

INSTITUTIONAL INVESTORS WARM TO CLEAN ENERGY DESPITE TURMOIL

Institutional investors are poised to significantly increase their involvement in clean energy in the next three years according to new research by New Energy Finance and DB Climate Change Advisors, Deutsche Bank's climate change investment business. Seventy-five percent of institutional investors surveyed expect to be investing more capital in the sector by 2012. Renewable energy projects, publicly quoted clean energy companies, carbon-related assets and late-stage private companies are set to experience the greatest increase in allocations (see Figure 1). As an investment theme, renewable energy is the most favoured with some interesting differences between the interest of asset owners such as pension funds and those of the wider institutional investor community (see Figure 2).

New Energy Finance and DB Climate Change Advisors have conducted a structured survey of institutional investor appetite for investment in clean energy and the carbon markets. This report presents the results of that research.

Key findings of the survey:

- Investment in renewable energy projects such as wind farms and solar parks is set to increase in the years to 2012 with 57% of respondents expecting to increase their allocations in this area, the highest result for any asset class (see Figure 1).
- Public equity is set to pick itself up following its recent fall with 54% of participants expecting to increase allocations in the next three years.
- Carbon-related assets such as EUAs and CDM projects are set to increase for 50% of respondents.
- Private equity investments such as late-stage injections of growth capital are expected by 48% of institutional investors.
- Renewable energy is by far the most popular investment theme with both institutional investors in general and asset owners such as pension funds in particular (see Figure 2).
- Asset owners were more interested in water and waste as investment themes rather than energy efficiency, suggesting that they have a broader environmental focus rather than being focussed principally on climate change.
- Timber and forestry is finding favour, particularly with asset owners, and this theme seems set for increased growth in the US as it is the cheapest form of domestic offsetting.
- There has been a clear increase in momentum towards clean energy investing compared to 12 months ago, with 49% of respondents stating that they are now much more likely (24%) or more likely (25%) to invest in the sector.
- The recent turmoil in financial markets seems to have had limited impact on appetite for the sector; as many respondents are now 'more likely' (20%) or 'much more likely' (3%) to invest in low carbon-related opportunities as are 'less likely' (20%) or 'much less likely' (3%) as a result of the market falls, with the remainder stating that it makes no difference.
- Some 75% of all respondents – and 67% of asset owners – expect to have increased their involvement in clean energy and other low carbon-related investments by 2012.
- Only 3% of respondents expect to have no clean energy investments at all by 2012.

Figure 1. Expected allocations in 2012

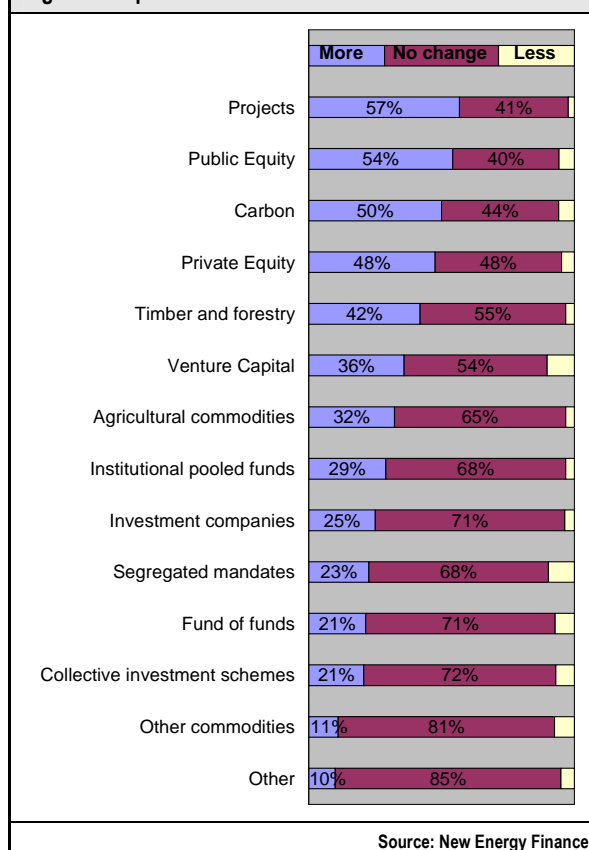
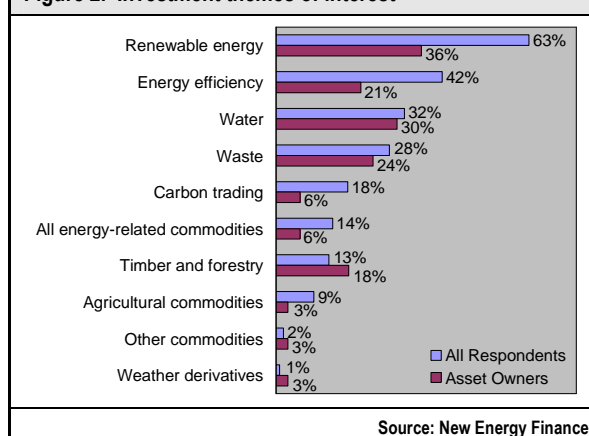


