

Preqin Special Report

Overview of Private Equity Cleantech Market

May 2011



Overview of Private Equity Cleantech Market

The global cleantech private equity market has grown in importance in recent years, with a demand for socially and environmentally friendly investments from the institutional investor market fuelling a significant rise in the level of fundraising being achieved by fund managers in this space. In response, Preqin launched its annual review of the cleantech private equity market in 2009 in order to show all the key trends in this area alongside profiles and listings for all the key players. Released in the second quarter of 2011, the 2011 Preqin Private Equity Cleantech Review is the best guide to the industry yet, featuring detailed analysis, comprehensive fund listings, fund manager/investor profiles and much more. This special report calls upon some of the key content from the Review to provide an overview of the latest industry developments.

The global economic downturn had a significant impact on the ability of private equity fund managers of all descriptions to raise new capital, with the cleantech sector no exception. Although cleantech-focused funds did not see a decline in capital raised in 2009 (unlike the majority of other sectors), 2010 was more disappointing, with overall fundraising dropping back to 2006 levels, as shown in Fig. 1. However, with over 80 purely cleantech-focused funds currently seeking \$23.5bn in capital, there is clear potential for the industry to resume the growth it has been experiencing in recent years as we move into 2011 and beyond.

Specialists vs. Generalists

While Fig. 1 shows the rise in fundraising for specialist cleantech-focused vehicles, it does not account for the rise in appetite for cleantech investments amongst non-specialists – an area that has also experienced significant growth over the past few years. While estimating the actual amount of capital that will flow into the cleantech industry from more diversified vehicles represents a challenge, Fig. 2 does provide an indication of

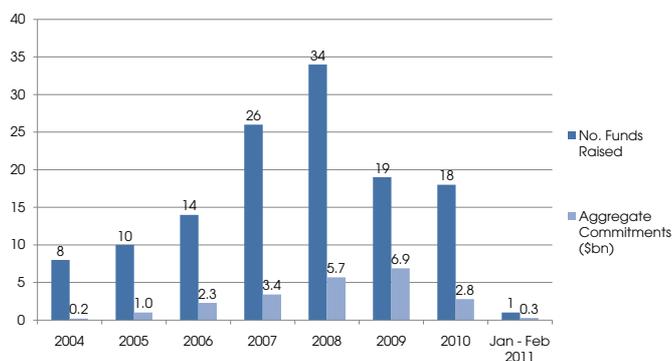
just how important these players are, with total fundraising for all funds actively seeking cleantech investments as part of a wider strategy reaching a peak of \$54.8bn in 2008. There are currently 223 funds which include a cleantech focus in market, seeking an aggregate \$80bn.

Within the 2011 Preqin Private Equity Cleantech Review, we include profiles for dedicated cleantech firms, as well as profiles for the most important generalist players with a significant interest in the clean technology sector.

How Is the Market Split by Type?

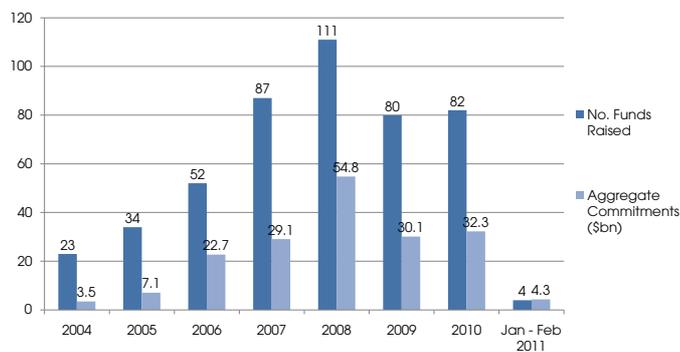
Although the cleantech industry is still relatively early in its development, there is already a significant number of firms active within the sector, representing a diverse spread of investment strategies. There are currently 603 private equity firms currently being tracked by Preqin which are active in the cleantech sector. Of these, 65% are venture capital firms and

Fig. 1: Cleantech Fundraising, 2004 - February 2011



Source: Preqin

Fig. 2: Total Annual Fundraising by Funds That Include Cleantech Investments as Part or All of Their Focus



Source: Preqin

18% are infrastructure firms, with the remaining 17% buyout firms and others such as secondaries and debt-focused players. Within the body of the Review, Preqin provides full profiles for the most important 450 of these firms, including fund-level information, investment preferences, key financial metrics and direct contact information.

Geographic Split

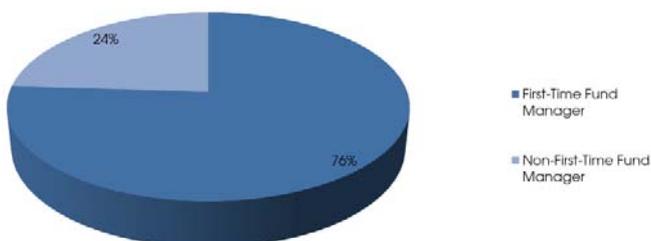
One of the defining characteristics of the cleantech industry is the geographic diversity of both the private equity players and the investments which they are making. Active firms are now spread evenly throughout the world, with the proportion of cleantech firms located in Asia and Rest of World growing from 19% in 2010 to 28% of the global share in 2011. Alongside traditional hubs of activity such as Silicon Valley, New York and London, a number of new centres of activity have sprung up in recent years, including Mumbai and Singapore, which each play host to 15 cleantech firms.

