The fastest growing energy technology in the world is grid-connected solar photovoltaic (PV), growing by 60% per year from 2000–2005. Most of this covers rooftops in Japan (320,000), Germany (250,000), and the US (50,000).  
世界上目前增长最快的技术为并网太阳能光伏电池（PV），2000-2005 期间年增长率为 60%。主要应用于日本（32 万），德国（25 万）和美国（5 万）的房屋屋顶。
- Second is wind power, which grew by 28% per year, led by Germany, with almost 19 GW installed as of 2005.  
其次是风电，年增长率为 28%，2005 年德国以近 19 GW 的装机量排在首位。

Figure 1: Windpower Existing World Capacity, 1990-2005 (GW)

图1：世界风能容量，1990-2005 ( GW )

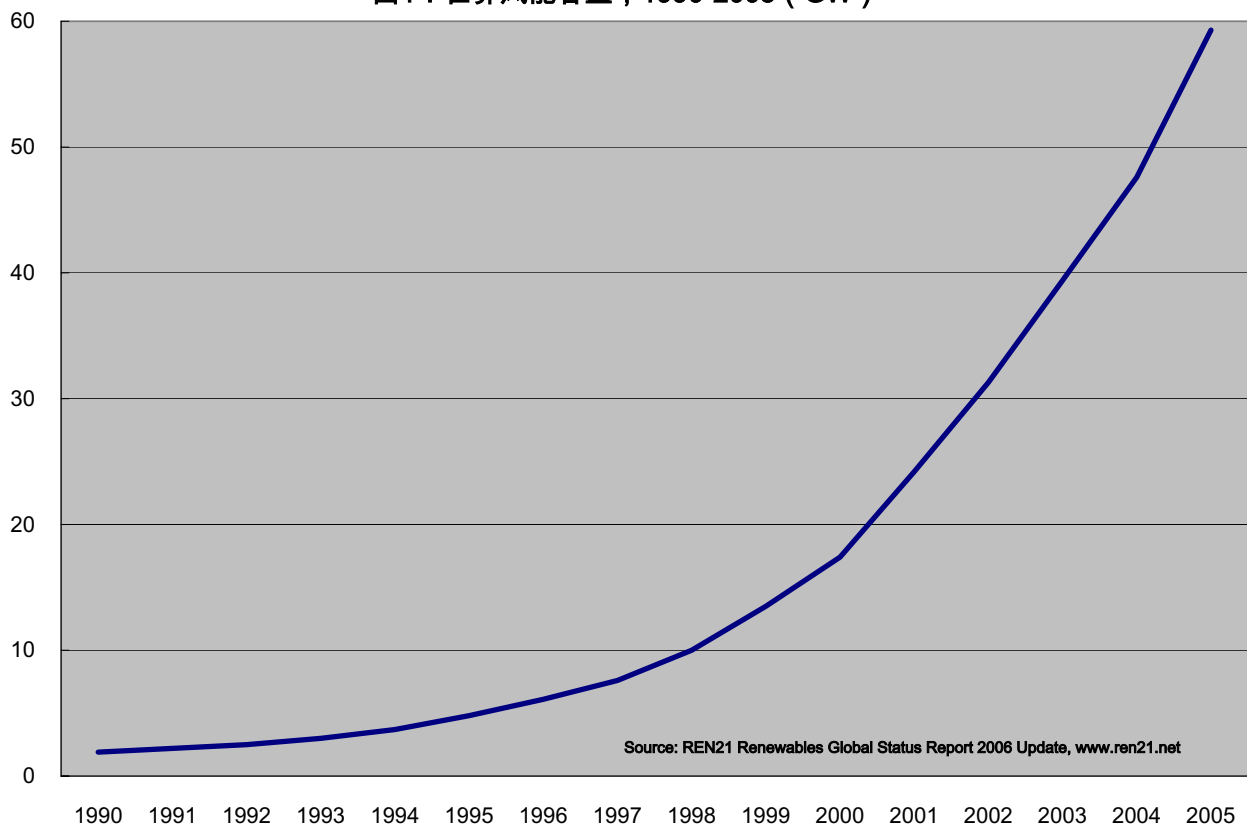


Figure 2: Wind Power Capacity, Top 10 Countries, 2005 (MW)

图2：2005年风能容量前10名国家 ( MW )

