Does the Pope know something we don't? The Vatican's recent decision to build Europe's biggest solar power plant inside its grounds has, you might say, given divine approval to clean energy. The plan calls for an investment of €500 million in a 100MW plant that will power 40,000 households. When it opens in 2014, the Holy See expects to sell surplus energy into the Italian national grid.

Even better for green investors, the church's move away from fossil fuels practically became a matter of conscience last year when Bishop Gianfranco Girotti, the head of the Apostolic Penitentiary, gave the cardinal sins a conservationist slant. Henceforth, Catholics offend God not only by stealing, taking the Lord's name in vain, coveting the neighbour's wife and so on, but also by wrecking the environment.

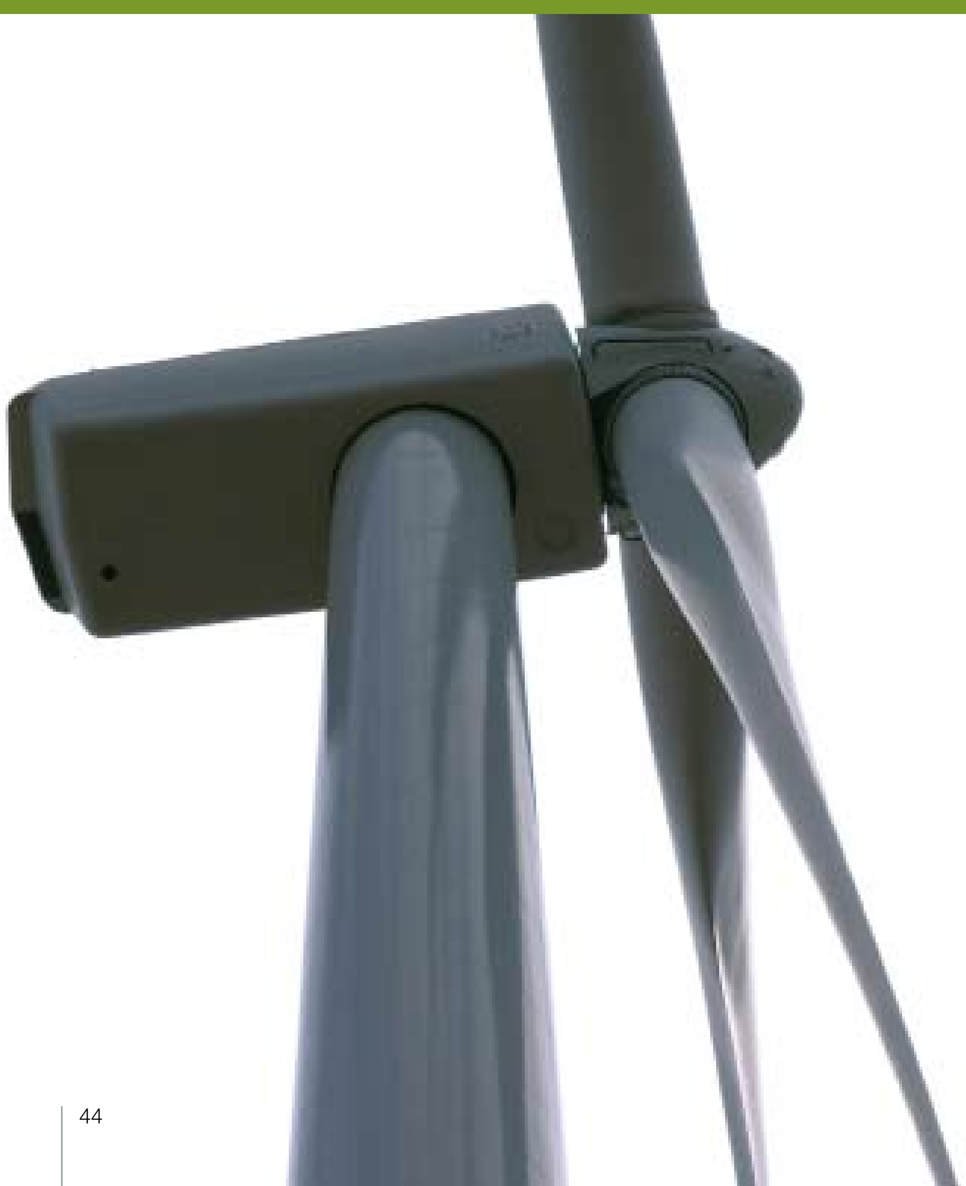
The big question, though, is whether Pope Benedict XVI has got his timing right – is the green sector about to reward serious rather than merely virtuous investors?