Figure 2. Investment themes of interest



Participants

106 institutions participated in the survey

One hundred and six institutions participated in the inaugural New Energy Finance survey of institutional investors. The participants covered most of the investing spectrum including public and private pension funds, sovereign wealth funds, insurance companies, endowments and family offices as well as the asset managers and advisory groups that provide services for these investors (see Figure 3).

Some of the world's largest pension funds are already active investors in clean energy. The two large Californian public pension funds entered the sector after State Treasurer Phil Angelides launched the "Green Wave" initiative in early 2004. The California Public Employees Retirement System (CalPERS) has the largest involvement with approximately \$1bn of capital committed to the sector both directly into funds such as Khosla Ventures and through the PCG Clean Energy and Technology fund-of-funds. The California State Teachers' Retirement System (CalSTRS) has also committed significant funds, if not at the same level as CalPERS. In Europe the giant Dutch pension fund ABP, together with compatriot fund PFZW, has backed the Ampere Equity Fund.

Participants manage well over \$1 trillion in assets

The aggregate assets under management of survey participants totalled more than \$1 trillion. Thirteen percent of respondents were very large institutions with more than \$50bn under management while a further 22% managed more than \$10bn (see Figure 4). To put this into perspective, the world's 300 largest pension funds had aggregate assets under management of \$11.9 trillion at the end of 2007 and to get onto this list a fund needed just under \$10bn in assets (source: Pensions & Investments / Watson Wyatt). Although participation in the survey was anonymous, New Energy Finance can confirm the participation of four of the seven largest pension funds in the world.

Many smaller pension funds are also active clean energy investors. For example, VicSuper is a relatively small fund in a global sense – it manages around \$3.9bn (AUD 5.7bn) in assets – but has shown leadership on the issue of climate change through investments in Generation Investment Management's Climate Solutions Fund and Cleantech Ventures' Cleantech Australia Fund. Fifteen percent of participants in the survey manage between \$1bn and \$10bn.

Asset manager respondents cover large range of asset classes

The majority of the 50% of respondents managing less than \$1bn in assets were asset managers rather than pension funds or other asset owners. In total, 47% of participants were asset managers. These ranged from very large institutions operating across all asset classes and sectors to relatively small dedicated clean energy investors. In terms of the types of funds being managed, 27% of them were investing in public equity and a further 24% in private equity (see Figure 5).

Listed clean energy companies were particularly badly hit in 2008 with the NEX index of global clean energy companies falling by 60.9%, albeit following several years of strong gains including 57.9% in 2007. Many leveraged investors – such as hedge funds – were caught in a downward spiral as declining asset prices led to margin calls and further weight on already depressed prices. Hedge funds were the third most highly represented asset class in the survey with 12%, ranking alongside venture capital funds.

Rounding out the list were fixed income (9%), carbon (6%, including both emission credits and credit-producing projects), funds-of-funds (4%), infrastructure (2%) and real estate (2%).

