

Green Investments

Special Report

The following is a condensed version of a presentation given by Dr. Eric Martinot at the 5th annual Euromoney Renewable Energy Finance Forum in New York City. His presentation stemmed from the recent report, "Renewables 2007 Global Status Report: Market, Policy, and Investment Trends."

Dr. Martinot is Senior Researcher for the Institute for Sustainable Energy Policies. His insights give a clear picture of the current state of global renewable energy and *green investments*. Analyzed properly, they can be a highly effective tool for profiting from the green and renewable energy markets.

Green Investment Trends

In 2007, Germany, China and the United States were the three leading investors in new renewable energy capacity — with \$14 billion, \$12 billion and \$10 billion, respectively. Spain and Japan came in a close third and fourth.

The leading recipients of green investment dollars were wind (~47%), solar PV (~30%), and solar hot water (~9%).

Total green investment in new renewable energy capacity topped out last year at \$71 billion. But that number climbs over \$100 billion if you take into account monies directed at plants and equipment for solar manufacturing (\$10 billion); biofuel production (\$4 billion), for public and private research & development (\$16 billion); and for large hydro power plants (\$15-\$20 billion).

Also interesting to note is that emerging markets are quickly capturing an increased amount of green investment dollars — Brazil (which, by the way, is on the brink of quadrupling their sugar-based biofuel capacity), China, and India are certainly the countries to watch.

Global Capacity of Renewable Energy Technologies

Total global capacity for wind-generated power reached 100 GW (that's giga, with a G), in 2007.

Germany, has the most installed wind capacity by far, at about 22 GW. The United States is second with about 17 GW. Spain comes in third with about 15 GW.

China, however, had the most installed *new* wind capacity in 2007, adding 3.4 GW in just one year.

Solar PV, for its part, reached 11 GW of total installed global capacity. About 8 GW of that is grid-tied capacity with the remaining 3 GW coming from off-grid applications.

Globally, about 240 GW of renewable energy are installed. Small hydro and wind lead that mix with about 70 GW each. But biomass, solar, and geothermal are quickly gaining traction.

The fact that China has more installed gigawatts (50 GW) than the U.S. (~30 GW) is troubling, especially since a lack of investment from developing countries was the previous administration's reason for not ratifying Kyoto. China also installed 75% of the world's new solar hot water capacity in 2006. The U.S. had about 0.4% of that capacity.

China is currently considering mandating that all-new construction feature, solar hot water heaters. Spain and Israel are also in that boat.

For biofuels, global ethanol production peaked at about 45 billion liters, or 11.9 billion gallons. Biodiesel production was much less at about 8 billion liters, or 2.1 billion gallons.

Global Renewable Market Trends & Drivers

With an installed capacity of ~240 GW in 2007, renewable energy accounts for nearly 6% of total global power capacity (4,300 GW). . . and that share is growing rapidly.

Over 70 countries now have installed wind capacity, with developing countries like Egypt, Iran, Mexico, and Morocco joining the party in 2006.

Offshore wind projects are also sprouting up rapidly. Several 100 MW to 300 MW projects are currently underway in Europe and the United States.

Current and future solar PV market growth will be centered in Germany, Japan, Spain, Italy, South Korea, California, and New Jersey. France is also starting to see increased installations.

The first solar thermal plants began operation in 2006/2007 and should experience sustained long-term growth.

Biofuel Trends

Despite the U.S. becoming the predominant ethanol producer, Brazil now uses ethanol for more than 50% of its non-diesel motor fuel needs. That is a very interesting statistic, considering they are aiming at quadrupling their sugar-based ethanol production in the near future.

If they already use ethanol for 50% of their fuel, basic math tells us they only have domestic demand for a doubling of capacity. This will set the stage for massive amounts of Brazilian ethanol exports and frame an overdue debate about lifting the tariff on importing the stuff. As one gentleman said at the conference, look for a Brazilian ethanol lobbyist at a capital near you.

As for biodiesel, over half the world's production continues to be in Germany. Biodiesel production has increased by as much as 100% annually in recent years. Other hotbeds of biodiesel activity

include France, Italy, Poland, and the U.S. Look for new low-cost feedstocks to revolutionize this industry: jatropha, algae, and waste animal fats.

Where the Green Industry, and Its Investments, Are Headed

First of all, the number of so-called 'green jobs' now exceeds 2.4 million worldwide. Obviously, this can only be a function of the increased presence of renewable energy across the globe.

And not only are jobs growing, but so are the market caps of companies involved in the space. In 2007, there were 135 publicly traded companies that had a market cap of greater than \$40 million, reaching a cumulative market cap of \$100 billion for the first time.

That's double the 85 companies which represented a total \$50-billion market cap in 2005.

We've also been seeing much larger IPOs, like the four with a market cap greater than \$5 billion: Suntech (NYSE: STP), Suzlon (Bombay: 532667), REC (OSLO: REC), and Q-Cells (Xetra: QCE).

There have also been \$1 billion IPOs from:

- First Solar (NASDAQ: FSLR)
- Trina Solar (NYSE: TSL)
- Centrosolar (XETRA: C30)
- Renesola (NYSE: SOL)
- VeraSun (NYSE: VSE)
- Pacific Ethanol (NASDAQ: PEIX)

Conclusions and Takeaways

Naturally, the full status of global [renewable energy](#) and green investments are more than can be covered in 1,000 words. So we'll continue to delve into this and related topics in coming weeks.

But I think it's important to note the momentum that the renewable energy and green investments have behind them, which should be evident from the facts in this report.

Energy is the lifeblood of our global economies and of the way each and every one of us lives our lives. And we're running out of it in its traditional forms, plain and simple.

The renewable energy technologies that are picking up the slack where fossil fuels are falling off — and which will eventually gain a hefty market share — are shaping up to be the greatest investment opportunity of the century, hands down.

And the beauty is there are so many ways to play them — nearly all of which will be successful at some point.

Short-term, you already know where the action is: solar, wind, and geothermal.

And we're looking at even more exciting opportunities in the mid term, as the smart grid comes to fruition along with all its advanced electronics, storage technologies, and vehicle-to-grid possibilities.

Further down the road (4+ years) we'll have:

- Second and third generation biofuels (including algae and cellulosic)
- Enhanced geothermal systems (EGS)
- New solar technologies like CIGS
- A complete transformation of the global water infrastructure

These truly are exciting times. And fortunes stand to be made by investing in the right companies providing the energy for the 21st century.

Let us help draw that green investment roadmap for you. The *Alternative Energy Speculator* focuses on finding the young companies — across all renewable energy sectors — which are not only solving real energy and water problems, but which also have the chance for double- and triple-digit gains. In fact, we've taken a few already.

Since we opened up [Alternative Energy Speculator](#) for membership in March, the response has been overwhelming. So far, we've been offering it at a \$50 discount to readers of the *Green Chip Review*.

Now, after a three-month discount run, this is the last time we'll be offering *Alternative Energy Speculator* with a \$50 price deduction. If you haven't already done so, I suggest you [read the attached report about one of our latest plays](#) and become a member before the price goes up.

By not investing in the hottest energy stocks on the market, you're leaving easy money on the table.

Call it like you see it,



Nick

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