Wind of change

Until the financial meltdown, the sector was the beneficiary of serious investment as fossil fuels rocketed in price and western governments mandated tough carbon-emission targets for factories and transport. Money poured into companies working on green power, whether provided by wind, marine, solar, geothermal, biomass, biofuels, hydrogen, fuel cells or mini-hydro. Of these, wind and solar bagged the bulk of funds.

GREENTECH'S RISING STOCK

As the Vatican plans to build Europe's biggest solar power plant and the world's largest offshore wind farm is slated for London's Thames Estuary, **Selwyn Parker** asks whether the time is right for investors to follow the Pope's lead and put their money in renewable energy.



Also, advances in technology – 'efficiency breakthroughs' in investment jargon - in areas such as smart buildings and electricity storage attracted serious capital. According to data compiled by UK-based New Energy Finance, this wave of investment started to accelerate from 2000, increasing four-fold in 2004 alone, and then kept right on going. The capital poured in via angels and other forms of private investment such as PIPEs (private investment in public equities), spin-offs and buy-outs.

But then the torrent of investment slowed abruptly, largely because of the collapse in the spot price of Brent crude oil and the general drying-up of credit. As US analyst Carl Gutierrez puts it: 'The financial crisis has wreaked havoc on the big-swinging solar stocks.'

The numbers tell the story. In the six months following the failure of Lehman Brothers last October, solar energy stocks, for instance, lost nearly 80% of their value, according to the Claymore/MAC Global Solar Energy Index exchange-traded fund. The drop in oil prices also made alternative-energy companies much less interesting to investors, with some stocks languishing way below their benchmark indices. In the last half of 2008, investments in renewables in Europe fell by 14% to $21.2 billion compared with the equivalent period in 2007, and in the US by 50% to $10.7 billion.

Nor did it help that, in late May, the International Energy Agency announced that

€500 million

The investment for the Vatican's 100MW solar p
plant, which will power 40,000 homes.

$150 billion

The amount President Obama plans to spend o
alternative energy schemes.

2,700

The number of wind farms to be funded by oil tycoon T Boone Pickens in a trillion dollar roll out.

AS 'DIRTY' ENERGY IS HIT BY FINANCIAL PENALTIES, THERE WILL BE A TIPPING POINT IN FAVOUR OF CLEANTECH.

the world's consumption of electricity will fall this year for the first time since 1945, mainly because of declining economic activity. As a result, carbon dioxide emissions – a driver of 'cleantech' investment – are falling. Emissions in the US, easily the worst offender when it comes to carbon output, are down by the biggest amount in more than 20 years. Therefore, it looks to some as though the case for alternative energy is being undermined by circumstances. As Colette Lewiner, the head of energy at Capgemini in Paris, says: 'The current economic signals don't give incentives to invest in renewable energies.'

However, others say the drop in green investment is only temporary and this could be the time to jump right in. According to US analysts such as Deutsche Bank's Steve O'Rourke, the financial crisis could mark a turning point for the solar industry by forcing a general shake-out in the sector. 'We're going to see a lot of market consolidation through acquisitions, bankruptcies and so on,' he predicts.