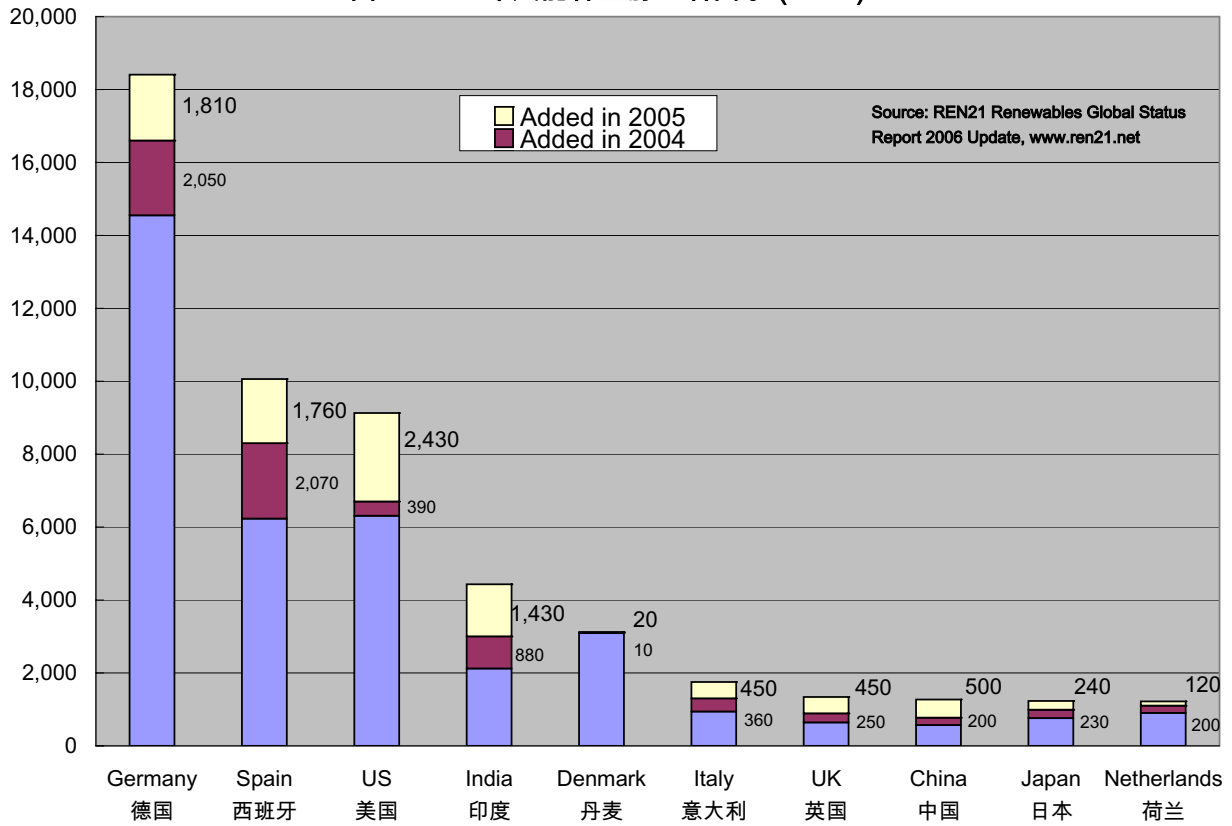
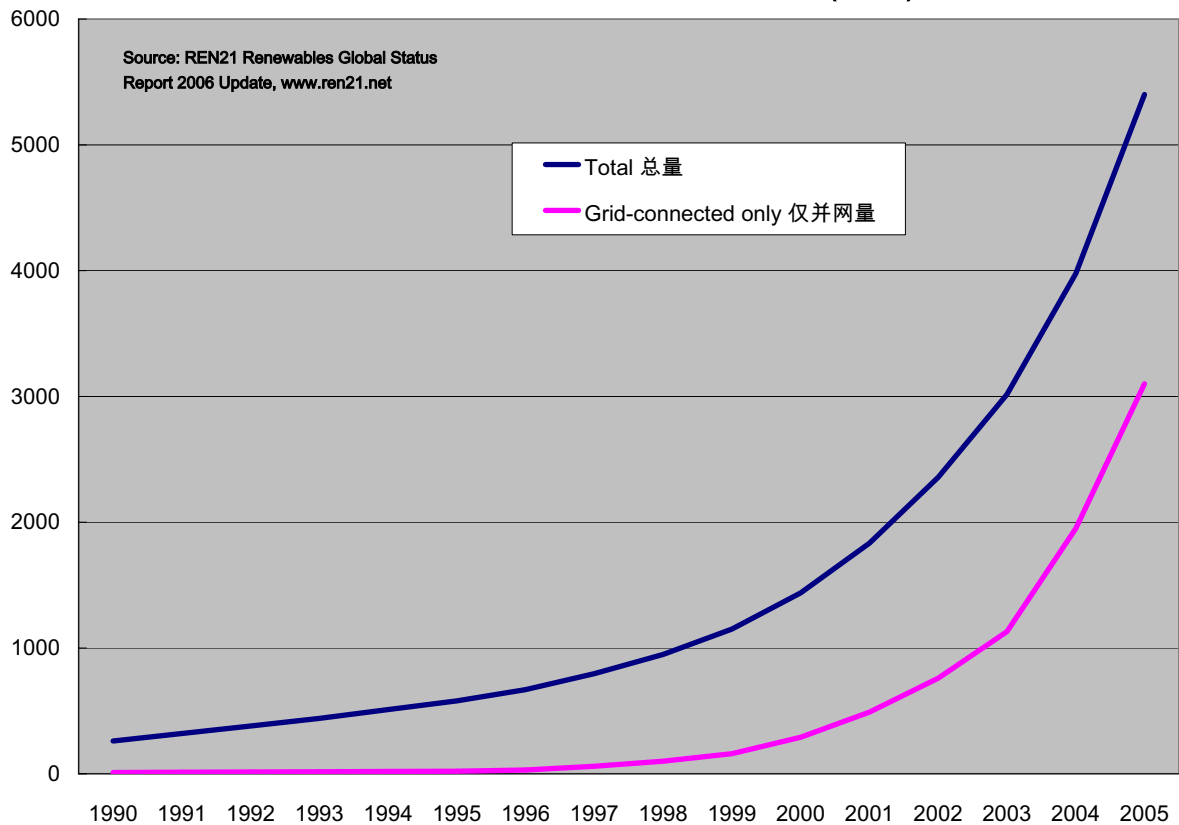


Figure 3: Solar PV, Existing World Capacity, 1990-2005 (MW)

图3：世界太阳能光伏电池容量，1990-2005 ( MW )



## Global Market Overview – Hot Water/Heating 全球市场概览-- 热水器/供热

- Rooftop solar collectors provide hot water to nearly 45 million households worldwide, most of these in China  
太阳能热水器为全世界近 4.5 千万家庭（多数为中国家庭）提供热水。
- Biomass-fueled heating provides five times more heat worldwide than solar and geothermal combined.  
生物质燃料供热量比太阳能和地热能供热量大 5 倍。

Figure 5: Solar Hot Water/Heating Capacity Added in 2005  
(Added = 13 GWth)

