



# Renewables Global Status Report 2009 Update

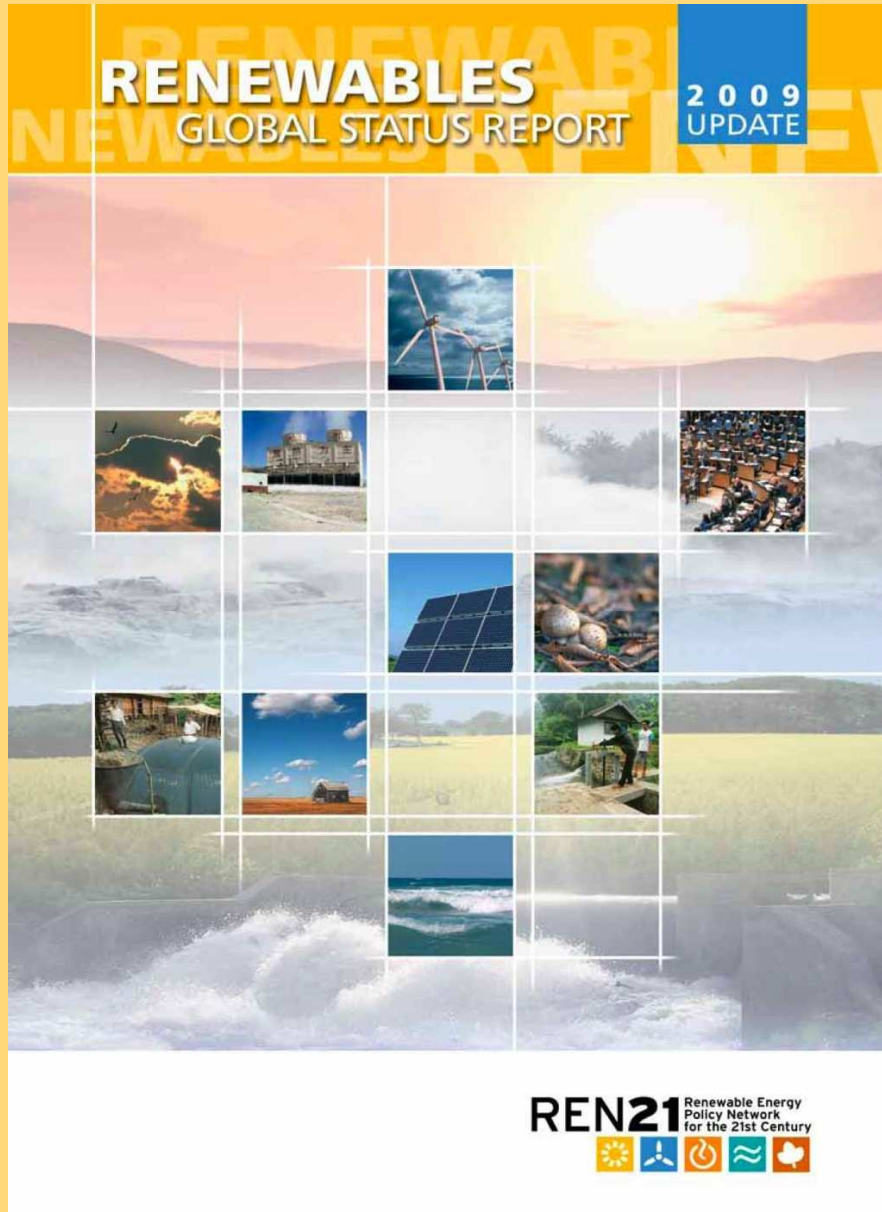
Philippe Lempp  
Project Head, REN21 Secretariat

Energy Efficiency 21 Project - Steering Committee Meeting, UNECE  
Geneva, 4 June 2009



## About REN21

- Global policy network initiated at Bonn “renewables 2004”
- Taking forward the spirit of that event: multistakeholder, dynamic, informal cooperation of all stakeholder participants on an equal footing
- Focus is renewable energy policy
- Authoritative information (Global Status Report and more)
- High-level conference series: Bonn 2004, BIREC
- 2005, WIREC 2008, India 2010)
- Voluntary action / pledges



Fourth Annual “Renewables  
Global Status Report”  
(first published in 2005)