Figure 3. Participants by organisation type

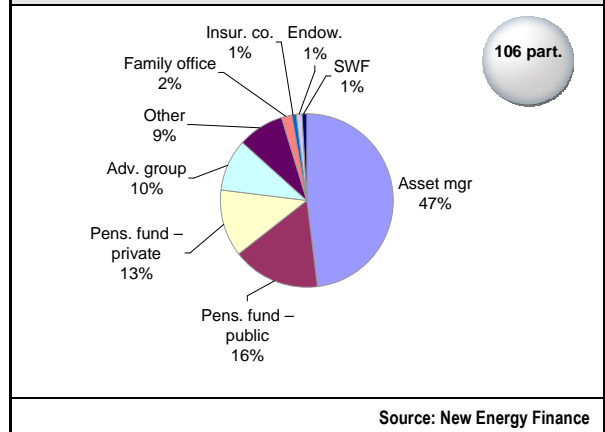


Figure 4. Participants by assets under management

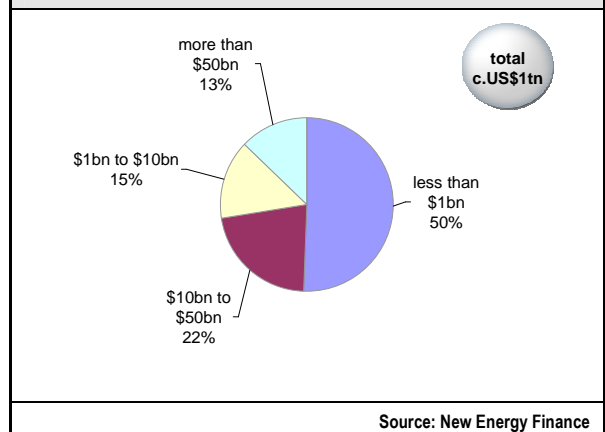
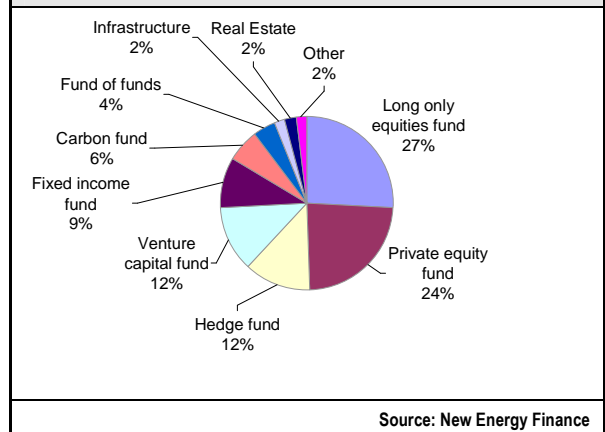


Figure 5. Participating asset managers by type



Asset classes expecting strongest growth to 2012

Good times for private equity investors through to 2012

Private equity investors in clean energy seem set for a busy few years according to the survey responses: investments in projects – including both those that yield CDM credits and those that do not – and in private companies are set to increase strongly. Despite, or possibly because of, their poor returns in 2008, publicly quoted clean energy companies are also set for significantly increased allocations (see Figure 6).

Participants were asked to specify whether they expected to have allocated more or less capital to a selection of asset classes in three years time. These included standard categories such as public and private equity and venture capital, but also categories more specific to the transition to a lower carbon economy such as 'carbon', 'timber and forestry' and 'agricultural commodities'. Investment options specific to asset owners were also included such as 'institutional pooled funds' and 'segregated mandates'.

Public equity also expected to regain some of its sheen

Public equity was the second most popular asset class with survey participants: 54% of respondents expect to increase their allocations in the next three years. This is no doubt welcome news for managers of public equity funds who have been through the wringer in recent times.

Quoted clean energy companies saw extraordinary share price increases from the start of 2003 to the end of 2007, with the NEX index of global clean energy stocks growing at a compound rate of 35% for five years. This was a boom time for managers of funds investing in clean energy stocks as they benefited from both increasing asset prices and the increased marketability this brought. During 2007, the number of new public equity funds with at least a 25% exposure to clean energy increased by almost one per week. This was an extraordinary rate of growth given that more funds were created in that one year than in all previous years combined. The rate at which new funds were created dropped dramatically in 2008 but the absolute number (12) was still higher than the number created in 2006 (10).

Asset managers that stand to benefit from this increase in allocation include very large players such as DWS Investments (the mutual fund arm of Deutsche Asset Management and, in aggregate, the largest manager of quoted clean energy and climate change funds), BlackRock (manager of the largest single fund), Generation Investment Management and RCM (manager of the Allianz RCM Global EcoTrends range of funds).