图5：2005年太阳能热水器/供热容量比 2004多 13GWth

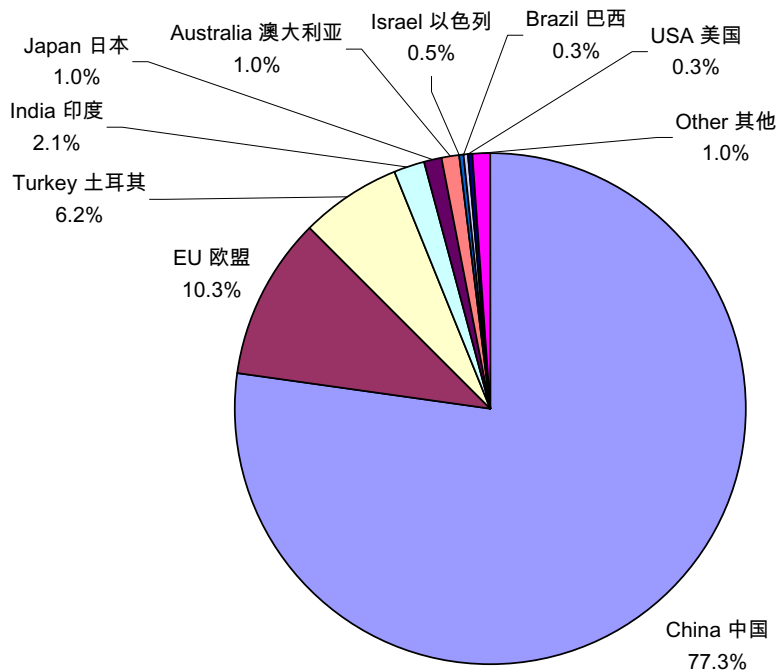
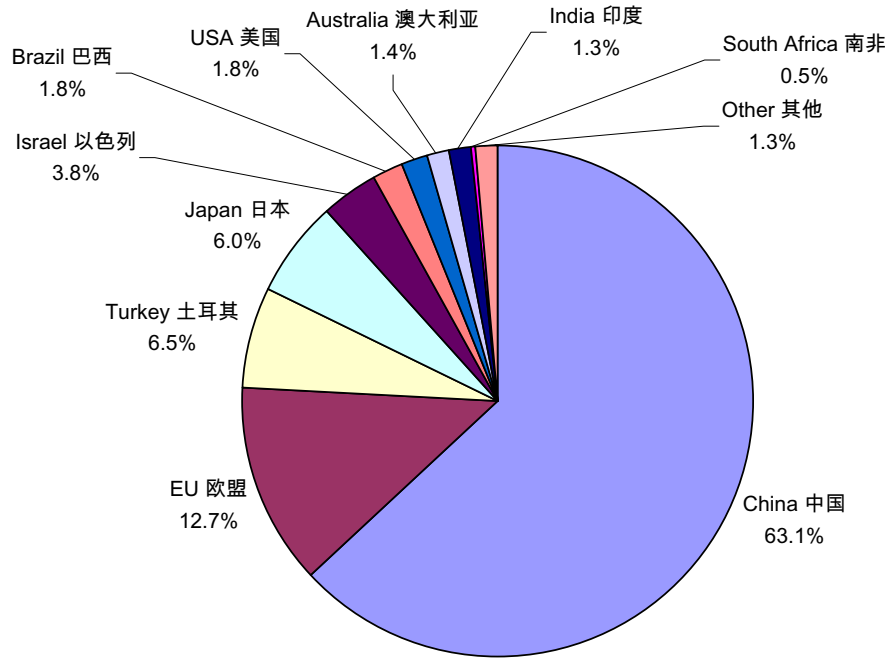


Figure 6: Solar Hot Water/Heating Capacity Existing in 2005

(Total = 88 GWth)

图6：2005年太阳能热水器/供热容量（总容量 = 88 GWth）



Source: REN21 Renewables Global Status Report 2006 Update, www.ren21.net

## Global Market Overview – Biofuels

### 全球市场概览--乙醇和生物柴油

- Production of ethanol was 33 billion liters in 2005, up from 30.5 billion liters in 2004.  
乙醇产量已由 2004 年的 305 亿升增长到了 2005 年的 330 亿升。
- Production of biodiesel was 3.9 billion liters in 2005, up from 2.1 billion liters in 2004.  
生物柴油产量由 2004 年的 21 亿升增长到了 2005 年的 39 亿升。
- Together, annual biofuels production compares to about 3 percent of the 1,300 billion liters of gasoline consumed globally.  
目前，全球每年的汽油消耗量为 1300 亿升，生物燃料产量相当于它的 3%。
- Ethanol provided 41 percent of all (non-diesel) motor vehicle fuel consumed in Brazil in 2005.  
巴西 2004 年 41% 的交通燃料为乙醇。
- Ethanol was being blended with 30 percent of all gasoline sold in the United States.  
美国 30% 的汽油掺混乙醇。

## Global Market Overview – Biofuels (continued)

### 全球市场概览--乙醇和生物柴油（续）

- New investment in ethanol production facilities could reach \$2 billion in 2006, with more than 45 plants under construction in the U.S. and Canada and a major program starting in Brazil that could increase output by 50% by 2009.  
2006年用于乙醇生产设备的新投资将达20亿美元。美国和加拿大有45家工厂正在筹建中，巴西将启动一项能在2009年将产量提升50%的重点项目。
- The investment value of new ethanol production facilities under construction or announced through 2008 is more than \$6 billion in Brazil, Canada, France, and the U.S.  
巴西、加拿大、法国、美国四国，截止到2008年正在筹建及已经宣告建设的乙醇生产设备投资总额超过60亿美元。
- Ethanol industry expanded significantly in U.S. and Europe in 2005.  
2005年，美国和欧洲的乙醇工业得到了长足的发展。
- Biodiesel industry could double production capacity in 2006, mostly in U.S. and Europe.  
2006年美国 and 欧洲的生物柴油生产能力几乎可以翻倍。

Figure 7: Biodiesel Production, 2000-2005 (billion liters/year)

图7：2000年和2005年生物柴油生产量（10亿升/年）

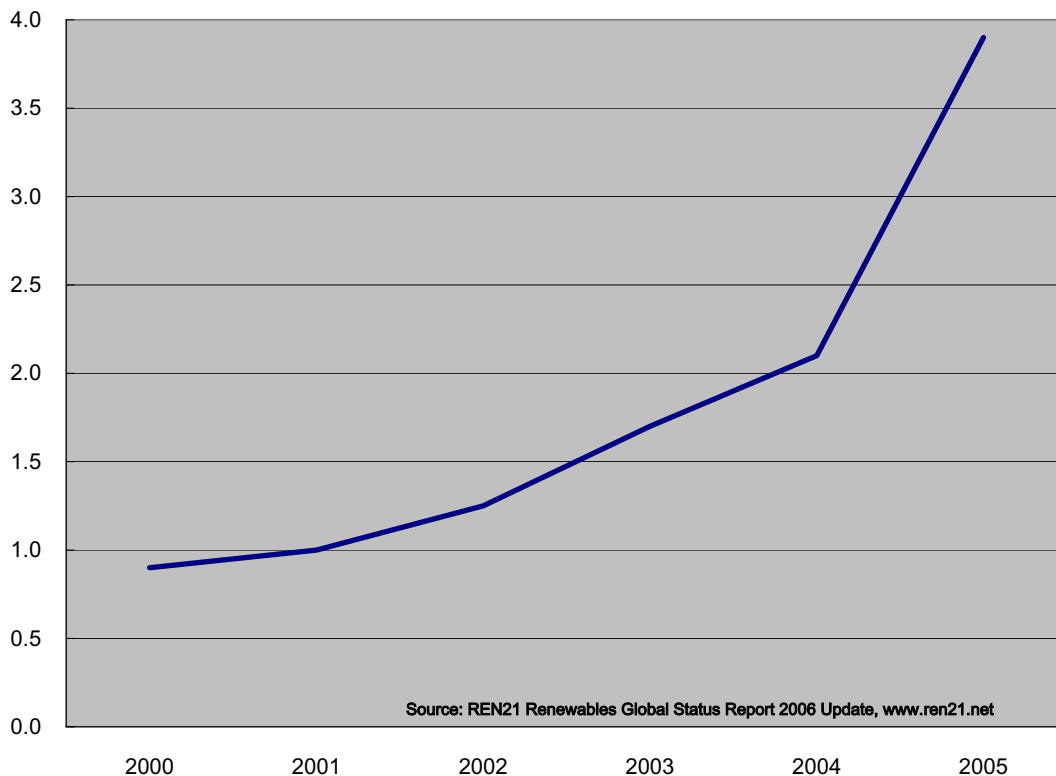




Figure 8: Fuel Ethanol Production, 2000 and 2005 (billion liters/year)