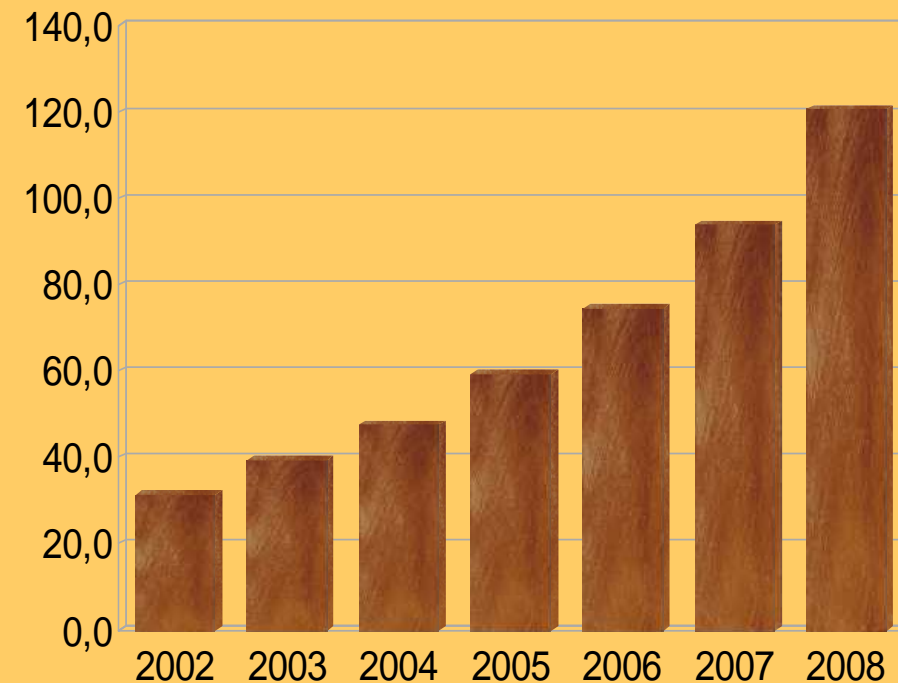
Lead Authors:  
Eric Martinot and  
Janet Sawin

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150 contributors



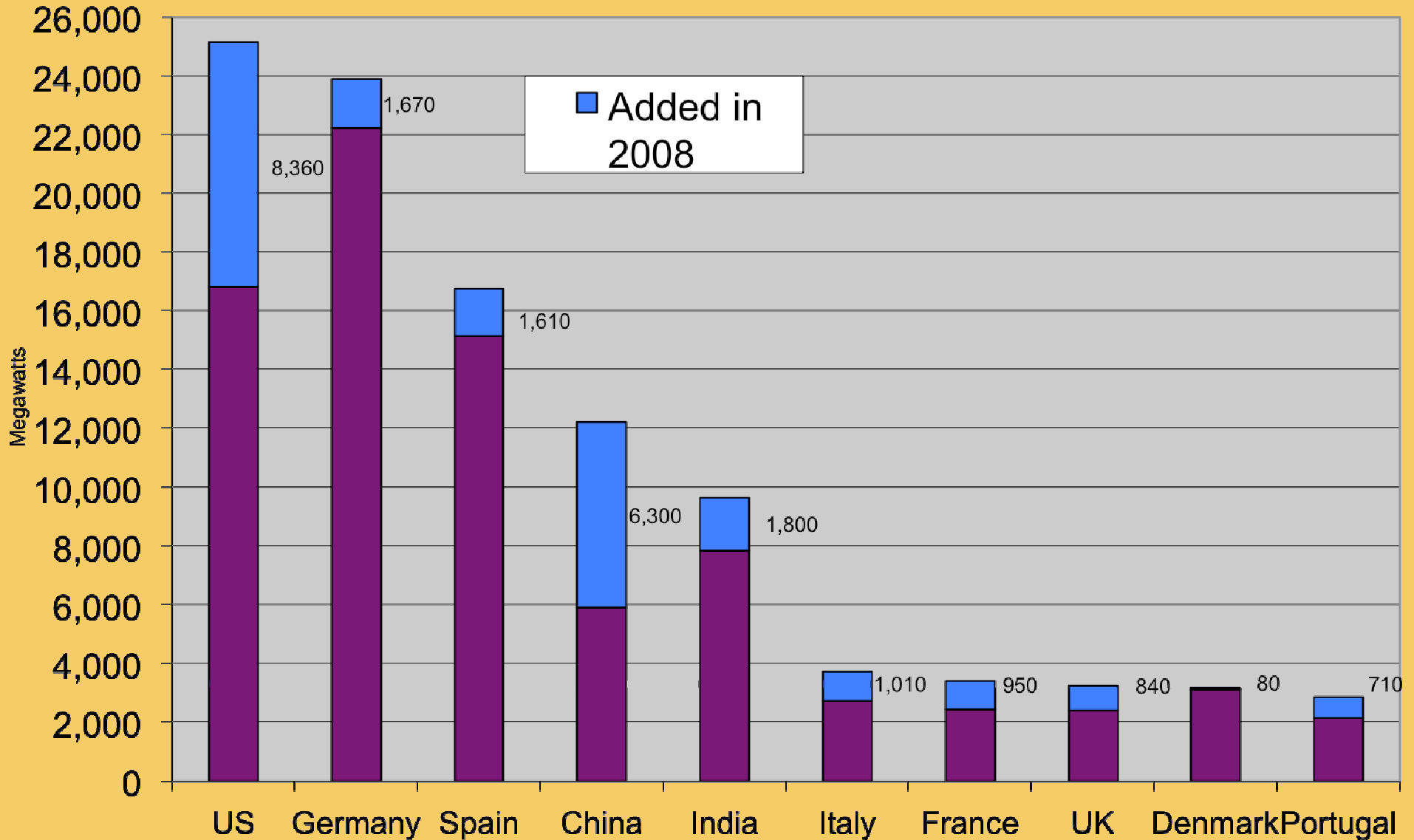
## Global Market Overview (chapter 1):

