



2009 Global Renewable Energy and Efficiency Trends

Global investments in energy efficiency

In 2009, global investment in energy efficiency, generally in the form of grants for the improvement of public sector buildings and for weatherizing homes, totaled US\$ 42 billion globally.

[http://iis-db.stanford.edu/evnts/6121/WEF-2010 -- Green Investing Report 2010 \(Davos\).pdf](http://iis-db.stanford.edu/evnts/6121/WEF-2010 -- Green Investing Report 2010 (Davos).pdf)

Global investments in renewable energy

Clean energy global investments in 2009 totaled US\$145 billion. HSBC estimated that governments allocated more than US\$ 430 billion in fiscal stimulus globally to “climate change themes” in 2009 (includes rail, water and electricity infrastructure that is not specifically dedicated to clean energy).

[http://iis-db.stanford.edu/evnts/6121/WEF-2010 -- Green Investing Report 2010 \(Davos\).pdf](http://iis-db.stanford.edu/evnts/6121/WEF-2010 -- Green Investing Report 2010 (Davos).pdf)
<http://www.energyboom.com/emerging/global-investments-clean-energy-fell-less-expected-2009>

Biomass power

The power of installed biomass energy by the end of 2009 was almost 62 GW. The main areas of growth are centered within emergent countries with strong potential such as India, China and Brazil.

<http://areva.com/EN/operations-405/issues-and-prospects-for-the-renewable-energies-business-group.html>

Biofuels

Biofuels (global production and wholesale pricing of ethanol and biodiesel) reached \$44.9 billion in 2009. In 2009 the biofuels market consisted of more than 23.6 billion gallons of ethanol and biodiesel production worldwide. Overall, Brazil led with \$3.454 billion in tracked investments, followed by the US with \$2.01 billion.

Announced investments by country, 2009:

- Brazil \$3.454 billion
- Canada \$589.15 million
- India \$438 million
- South Africa \$190 million
- US \$2.01 billion

The Stella Group, Ltd. (www.thestellagroupltd.com) is a strategic technology optimization and policy firm advancing the utilization of clean, distributed energy applications such as advanced batteries and controls, energy efficiency, fuel cells, geoexchange, heat engines, microhydropower, minigeneration (natural gas), modular biomass, photovoltaics, small wind and solar thermal (air-conditioning, water and industrial process heat, and power generation), and water energy; with blended financing and customer facilitation.



<http://www.biofuelsdigest.com/blog2/2010/01/05/brazil-tops-us-8-737-in-announced-biofuels-investments-in-2009-free-download-of-projects/>

<http://www.cleandedge.com/reports/reports-trends2010.php>

Geothermal

There are over 215 commercial geothermal projects operating in 24 countries with a cumulative installed capacity of approximately 10.5 GW worldwide. Investments in geothermal grew more than in any other energy source in 2009 – up 149% over 2007 levels to \$2.2 billion.

<http://www.renewableenergyworld.com/rea/news/article/2009/05/geothermal-development-expands-globally>

<http://www.energyboom.com/geothermal/global-investments-brighten-outlook-geothermal-energy>

Hydropower and Water Energy (Tidal, Wave, Ocean Currents and Thermal)

The world's hydropower installed capacity increased from 695.8GW in 2001 to 888.8GW in 2009. The future of water (wave and tidal) energy depends heavily on financial funding as the current cost for wave energy is estimated to be £2 million per MW. DoE's Office of Energy Efficiency & Renewable Energy has allocated US\$9 million in 2009 and US\$31m in 2010 to support projects.

http://www.altenergymag.com/emagazine.php?art_id=1532

<http://www.renewableenergyworld.com/rea/news/article/2010/07/frost-hydro-wave-and-tidal-power-market-outlook-bright>

<http://www.renewableenergyfocus.com/view/6346/marine-and-hydrokinetic-energy-can-play-a-substantial-role-in-clean-energy-options>

Wind (large and small turbines)

Wind power (new installation capital costs) reached \$63.5 billion in 2009. In 2009 global wind power installations reached a record 37,500 MW. China, the global leader in new installations, accounted for more than a third of new installations, or 13,000 MW.

<http://www.cleandedge.com/reports/reports-trends2010.php>

Solar - Photovoltaics

The global solar photovoltaics industry reached \$36.1 billion in 2009. Global installed solar photovoltaic power grew by 44 percent in 2009; the global industry added a record 6.4 GW new capacity, bringing total capacity to more than 20 GW.

<http://www.reuters.com/article/idUSTRE62T3AQ20100330>

<http://www.cleandedge.com/reports/reports-trends2010.php>

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Solar - Concentrated solar Power

Global CSP additions grew 50% in 2009, rising to 649 MW from 430 MW in 2008.

<http://www.emerging-energy.com/uploadDocs/GlobalConcentratedSolarPowerMarketsandStrategies2010.pdf>

Solar - Solar thermal (water heating)

Solar thermal is now entering a commercial ramp-up phase with 3 GW of generation capacity as of 2009, and new large-scale projects of over 50 MW being deployed around the world – mainly in Spain and the USA.

<http://www.renewableenergyfocus.com/view/10862/solar-thermal-costs-down-50-by-2050>

by TSG intern Victoria Stulgis (July 12, 2010)

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