图8：2000年和2005年燃料乙醇生产量（10亿升/年）

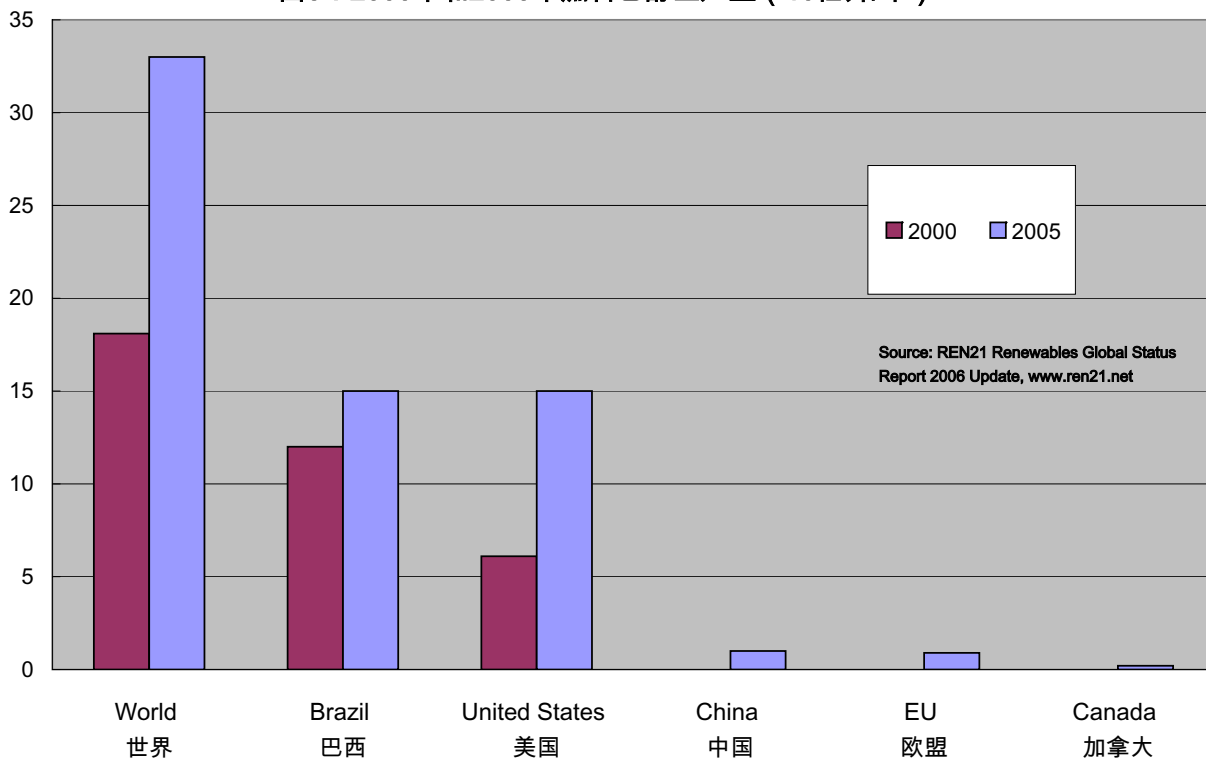
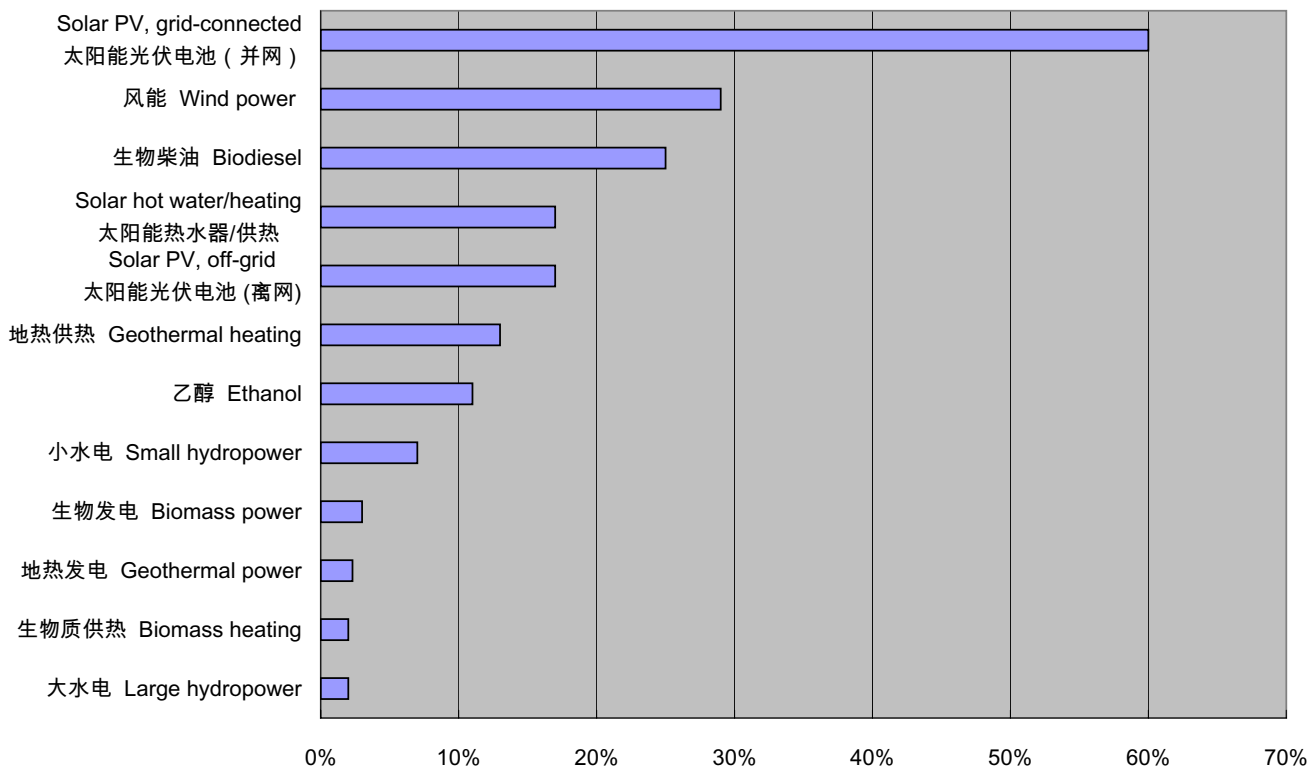