- During past four years (2005-2008), wind power capacity **up 250%** to 121 GW





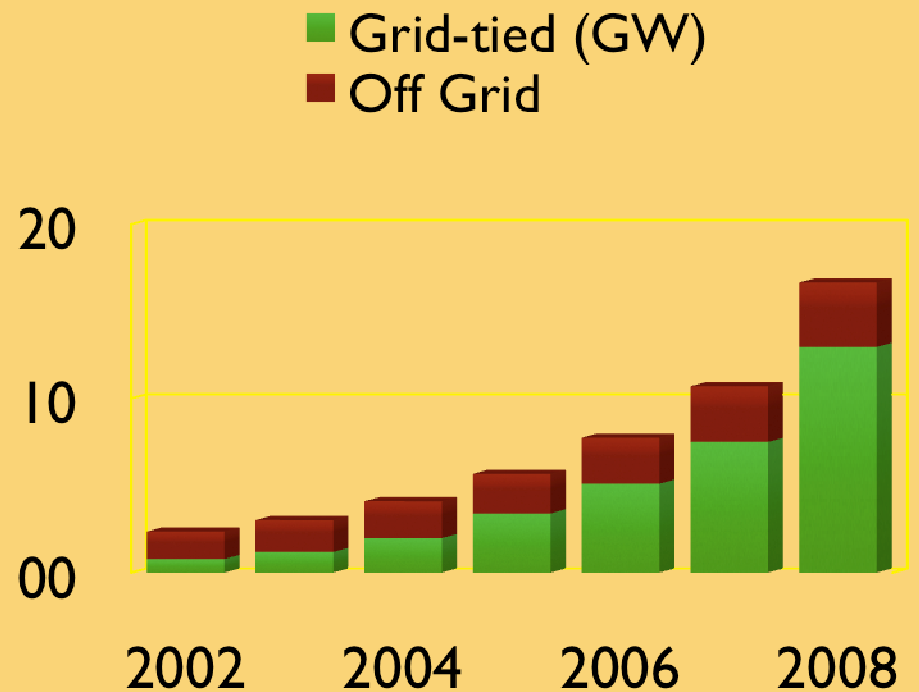
## Wind Power Capacity, Top 10 Countries