After the shake-out, so the thinking goes, the survivors will be poised to capitalise on western governments' commitment to green energy. Analysts cite President Barack Obama's plan to spend $150 billion on promoting alternatives and renewables, and governor Arnold Schwarzenegger's restrictions on 'tailpipe' emissions among other alternative energy-friendly policies in California. In Britain, the government is backing the London Array project that will erect some 350 wind turbines in the outer Thames Estuary, making it the world's largest offshore wind farm.

Adding weight to O'Rourke's argument, America's Environment Protection Agency has just pledged to regulate carbon dioxide. Its 'endangerment finding' formally recognises carbon emissions as air pollutants hostile to personal health as well as to the climate. Predicts Josh Dorner, a spokesman for influential green campaigner, the Sierra Club: 'This is a huge turning point. The effect on the energy market will be immediate.'

The big utilities, always alert to government policy, seem to agree. Anticipating this and similar rulings, they are cancelling coal-fired general projects by the score.

As 'dirty' energy is hit by financial penalties, there will be a tipping point in favour of cleantech. 'When that happens, it will be potentially explosive,' says O'Rourke.

According to energy analyst Bozturk Aydinoglu of London-based fund Hazel Capital, we may already be there. In 2008, he told *The Wealth Collection* that half of all the capital invested in power generation went to renewables. Although the total amount is down because of the credit crunch, cleantech grabbed its biggest-ever share. 'It's become a mainstream part of the energy sector,' Aydinoglu explains, with the investment coming from funds and high net worth investors alike.

London-based researcher Prequin backs him up. In a report released in June, it noted that the number of private equity funds investing in cleantech has quadrupled in the past four years. The international, award-winning sustainable bank, Triodos, certainly believes the tide has turned. Last year, for example, it upped its lending to green energy projects by 60%, especially to wind farms in Belgium and France.

'Solar power is on the verge of achieving grid parity [the cost of providing renewable energy compared with old energy],' says Aydinoglu, citing startling gains in efficiency. In Spain, for example, the cost of producing a megawatt of solar power has halved in a single year – from €6 million to €3 million. Advances are also being made in China, Germany and Japan. 'We're at a point we've never been before,' he adds.

Golden rules

But what should we look for before investing in companies? The golden rules in what is a crowded sector, say analysts, are low debt (preferably at no more than half of total capitalisation), robust cash flow, a breakthrough technology or differentiating science, and, preferably, low-cost manufacture. Lazard Capital senior analyst Sanjay Shrestha told *Forbes* magazine, for instance, that his favourite measure is free cash flow and a sustainable long-term business model, with the latest 12-month, price-to-earnings multiple on profits standing at 15 or lower.

For individual investors, as opposed to those placing their faith in funds, it pays to get your head around the technology. Take solar panels that, along with wind farms, have attracted the glamour money. Like others, the sector is ripe for a shake-out and only those companies with a differentiating science have a future. For instance, many companies produce hard solar panels but Michigan-based Energy Conversion Devices has developed lightweight, flexible panels that can be rolled onto a roof, almost like a tarpaulin. That gives it a market edge.

Or you can let others do the research and invest through a specialist fund such as Triodos. A true believer, the unlisted Amsterdam-based bank first began financing wind farms 20 years ago when they were considered worthy but slightly lunatic. However, not only are the numbers starting to make sense, the ethical climate has swung in favour of sustainable investment because of the banking collapse, according to chief executive Peter Blom. 'A new concept for banks is required, [one] that puts the bank's social function back in the foreground with the profession of banker subservient to it,' he argues.

Of all people, the trend to renewables is backed by Texas oil tycoon T Boone Pickens. 'I've been an oilman my whole life, but this is one emergency we can't drill our way out of,' he warns. 'America is at a tipping point in energy reform.' Pickens is bankrolling a trillion-dollar wind farm of 2,700 turbines stretching across four counties in the Texas panhandle, enough to keep the lights on in a million homes.

So perhaps the Pope knows a thing or two about cleantech after all. ■