Figure 2: Average Annual Growth Rates of Renewable Energy Capacity, 2000-2004

图2：可再生能源总量平均年增长率，2000-2004



## Industry Trends

### 工业发展趋势

- Market capitalization exceeded \$50 billion in 2006 for the 85 publicly traded renewable energy companies, or divisions of major companies, that had a market capitalization greater than \$40 million each. This was an increase from 60 companies in 2004 with market capitalization of \$25 billion total.

在世界范围内，2006年有85家上市的可再生能源公司市值超过了50亿美元，它们的每一家子公司市值都超过了4千万美元。与2004年60家公司市价总值250亿美元相比这确实是个很大的进步。

- Four big IPOs in 2005-2006, three with market capitalization greater than \$5 billion after IPO: Suntech (China), Suzlon (India), REC (Norway), and Q-cells (Germany).

2005-2006年首次发行股票的四家公司中有三家上市后市值超过了50亿美元，它们分别为：尚德电力（中国）、苏格兰能源公司（印度）、REC（挪威）和晶体硅电池公司（德国）。

- Over 1.7 million jobs in the renewable energy industry worldwide.

世界范围的可再生能源工业领域可提供超过17亿个工作岗位。

## Industry Trends (continued)

### 工业发展趋势（续）

- Solar PV production worldwide in 2005 was 1.7 GW, from 1.2 GW in 2004. In China, module production grew from 100 MW in 2004 to 250 MW in 2005.

2005年全球太阳能光伏电池的产量是1.7 GW，而2004年是1.2 GW。在中国，电池组件的生产量从2004年的10万千瓦增加到2005年的25万千瓦。

## Policy Landscape

### 政策规划

- At least 48 countries worldwide now have some type of renewable energy promotion policy, including 14 developing countries.  
至少 48 个国家，含 14 个发展中国家，已有促进可再生能源的政策。
- At least 32 countries and 9 states/provinces have adopted feed-in policies, more than half of which have been enacted since 2002.  
至少 32 个国家和 9 个省区采用了购电法（固定电价）政策，一半以上始于 2002 年。
- At least 32 states or provinces have enacted renewable portfolio standards (RPS), half since 2003. Six countries have enacted national RPS policies since 2001.  
至少 32 个省区制定了可再生能源份额标准，一半始于 2003。6 个国家从 2001 年起在全国范围内实行可再生能源份额标准。
- Policy targets exist in at least 49 countries worldwide, including 13 developing countries, all 25 EU countries, and many states/provinces in the US and Canada.  
49 个国家，含 13 个发展中国家，全部 25 个欧盟国家，美国和加拿大多数州，制定了政策目标。

**Table 4: Renewable Energy Promotion Policies 表 4: 推进可再生能源发展的政策**

Country 国家	Feed-in tariff 购电 法	Renewable portfolio standard 份额标准	Capital subsidies, grants, or Rebates 资本补贴/ 折扣	Investment excise, or other tax credits 投资减免 税	Sales tax, energy tax, VAT reduction 销售减免 税	Tradable renewable energy certificates 新能源证书	Energy production payments/ tax credits 生产补贴及 减免税	Net Metering 净计量	Public investment, loans, or financing 公共资金支 持	Public competitive bidding 投标政策
<b>Developed and transition countries (34) 发达国家及过渡性国家</b>										
Australia		X	X			X			X	
Austria	X		X	X		X				
Belgium		X	X	X		X		X		
Canada	(*)	(*)	X	X	X			(*)	X	(*)
Cyprus	X		X							
Czech Republic	X		X	X	X	X		X		
Denmark	X			X		X		X		
Estonia	X									
Finland			X		X	X	X			
France	X		X	X	X	X			X	X
Germany	X		X	X	X				X	
<b>.....and 23 other developed and transition countries 及 23 个其它发达国家</b>										
<b>Developing countries (14) 发展中国家</b>										
Argentina			X				X			
Brazil	X								X	
Cambodia			X							
China	X		X	X	X				X	X
Costa Rica	X									
Guatemala				X	X					
India	(*)	(*)	X	X	X				X	X
Indonesia	X									
Mexico				X				X		
Nicaragua	X			X						
Philippines				X	X				X	
Sri Lanka	X									
Thailand	X	X	X					X		
Turkey	X		X							

Figure 11: Cumulative Number of Countries/States/Provinces Enacting Feed-in Policies