## During past four years...2005-2008

- Solar PV capacity **up 600%** to more than 16 GW





## During past four years...2005-2008

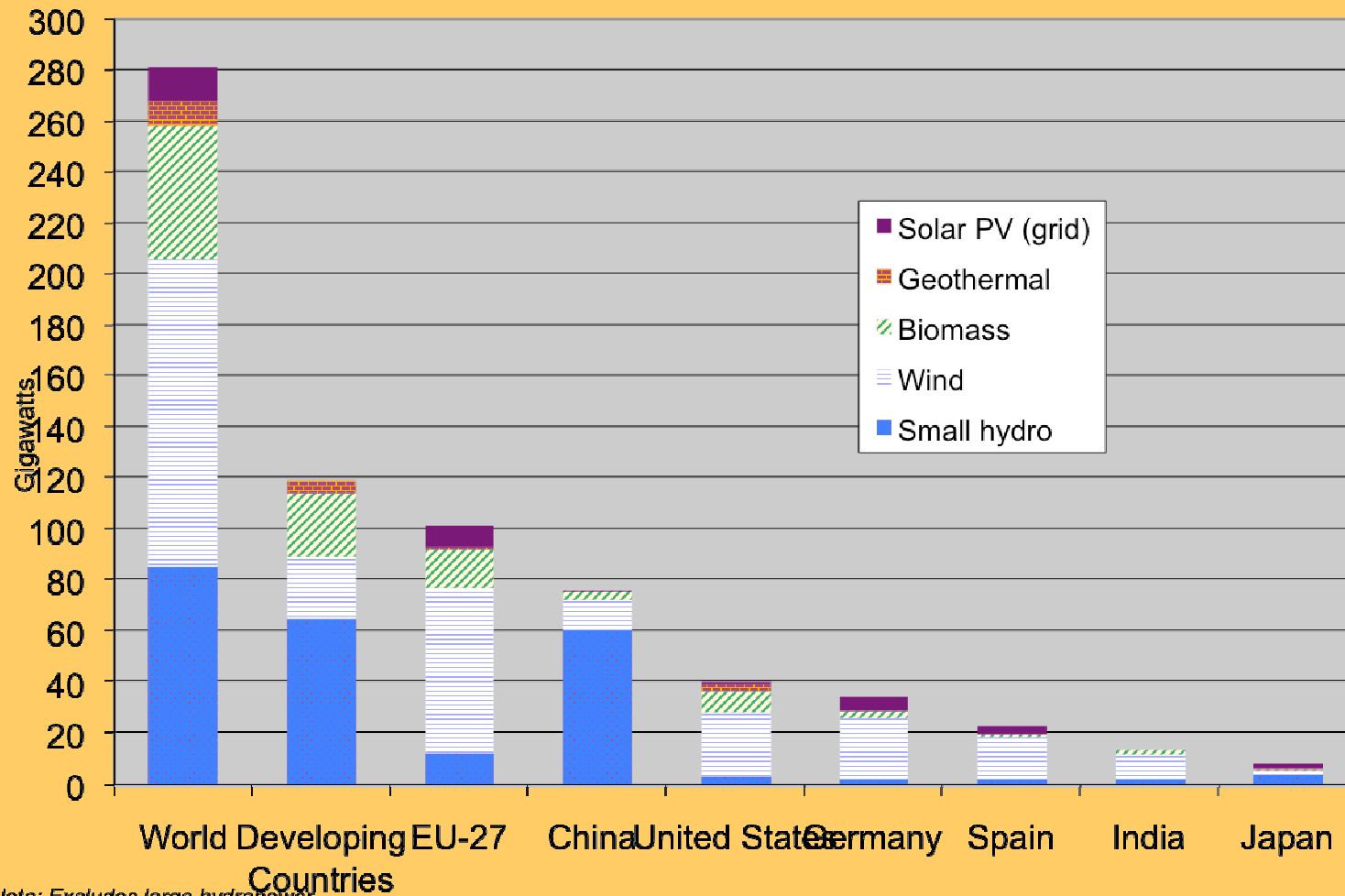
- Several new commercial-scale solar thermal power plants (CSP) have come on-line for the first time since the 1980s, with 8 GW under development, including 6 GW in the U.S.





## During past four years...2005-2008

➤ Total power capacity **up 75%** to 280 GW





## Power capacity milestone in 2008

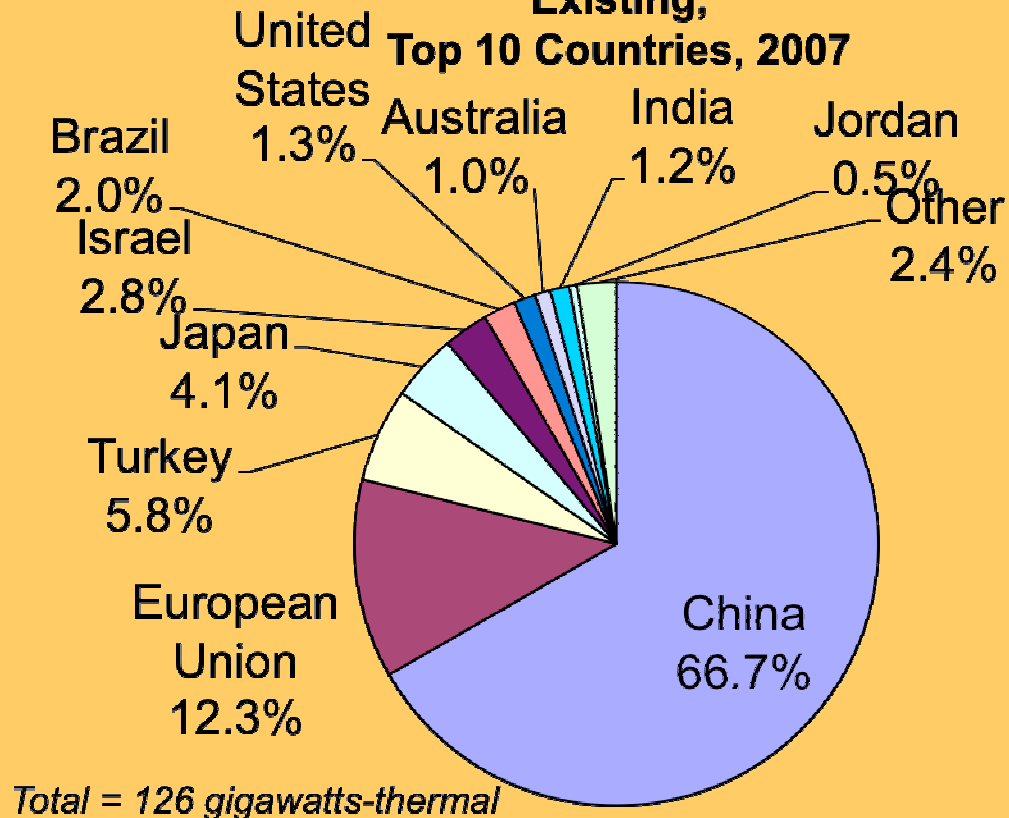
For the **first** time,  
both the United States and the European Union  
**added more power capacity from renewables**  
than from conventional sources  
(gas, coal, oil and nuclear)