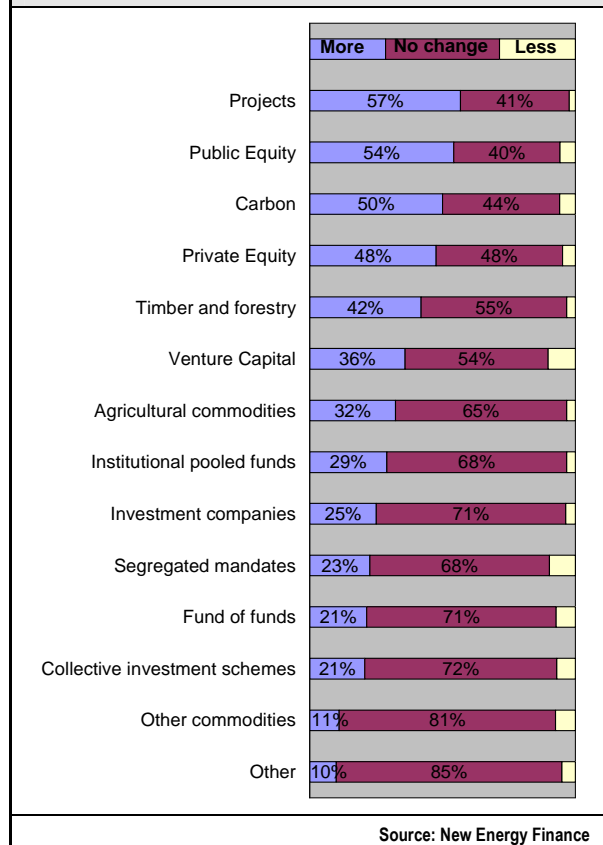
RE projects, carbon and growth capital expected to attract significantly more funding

Most new funds over the past 12 months or so have been raised by private equity managers and the next few years seem set for further growth. 'Projects' was the most popular asset class among respondents with 57% expecting to increase allocations by 2012. Funds focused on projects could prove a crucial source of capital over the coming years to take the place of previous sponsors such as tax equity investors and at a cheaper cost of capital than is offered by banks seeking to rebuild their balance sheets. The DIF Renewable Energy Fund, which had its final close in September 2008 with EUR 134m (\$198m) and was well supported by Dutch pension funds, is an example of the type of fund that could benefit from this increase in allocations.

'Carbon' as an asset class is expected to see increased institutional activity, both through funds focussed on emission credits and those focussed on projects that generate credits, with 50% of survey participants expecting to increase allocations to 2012. US adoption of cap-and-trade leading up to or during this year's UN Climate Change Conference in Copenhagen would obviously lead to an extremely large increase in the amount of traded instruments in the coming years. The second largest disclosed fund raised in 2008 was the \$525m Och-Ziff Blue Source Carbon Infrastructure Fund – this could be dwarfed in the coming years.

Many clean energy companies will require significant amounts of growth capital over the next few years and with the public markets almost completely shut and debt prices beyond reach, private equity investors look set to fill the breach. Forty-eight percent of respondents expect to increase their allocations in this area over the coming three years. Some of the largest funds raised in 2008 – both disclosed and undisclosed – were targeting this area, including the KPCB Green Growth Fund and Hudson Clean Energy Partners. Generation's Climate Solutions Fund will also be active as it is targeting a mix of public and private equity.

Figure 6. Expected allocations in 2012



Investment themes

Renewables still hot, but increased interest in water and waste

Renewable energy was by far the most popular investment theme for respondents with 97% expressing an interest in it (see Figure 7). However, it needs to be noted that this response was from a subset of respondents that are actively looking for clean energy related investments.

Given this, it was also unsurprising to find that energy efficiency was the next most popular theme with 64%. Energy efficiency is destined to play a key role in reducing greenhouse gas emissions over the coming decades due to its position far to the left of the abatement cost curve.

Water and waste were next most popular with 49% and 43% respectively, possibly capturing a more general environmental theme, although water is an important area for climate change adaptation opportunities and waste-to-energy has been a long-term focus for the sector.

The increased attention on carbon noted above with regard to 2012 allocations is further reflected here with 28% of respondents expressing an interest in this theme. The related themes of 'all energy-related commodities' (22%) and 'timber and forestry' (20%) also proved popular. Agricultural commodities as a general asset class were a little further back at 14%, probably reflecting the recent fall from favour of most biofuels.