图11：制定购电法（固定电价）政策的国家/州/省累计数目

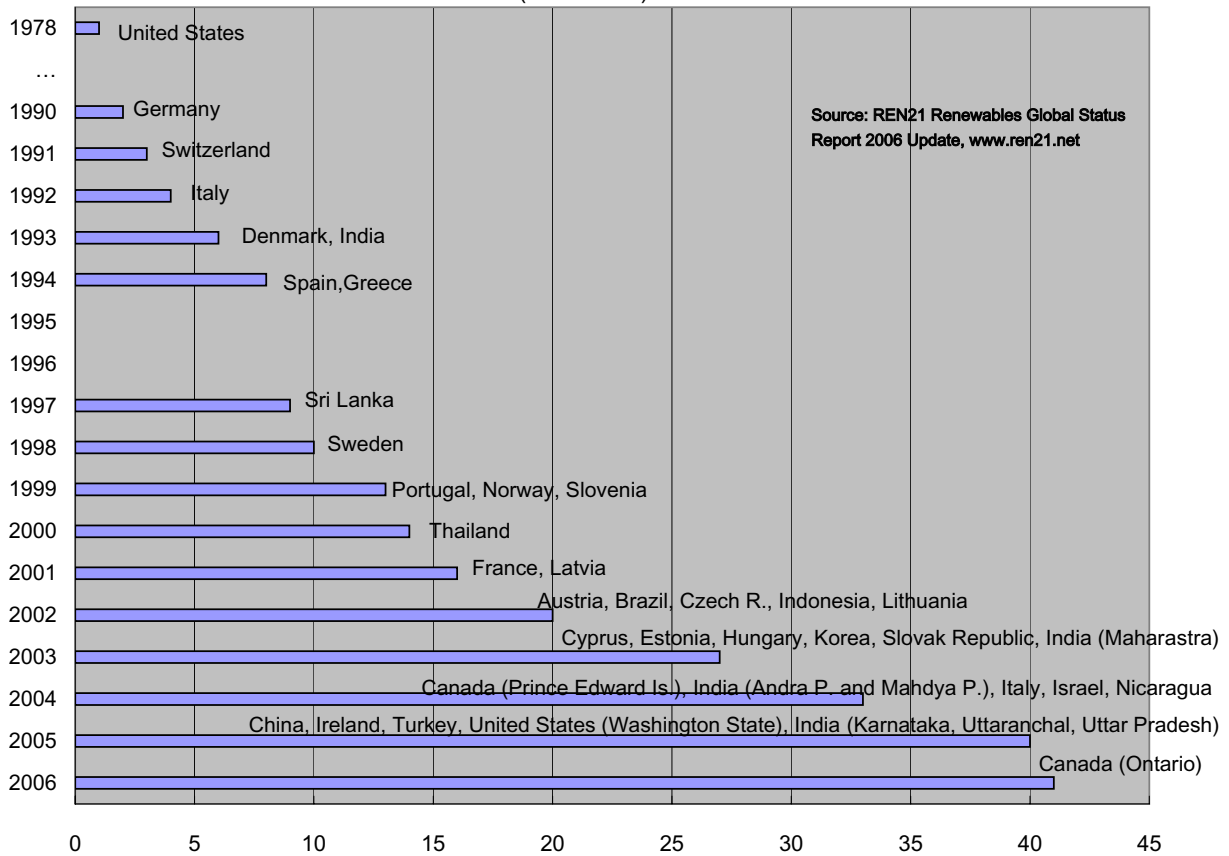
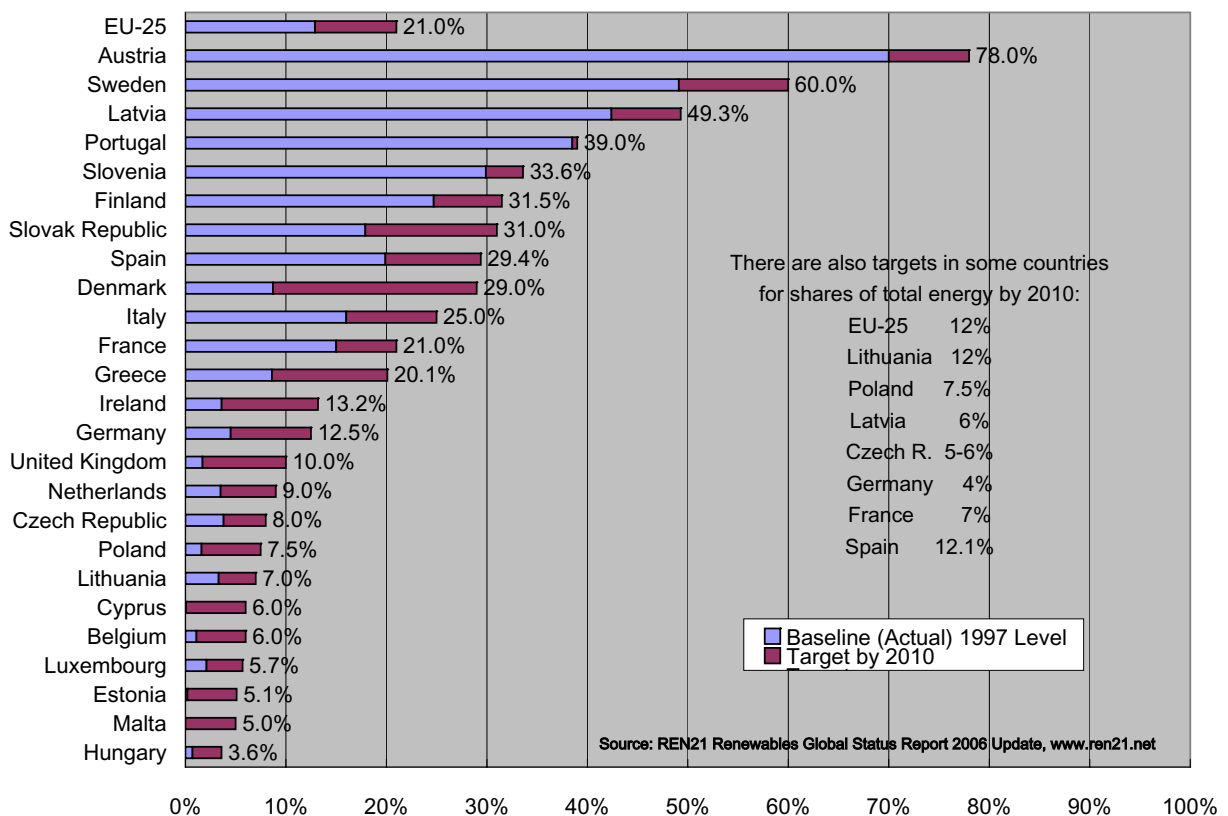


Figure 10: EU Renewable Energy Targets -- Share of Electricity by 2010

图10：欧盟可再生能源发展目标—2010年发电份额



**Table 3. Non-EU Countries with Renewable Energy Targets**

Country	Target(s)
Australia	9.5 TWh of electricity annually by 2010
Brazil	3.3 GW added by 2006 from wind, biomass, small hydro
Canada	3.5% to 15% of electricity in 4 provinces; other types of targets in 6 provinces
China	10% of electric power capacity by 2010 (expected 60 GW); 5% of primary energy by 2010 and 10% of primary energy by 2020
Dominican Rep.	500 MW wind power capacity by 2015
Egypt	3% of electricity by 2010
India	10% of added electric power capacity during 2003-2012 (expected/planned)
Israel	2% of electricity by 2007; 5% of electricity by 2016
Japan	1.35% of electricity by 2010, excluding geothermal and large hydro (RPS)
Korea	7% of electricity by 2010, including large hydro, and 1.3 GW of grid-connected solar PV by 2011, including 100,000 homes (0.3 GW)
Malaysia	5% of electricity by 2005
Mali	15% of energy by 2020
New Zealand	30 PJ of added capacity (including heat and transport fuels) by 2012
Norway	7 TWh from heat and wind by 2010
Philippines	4.7 GW total existing capacity by 2013
Singapore	50,000 m <sup>2</sup> (~35 MWth) of solar thermal systems by 2012
South Africa	10 TWh added final energy by 2013
Switzerland	3.5 TWh from electricity and heat by 2010
Thailand	8% of total primary energy by 2011 (excluding traditional rural biomass)
United States	5% to 30% of electricity in 18 states (including DC)