## During past four years...2005-2008

- Solar hot water capacity **up 200%** to 145 GWth

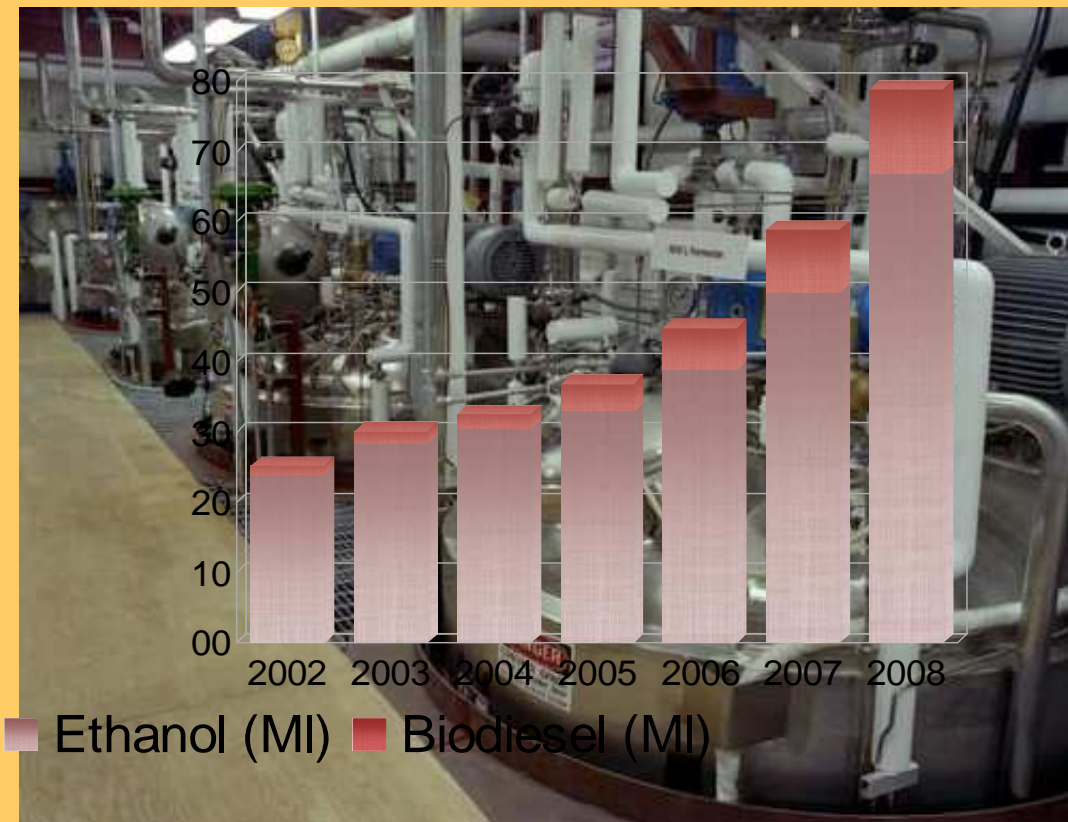
**Figure 5. Share of Solar Hot Water/Heating Capacity Existing,**





## During past four years...2005-2008

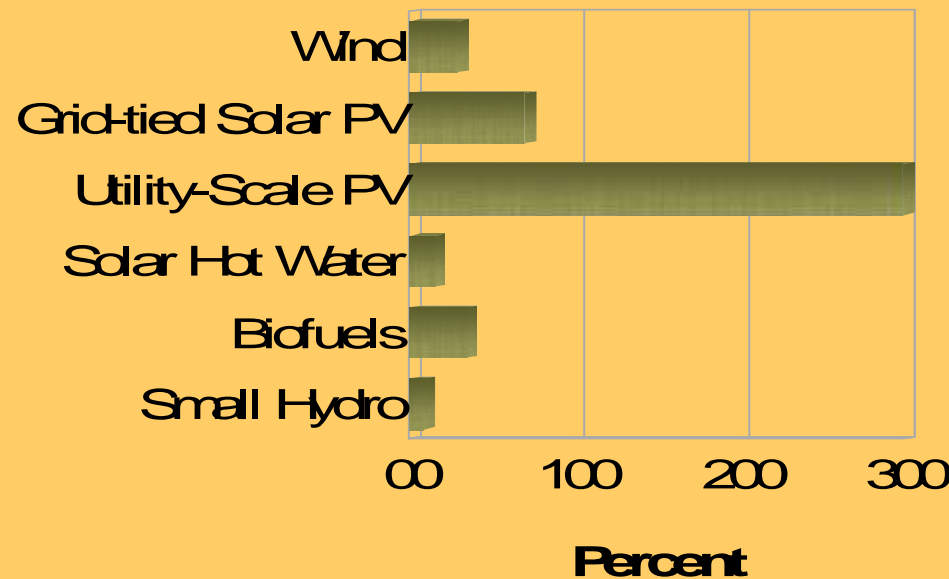
- Biodiesel production **up 600%** to 12 billion liters/year
- Ethanol production **up 200%** to 67 billion liters/year.