Asset owners interested in broad environmental themes

A look at the broader group of survey participants – not just those actively seeking to make investments in clean energy – reveals broadly similar results, but with some notable differences.

Asset owners are also most interested in renewable energy (36%) but energy efficiency as an investment theme ranks fourth compared to second for survey participants generally. The two themes that rank higher for asset owners are the ones that complete the triumvirate of cleantech – water and waste.

Almost one-in-three (30%) of asset owners are interested in 'water' as an investment theme. However, the survey did not ask respondents to elaborate on the specifics of their interest in water, which has a large variety of investment options. This includes some related directly to climate change, such as adaptation strategies to increases and decreases in water availability, but also to water management more generally. Among a wide variety of options this could form part of a socially responsible theme, for example water infrastructure projects in developing countries, or a strategy based on water rights or other instruments in developed economies such as the US or Australia.

Waste also scored relatively highly with 24% of asset owner participants indicating that it was an area of interest to them. Once again, this is not necessarily an investment strategy related to climate change as it could include waste-to-energy, such as incineration or landfill gas, but also waste minimisation and recycling.

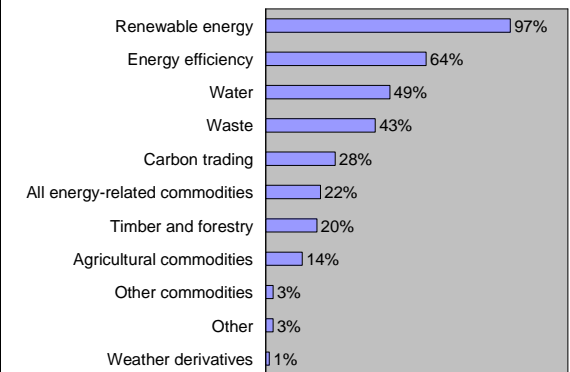
The high levels of interest in the three main cleantech sectors suggests that asset owners in particular are broadly focussed on environmental strategies rather than having a sole focus on renewable energy, although this is certainly the highest rated of the three.

Timber and forestry finding favour with asset owners

Timber and forestry was an area of interest for 18% of asset owners compared to 13% of participants generally. This theme is similar to water and waste in that it is not necessarily related to climate change, although the link in this case is quite strong. Deforestation is a key driver for increased greenhouse gas levels, and its reduction along with reforestation and afforestation programs will play a key role in mitigating climate change and also in adaptation.

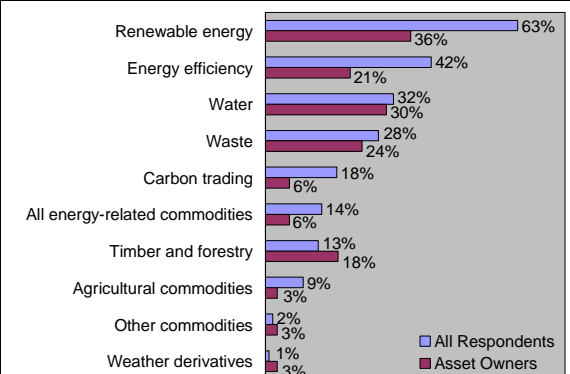
Northern European asset owners were particularly interested in timber and forestry as an investment theme, probably reflecting the importance of the industry in that area. This bodes well for the theme in the US as most domestic offsets are expected to come from forestry, which is much cheaper than those from power and industry.

Figure 7. Themes of interest to investors focused on clean energy or low carbon



Source: New Energy Finance

Figure 8. Investment themes of interest



Source: New Energy Finance

Institutional investor sentiment

Increasing momentum to clean energy compared to last year

The survey revealed strong momentum towards clean energy investments, particularly among asset owners such as pension funds. Fifty-seven percent of asset owners who participated said they were much more likely (17%) or more likely (42%) to invest in clean energy than they were 12 months ago. This is an even higher proportion than the 49% of all respondents – that is, including asset managers and others – who are more likely (25%) or much more likely (24%) to invest now.

Not a single asset owner participating in the survey said that they were less likely to invest in clean energy now than they were 12 months ago, and only a very small proportion (5%) of all respondents.

