

Excerpt from The Economist, June 2, 2007

http://www.economist.com/surveys/displaystory.cfm?story_id=9217928

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Leader:

Cleaning Up

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Global investment in renewable power-generation, biofuels and low-carbon technologies rose from \$28 billion in 2004 to \$71 billion in 2006, according to New Energy Finance, a research company. The stock prices of clean-energy companies have been rocketing up. Silicon Valley's venture capitalists are piling into the business, convinced that they can design revolutionary technologies, bring down prices and turf out incumbents in the energy business just as they did in the software business. Oil firms, carmakers, power generators, nervous of being outmanoeuvred, are jacking up their investments in renewables and biofuels.

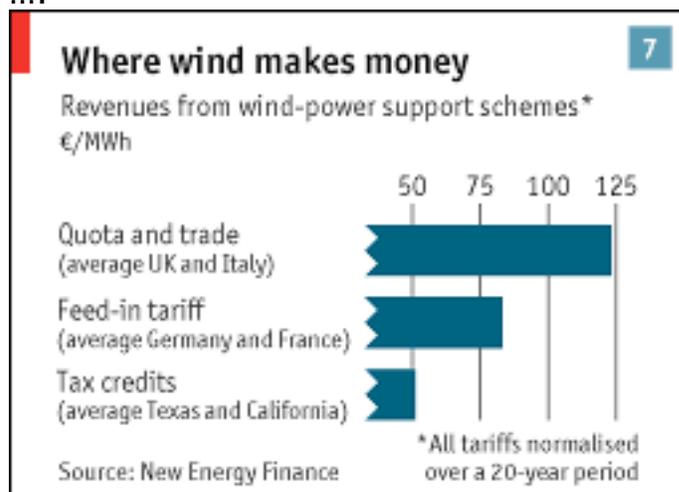
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SURVEY: BUSINESS AND CLIMATE CHANGE

Sunlit uplands

... Despite the difficulties, however, money is flowing in (see chart 8). The NEX represents pure-play clean-energy companies, some of which have grown big. Denmark's Vestas, for instance, with a market capitalisation of \$12.5 billion, is the world's biggest turbine producer. In wind energy, GE is playing catch-up.

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Greener, cleaner investors

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Share prices, December 31st 2004=100



Sources: Thomson Datastream; New Energy Finance

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Off target

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Green electricity

	Current proportion	Target proportion	Likelihood of success
Britain	4.1%*	10.4% by 2010. Nonbinding national target of 20% by 2020	No chance in 2010. 2020 target achievable only with offshore wind
Germany	10.4%*	12.5% by 2010. 20% by 2020	Likely
France	11.0%*	21% by 2010 No national target for 2020	Slow permitting set to miss target by over 50%
Spain	17.2%*	29.4% by 2010 No national target for 2020	On track until wind tariffs changed 2006-07. 22% likely
Italy	16.5%*	25% by 2010 No national target for 2020	Low because of slow permitting process, 20% likely
United States	10.0%*, >5.0% excl	No national target but binding renewable portfolio standards in 21 states	Fair depending on continuing build out of transmission capacity and political will
China	7.7%* of TPES†	15% of TPES by 2020	Likely overshoots as wind, solar, biomass and hydro industries surge
Japan	3.0% incl hydro and geothermal, 2.0% excl	3% by 2010 (no geo or hydro) 7% by 2010 (with geo & hydro)	High

Source: New Energy Finance

*Including large hydro †Total primary energy supply including fuel transportation

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So who is best placed to win in the clean-energy stakes: the VC who helped transform the computer business or the chief executive of one of the great incumbents? The VCs point out that the energy business is becoming more friendly to small companies. Electricity generation is becoming more distributed as wind farms and solar panels feed into grids. Ethanol can be produced in backyard plants.

True; but that is happening at the margin. The big companies still dominate. According to Michael Liebreich of New Energy Finance, only around \$2 billion of the \$71 billion that went into the clean-energy investment last year was VC money.

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