## Full-Year 2008 Growth Vs. 2007

- Wind power grew 29%.
- Grid-tied solar PV grew 70%
- Utility-scale solar PV plants (> 200kW) grew 300% to 3 GW
- Solar hot water grew 15%
- Annual ethanol and biodiesel production both grew 34%.
- Small hydro grew 8%

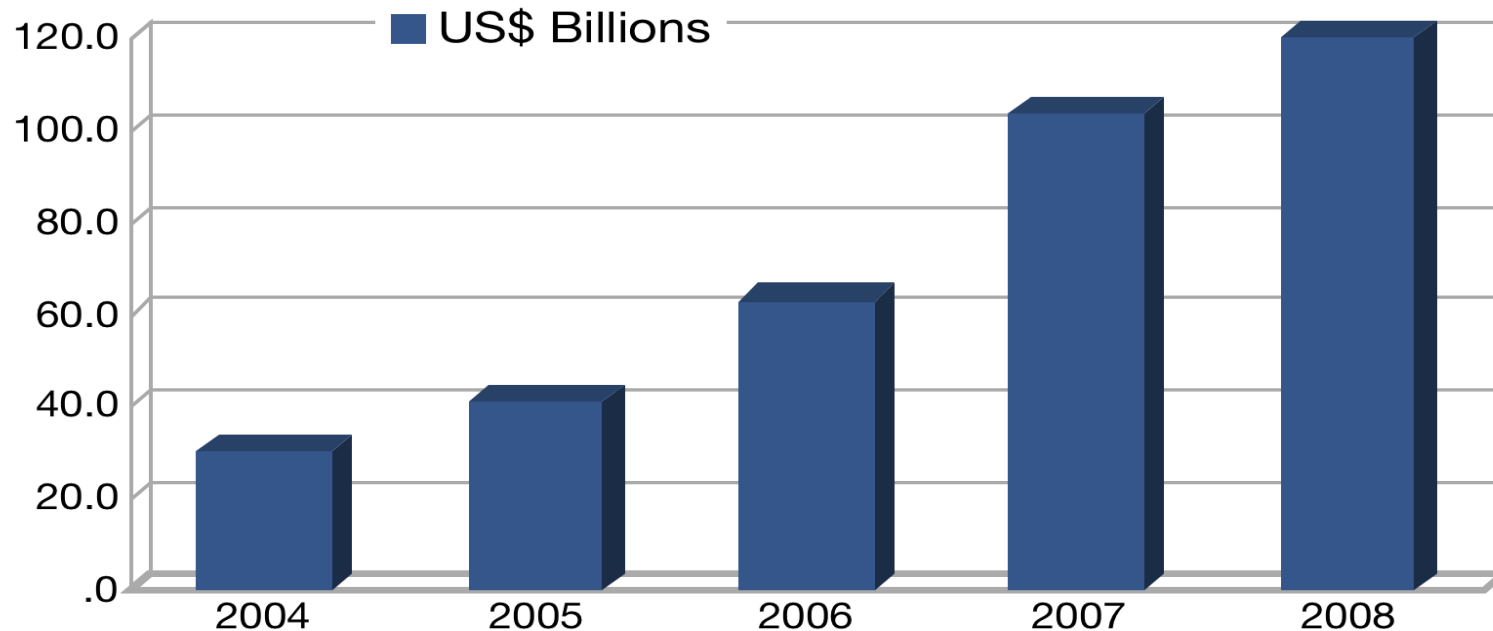




## Investment (chapter 2)

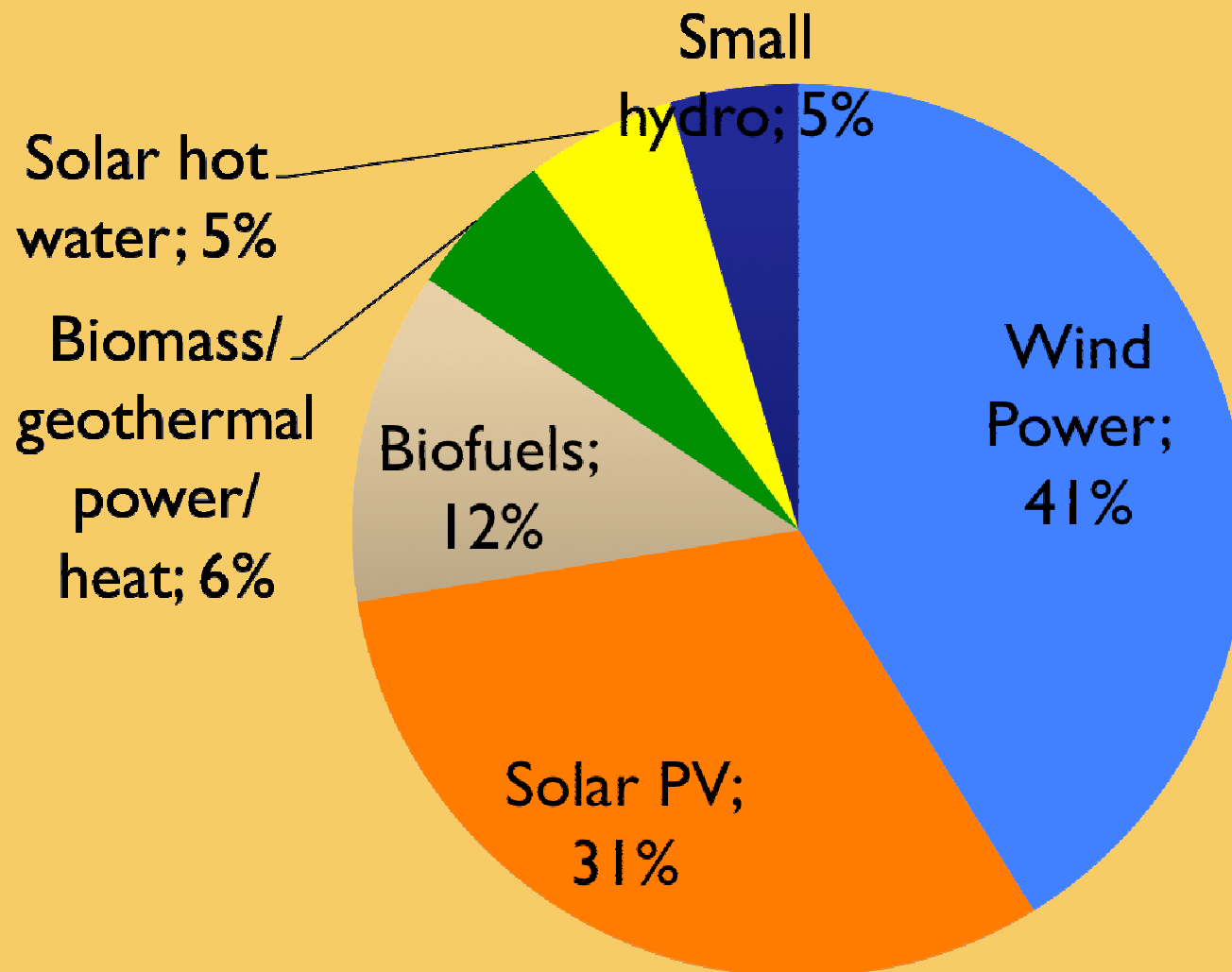
- Annual investment in new renewable energy capacity **up 400% over past four years - USD 120 billion in 2008**

**Global Investment in Renewable Energy 2004-2008**





## Annual Investment – Technology Shares (2008)





## Industry Trends (chapter 3)

- PV: Global production reached 6.9 GW in 2008 (90% increase!). Top-3: China (1.8 GW), Germany (1.3 GW), Japan (1.2 GW). India emerged as aspiring producer.
- Wind: Top-10 wind turbine manufacturers: Vestas (Denmark), GE Wind (USA), Gamesa (Spain), Enercon (Germany), Suzlon (India), Siemens (Denmark), Sinovel (China), Acciona (Spain), Goldwind (China), and Nordex (Germany).
- Chinese industry becoming strong, higher domestic sourcing for most components, and starting to export.
- Egypt and Turkey, started to manufacture megawatt-scale wind turbines for the first time.



## Industry Trends (chapter 3)

- CSP: Many new entrants and manufacturing facilities.
- Examples: Ausra opened manufacturing facility in Nevada to produce 700 MW/year of CSP components
- Schott Solar of Germany opened a manufacturing plant in Spain and is constructing one in New Mexico.
- Biofuels: ethanol and biodiesel industries expanded in North America and Latin America during 2008.
- U.S. had 40 billion liters/year of ethanol capacity and 8 billion under construction. Europe had 200 biodiesel production facilities operating and 3 billion liters/year of ethanol capacity under construction.
- The cellulosic ethanol industry was booming



## Industry Trends – Financial Crisis

“Although the clean energy sector initially weathered the financial crisis in late 2008 better than many other sectors, renewable investment did experience a downturn after September 2008. Total clean energy investment in the second half of 2008 was down 23 percent from the second half of 2007. Overall, renewables investments did not escape the general flight from risk and from growth sectors; however, projects have continued to progress, particularly those supported by policies such as feed-in tariffs.”