Two of the key drivers for this increase in momentum are undoubtedly the increase in political will to address climate change – particularly in the US – and the dramatic fall in valuations. The passing of the American Recovery and Reinvestment Act, signed by President Barack Obama in February, sent a clear message that renewable energy stands to benefit mightily from the new US commitment to the sector. And many investors put off by the previously stratospheric multiples attached to clean energy stocks are now clearly taking a more active interest across the asset classes that make up the sector.

Current market turmoil expected to have limited impact

Asset owners were a little more circumspect about the impact of the market volatility. Twenty-five percent stated that they were less likely to invest in clean energy although, interestingly, none stated that they were much less likely to. On the other hand, 17% stated that in fact the turmoil made them more likely to invest.

Of perhaps most relevance – and only time will tell if this bears out – was the fact that 58% of asset owners expect the turmoil to have no impact at all on the likelihood of them investing in clean energy. This level of steadfastness exceeded that displayed by survey participants in general, which is no doubt good news for the asset managers servicing the sector.

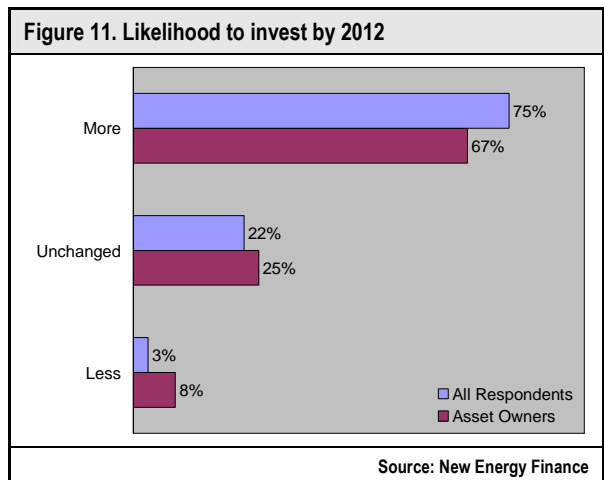
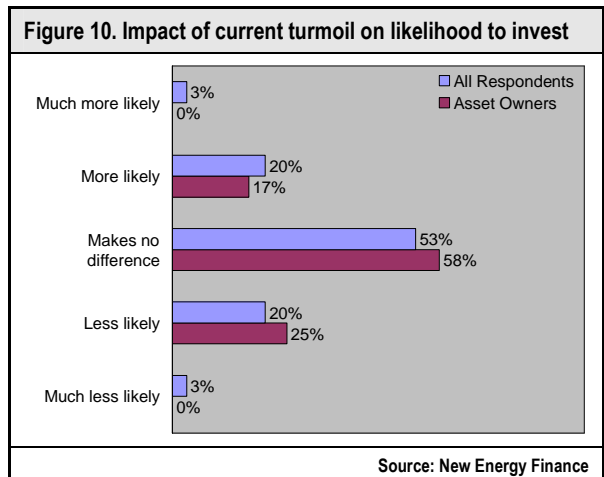
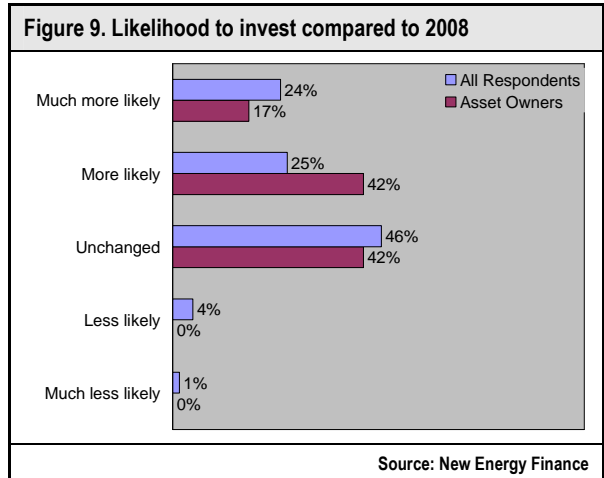
Just over half (53%) of all respondents believe that the recent turmoil on world financial markets will make no difference to their clean energy investment plans. Interestingly, the distribution of responses was almost symmetrical, with the same proportion of respondents saying that they were ‘more likely’ (20%) as said they were ‘less likely’ (20%) to invest; and the same number said they were ‘much more likely’ (3%) as ‘much less likely’ (3%).