**表 3:非欧盟国家利用可再生能源的目标**

国家	目标
澳大利亚	2010 年年发电量达到 9.5TWh
布鲁塞尔	2006 年新增风力、生物质能、小水电发电装机容量达到 3.3GW
加拿大	其中 4 省可再生能源发电装机容量在总装机容量中的比例达到 3.5%-15%；其他 6 省也有相应的目标
中国	2010 年达到全国总电力装机容量的 10%（预计为 60GW）；2010 年在一次能源中所占比例达到 5%，2020 年达到 10%
多米尼加共和国	2015 年风力装机容量达到 500MW
埃及	2010 年可再生能源发电所占比例达到 3%
印度	2003-2012 年间新增发电装机容量的 10%（预测或计划）
以色列	2007 年可再生能源发电所占比例达到 2%；2016 年比例达到 5%
日本	2010 年可再生能源发电所占比例达到 1.35%，不包括地热能发电和大水电（可再生能源配额制）
韩国	2010 年可再生能源发电所占比例达到 7%，包括大水电；2011 年太阳能光伏并网发电装机容量达到 1.3GW, 包括 100,000 户户用光伏发电装机容量 (0.3GW)
马来西亚	2005 年可再生能源发电所占比例达到 5%
马里	2020 年可再生能源所占比例达到 15%
新西兰	2012 年增加的装机容量达到 30PJ(包括热能和运输燃料)
挪威	2010 年使用热能和风能达到 7TWh
菲律宾	2013 年总装机容量达到 4.7GW
新加坡	2012 年太阳能积热面积达到 50,000 平方米（约为 35MWth）
南非	2013 年增加的终端用能达到 10TWh
瑞士	2010 年发电量和热能达到 3.5TWh
泰国	2011 年可再生能源在一次能源中的比例达到 8%（不包括用传统技术利用的农村生物质能）
美国	18 个州可再生能源发电所占比例达到 5%到 30%（包括哥伦比亚特区）

## China Renewable Energy Targets

### 中国的再生能源目标

	<b>2005</b>	<b>2010</b>	<b>2020</b>
Hydro power 水电	115 GW	180 GW	300 GW
Wind power 风能	1.3 GW	5 GW	30 GW
Biomass power 生物发电	2.0 GW	5.5 GW	30 GW
Solar PV 太阳能光伏电池	0.07 GW	0.3 GW	1.8 GW
Solar hot water 太阳能热水器	80 million m <sup>2</sup> 0.8 亿 m <sup>2</sup>	150 million m <sup>2</sup> 1.5 亿 m <sup>2</sup>	300 million m <sup>2</sup> 3 亿 m <sup>2</sup>
Ethanol 乙醇	0.8 million tons 80 万吨	2 million tons 200 万吨	10 million tons 1,000 万吨
Biodiesel 生物柴油	50,000 tons 5 万吨	0.2 million tons 20 万吨	2 million tons 200 万吨
Biomass pellets 生物质颗粒	0	1 million tons 100 万吨	50 million tons 5,000 万吨
Biogas and biomass gasification 沼气及生物气化	8 million m <sup>3</sup> /year 800 万 m <sup>3</sup> /年	19 million m <sup>3</sup> /year 1,900 亿 m <sup>3</sup> /年	44 million m <sup>3</sup> /year 4,400 万 m <sup>3</sup> /年
Share of primary energy (including large hydro) 一次能源的比例 (包括大水电)	7.5%	10%	16%

## Comparison of China with International Targets

### 中国利用可再生能源的目标与国际的比较

<b>Target</b> 目标	<b>Share of primary energy from renewables</b> 可再生能源在一次能源中的比例	<b>Share of electricity from renewables</b> 可再生能源发电份额
China development target 中国发展目标 (初步设想)	10% by 2010 and 16% by 2020 (incl. large hydro) 2010 年达到 10% 2020 年达到 16% (含大水电)	10% by 2010 and 20% by 2020 (elec. capacity) 2010 年达到 10% 2020 年达到 20%
EU target 欧盟目标	12% by 2010 2010 年达到 12%	21% by 2010 2010 年达到 21%
U.S. state-level targets 美国国家目标		5-30% by 2010-2012 2010-2012 年间达到 5-30%
Canada province targets 美国国家目标		1% to 15% by 2010 2010 年达到 1-15%
Thailand target 泰国目标	8% by 2011 2011 年达到 8%	
Korea target 韩国目标		7% by 2010 2010 年达到 7%

## Policy Landscape – Biofuels Policies

### 政策规划-- 生物燃料

- In 2005-2006, several countries dramatically stepped up biofuels targets and mandates. 2005-2006 年一些国家将快速发展生物燃料提上了日程，并颁布了相关的条例。
- Mandates for blending biofuels into vehicle fuels have been enacted in at least 30 states/provinces and 8 countries worldwide. Most are 10-15% for ethanol and 2-5% for biodiesel. 至少 30 个州和 8 个国家颁布了汽车燃料掺混乙醇 10-15%，生物柴油 2-5% 的条例。
- Fuel tax exemptions exist in at least 8 EU countries, most enacted during 2005-2006, including France, Germany, Greece, Ireland, Italy, Spain, Sweden, UK. Most are 100% tax exemptions. 2005-2006 年相继有 8 个欧洲国家颁布了完全免除燃油税的条例，它们分别是：法国、德国、希腊、爱尔兰、意大利、西班牙、瑞典、英国。
- Tax credit for ethanol and biodiesel producers in the US (42-15 cents/liter). 美国将扣除乙醇及生物柴油生产商每升 12-15 美分的税收。
- Brazil has been the world leader in promoting biofuels. All gasoline must be blended with ethanol and gas stations sell both pure ethanol and ethanol blends. 巴西在促进生物燃料方面走在世界前列。所有汽油必须掺混乙醇，加油站卖纯乙醇和含乙醇汽油。