## Policy Landscape (chapter 4)

- 73 countries now have **policy targets**
- 63 countries with **policies** to promote renewable power generation
- 45 countries and 18 states/provinces/territories with **feed-in tariffs**
- 49 countries, states, and provinces with **renewable portfolio standards**
- 55 countries, states, and provinces with **biofuels blending mandates**
- 5 million households and businesses worldwide voluntarily purchase **green power**.



**Table 2. Renewable Energy Promotion Policies**

Country	Feed-in tariff	Renewable port-folio standard	Capital subsidies, grants, or rebates	Investment or other tax credits	Sales tax, energy tax, excise tax, or VAT reduction	Tradable renewable energy certificates	Energy production payments or tax credits	Net metering	Public investment, loans, or financing	Public competitive bidding
<b>Developed and transition countries</b>										
Australia		✓	✓			✓			✓	
Austria	✓		✓	✓		✓			✓	
Belgium		✓	✓		✓	✓		✓		
Canada	(*)	(*)	✓	✓	✓			(*)	✓	(*)
Croatia	✓			✓					✓	
Cyprus	✓		✓							
Czech Republic	✓		✓	✓	✓	✓		✓		
Denmark	✓				✓	✓		✓	✓	✓
Estonia	✓				✓					
Finland			✓		✓	✓	✓			
France	✓		✓	✓	✓	✓			✓	✓
Germany	✓		✓	✓	✓				✓	
Greece	✓		✓	✓						
Hungary	✓				✓	✓			✓	



# Global Trends in Sustainable Investment 2009

*Analysis of trends and issues in the financing of renewable energy and energy efficiency*

*Produced by UNEP and endorsed by REN21*

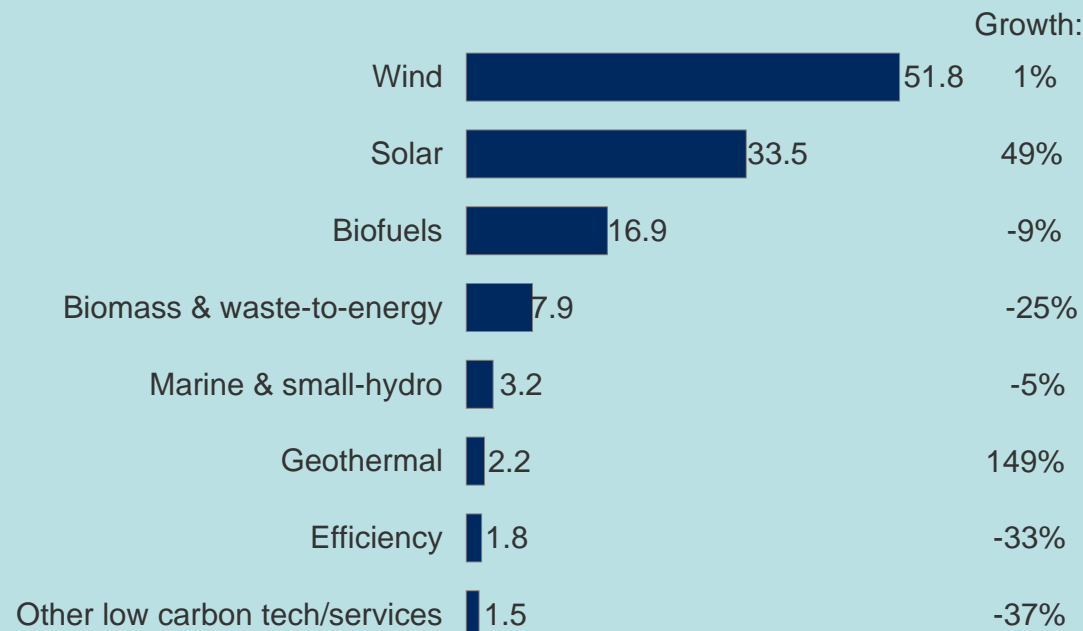
*Authored by and data from NEF*





# Financial new investment, by technology, 2008 and growth on 2007, USD billions

Global Trends in Sustainable Energy Investment 2009



New investment volume adjusts for re-invested equity.  
Total values include estimates for undisclosed deals

Source: New Energy Finance, UNEP SEFI



# Thank You!

Philippe Lempp  
Project Head  
REN21 Secretariat

[philippe.lempp@ren21.org](mailto:philippe.lempp@ren21.org)  
[ww.ren21.net](http://ww.ren21.net)