Prospects for the next three years look bright

Three quarters (75%) of all survey participants – and 67% of asset owners – said that they expected to have invested more in clean energy by 2012 than they currently have invested. This was an extraordinarily positive result for the sector and demonstrates a broadly held view about its growth prospects in the coming years.

New Energy Finance has argued that the medium- and long-term fundamentals for growth in clean energy remain as strong as ever, and most institutional investors active in the area seem to regard the sector as one of great promise for the economic recovery period expected in the next few years.

On a more sobering note, 8% of asset owners that participated expect to have less invested in clean energy in 2012 than they do currently, demonstrating that enthusiasm for the sector – although very broad – is by no means universal. Of course, this still leaves 92% of asset owners remaining positive or at least neutral about the sector and 97% of survey participants generally.



Size of assets deployed in the sector

Low carbon assets under management set to rise

There was almost universal agreement from respondents on at least one issue: they expect the absolute size of their clean energy assets under management to increase between now and 2012.

There were two particular trends that caught our eye. Firstly, 61% of respondents currently have less than \$100m deployed in low carbon assets but in 2012 this proportion is expected to fall to 28%. And secondly, the proportion of respondents with more than \$500m deployed is set to increase from 9% to 29%.

Nine percent of respondents conceded that the amount they will have deployed three years from now was 'too difficult to predict'. However, more than half of these respondents were already managing more than \$100m in 2009 so it is possible that the proportion expecting to be managing more than \$500m is somewhat higher – that is, if the uncertainty is related to which of the higher bands they will fit into rather than an expectation that the amount being managed will decline.

Finally, the proportion of respondents expecting to have no funds deployed in clean energy is expected to fall from 13% to only 3%.

Recent developments

Preliminary indications for the first quarter of 2009 are that the financial crisis has hit investment in clean energy hard. The official figures are due to be released by New Energy Finance in early April. After holding up well during the first half of 2008, they dropped significantly in Q4 and have fallen off a cliff in Q1 of this year across all asset classes.

However, there have also been a number of successful fundraisings in Q1 suggesting that there is capital available for the right opportunities. A particularly noteworthy investment was announced by Danish pension fund ATP, which has committed to investing up to \$400m in late stage private equity investor Hudson Clean Energy Partners. Hudson has declined to confirm the investment.

Another significant pension fund investment was announced by CalPERS. The leading Californian clean technology investor announced in a February filing that it has committed \$200m to a new \$1bn technology investment fund being raised by Sun Microsystems founder Vinod Khosla. The fund will be 75% focussed on "clean technologies".

These two commitments correspond with the main conclusion of the survey, which is that asset owners are increasingly focussed on clean energy and clean technology.

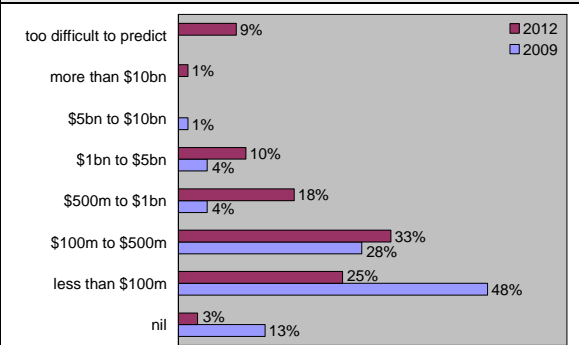
Element Partners successfully closed its second fund at \$486m with support from the PCG Clean Energy and Technology Fund, which in turn is principally supported by CalPERS. Moving to the West Coast, Kleiner Perkins Caufield and Byers announced that it was increasing the target for its Green Growth Fund to \$1bn of which \$764m had already been committed.

And finally, moving to the southern half of the Americas, Brazilian private equity firm DGF Investimentos announced that it had closed a BRL 329m (\$140m) fund in January to invest across the ethanol supply chain with backing from some of Brazil's largest institutional investors including six pension funds and the investment arm of national development bank BNDES.

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Figure 12. Low carbon assets deployed, 2009 v's 2012: US\$



Source: New Energy Finance

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