## Selected Biofuels Targets and Mandates

### 选择生物柴油的目标及要求

	Target 目标 (share of transport energy) (运输能源的比例)	Blending Mandate 混合要求
Belgium 比利时	5.75% by 2010 2010 年达到 5.75%	
Brazil 巴西		B2 by 2008; E25 currently 2008 年达到 B2; 当前 E25
Canada (Ontario) 加拿大 (北美中东部)		E5 by 2007 2007 年达到 E5
Canada (Saskatchewan) 加拿大 (萨斯喀彻温省)		E7
China (9 provinces) 中国 (九省)		E10 in 9 provinces E10 (九省)
Colombia (large cities) 哥伦比亚 (大城市)		E10
Dominican Republic 多米尼加共和国		E15 and B2 by 2015 2015 年达到 E15 和 B2
EU (2003 directive) 欧洲 (2003 指令)	5.75% by 2010 2010 年达到 5.75%	

EU (proposed) 欧洲 (提议)	8% by 2015 2015 年达到 8%	
France 法国	5.75% by 2008, 10% by 2015 2008 年达到 5.75%, 2015 年达到 10%	
Germany 德国		E2 and B4.4 by 2007 2007 年达到 E2 和 B4.4
India (13 states/territories) 印度 (13 州/地区)		E10
Malaysia 马来西亚		B5 by 2008 2008 年达到 B5
Philippines (proposed) 菲律宾 (提议)		E10 and B1
Thailand 泰国		E10 by 2007 2007 年达到 E10
US (Hawaii, Minn., Montana) 美国 (夏威夷、明尼苏达、蒙 大拿)		E10
US (Washington State) 美国 (华盛顿)		B2

### Policy Landscape (continued) 政策规划 (续)

- There are more than 4.5 million green power consumers in Europe, US, Canada, Australia, and Japan (Europe 3.9 million, US 500,000, Australia 70,000, Japan 60,000, and Canada 10,000).  
欧洲, 美国, 加拿大, 澳大利亚和日本的绿色电力用户超过了 450 万 (欧洲 390 万, 美国 50 万, 澳大利亚 70 万, 日本 60 万, 加拿大 1 万)。
- Many cities are promoting renewable energy. For example, 70 cities in Spain require solar hot water in new buildings. And Spain just passed a national law requiring that all new buildings get 30-70% of hot water from solar.  
许多城市都在积极促进可再生能源的发展。例如, 西班牙的 70 个城市要求新建的建筑使用太阳能热水器。西班牙刚刚通过一项国家法律, 根据此项法律, 要求所有新建的建筑保证 30-70% 的热水来自于太阳能。
- Municipalities around the world are setting targets for future shares of renewable energy. Some cities have established CO<sub>2</sub>-reduction targets.  
世界上一些自治市也在制定可再生能源发展目标。其中一些制定了二氧化碳减排目标。



**Table 7: Selected Major Cities with Renewable Energy Goals and/or Policies**

表 7: 有可再生能源目标和/或政策的大城市

City 城市	Renewable energy goals 可再生能源目标	CO <sub>2</sub> reduction goals CO <sub>2</sub> 减排目标	Policies for solar hot water 太阳能热水器政策	Policies for solar PV 太阳能光伏政策	Urban planning, pilots 城市规划, 示范性工程
Adelaide, Australia	X	X			X
Barcelona, Spain	X	X	X	X	X
Cape Town, South Africa	X	X			X
Chicago, USA	X				
Daegu, Korea	X	X			X
Freiburg, Germany	X	X		X	X
Göteborg, Sweden					X
Gwangju, Korea	X	X			X
The Hague, Netherlands		X			
Minneapolis, USA	X				X
Oxford, UK	X	X	X	X	X
Portland, USA	X	X	X	X	X
Qingdao, China					X
Santa Monica, USA					X
Sapporo, Japan		X			X
Toronto, Canada		X			
Vancouver, Canada		X			

**Municipal Renewable Energy Targets**

市政府 可再生能源目标

City 城市	RE share of municipal electricity consumption 市政设施电力消费中可再生能源所占比例	RE share of total city electricity consumption 城市全部电力消费中可再生能源所占比例	Other targets 其它目标
Adelaide, Australia		15% by 2014 2014 年达到 15%	
Cape Town, South Africa		10% by 2020 2020 年达到 10%	10% of homes by 2010 with solar hot water 2010 年有 10% 的家庭使用太阳能热水
Daegu, Korea			5% of energy by 2012 到 2012 年占 5% 的能源份额
Freiburg Germany		10% by 2010 到 2010 年达到 10% 4% currently 目前占 40%	
Gwangju Korea			2% of energy by 2020 到 2020 年占 2% 能源份额
Oxford UK			10% of homes by 2010 with solar hot water/PV 到 2010 年有 10% 的家庭使用太阳能热水/PV

## Municipal Renewable Energy Targets 市政府 可再生能源目标

City 城市	RE share of municipal electricity consumption 市政设施电力消费中可 再生能源所占比例	RE share of total city electricity consumption 城市全部电力消费中可 再生能源所占比例	Other targets 其它目标
Chicago USA	20% by 2006 2006 年达到 20%		
Minneapolis USA	10% currently 目前占 10%		
Portland (OR) USA	100% by 2010 到 2010 年达到 100%		
Sacramento USA		20% by 2011 到 2011 年达到 20%	
San Diego USA	23% currently 目前占 23%		
San Francisco USA			1 MW/year added 年增加 1 M
Santa Monica USA	100% currently 目前占 100%		
Tokyo Japan			20% of energy by 2020 到 2020 年占 20% 能源份额

## Renewables Global Status Report 世界可再生能源报告

- Report designed to compile existing factual information about markets, investments, and policies. 《报告》编写准则为汇总关于市场、投资和政策的已有实际数据。不加分析、评论或推论。
- Report based on research, data, interviews, and review by over 100 contributors from around the world.  
《报告》基于世界各地 100 多名合作者的研究，数据，采访和综述
- Sponsored by the REN21 Renewable Energy Policy Network and German government. Worldwatch Institute and GTZ are producer and publisher. Eric Martinot is lead author and research director.  
赞助方：21 世纪可再生能源政策网和德国国家政府  
出版发行：世界观察研究所, GTZ  
主编/研究总监：马天瑞
- Original 2005 report and a 2006 update available for download at [www.ren21.net](http://www.ren21.net) and [www.martinot.info](http://www.martinot.info)  
可以到[www.ren21.net](http://www.ren21.net) 和[www.martinot.info](http://www.martinot.info) 下载 2005 年初始报告和 2006 年的更新版。