First-Time Funds

Fig. 3 shows the split of cleantech-focused funds (here relating just to firms that focus solely on cleantech investments) between first-time fund managers and those managers that have raised more than one vehicle. With more than three-quarters of players having just one fund to their name, this emphasizes just how rapidly the industry is growing, with many new firms being formed in the past year.

The challenge facing a significant proportion of these first-time fund managers which have yet to achieve a close on their debut offering will be to find investors in what remains a congested and competitive fundraising environment. There are 83 pure cleantech funds currently on the road seeking an aggregate \$23.5bn in commitments. Is there enough

Fig. 3: Breakdown of Solely Cleantech-Focused Firms by Fund Management Experience



Source: Preqin

appetite from the institutional investor community to satisfy all these ambitions? Will investors be willing to invest in firms without demonstrable performance?

Investors Scrutinize Returns

Following the significant impact that the downturn took on existing investments, investors in private equity are now examining new opportunities with far more scrutiny. Uppermost in their minds is past performance, both in terms of the individual managers and the overall sector being considered.

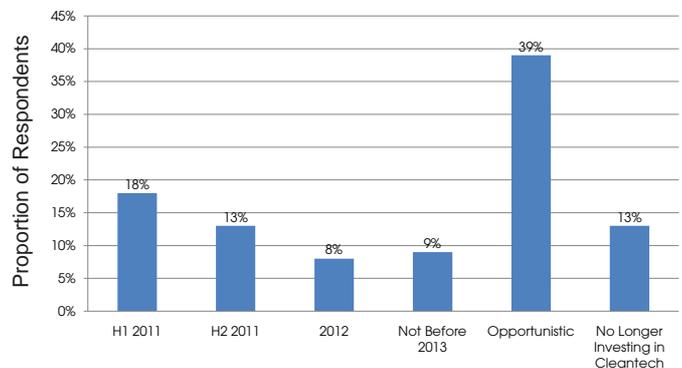
As a result of cleantech being a relatively new sector, there is not a great deal of mature fund performance data available, with many funds being far too early in their investment cycles for meaningful conclusions to be drawn. However, the early signs are promising. Looking at returns for individual funds, success stories are already beginning to emerge, with a number of 2007 and 2008 vintage vehicles already posting net IRRs in excess of 10% at this still early stage. Although benchmark returns are limited and subject to change as very little capital has been distributed to date, both 2006 and 2007 median multiple returns are showing a profit, with the 2006 vintage currently sitting on a 1.2x multiple return.

Within the body of the 2011 Preqin Private Equity Cleantech Review, we show full net-to-LP performance metrics for over 130 vehicles, including IRR, multiple and called capital levels.

Are Investors Still Keen on Cleantech?

Despite the lack of long-term performance metrics, there exists considerable support amongst the institutional community for cleantech private equity. For the significant proportion of investors instituting an element of corporate social responsibility into their investment portfolios, cleantech funds represent

Fig. 4: Investors' Expected Timeframe for Next Commitment to a Cleantech Fund



Source: Preqin

the preferred method of exposure to initiatives that align with their heightened attention towards climate change and other environmental issues.

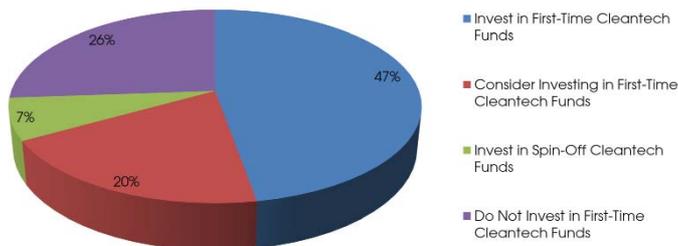
Although fundraising for private equity funds has been far more challenging since the onset of the global economic downturn, evidence suggests an improvement in investor confidence in the asset class. Preqin's survey of 100 limited partners conducted in December 2010 indicated that 62% of LPs are planning to make new commitments to private equity funds in 2011, and two-thirds of these LPs are expected to increase or maintain the pace of their commitments in 2011 in comparison to 2010.

The formation of groups such as the Institutional Investors Group on Climate Change (IIGCC) in Europe and United Nations-backed Principles for Responsible Investment (PRI) have served to further promote awareness within the institutional community in recent years, and cleantech funds are likely to benefit from the increasing appetite investors are showing for the private equity asset class. Preqin's Investor Intelligence database currently shows that 23% of active investors in private equity have invested in at least one fund with full or partial exposure to cleantech in the past, or have indicated an active interest in the industry.

Where Will Institutions Be Investing?

As part of analysis carried out for the 2011 Preqin Private Equity Cleantech Review, Preqin carried out interviews with 100 leading investors in the asset class to ascertain their levels of interest and investment preferences for 2011. The results show that there is appetite for new investments in 2011, with 31% of respondents planning to make their next commitment to a cleantech fund in 2011 and a further 8% looking to invest in the industry in 2012 (Fig. 4). A further 39% of respondents intend to

Fig. 5: Investor Attitudes to First-Time Cleantech Funds



Source: Preqin

invest opportunistically, with only 13% of respondents indicating that they no longer wish to invest in the asset class.

As previously discussed, one of the defining features of the cleantech industry is the relative inexperience of those operating in the sector. The good news for these managers is that the majority of investors in the asset class are willing to commit. Fig. 5 shows that LPs in cleantech funds are relatively receptive to managers raising vehicles for the first time. 67% of investors either invest with, or consider investing with, such managers, and a further 7% invest in spin-off funds. Just over a quarter of investors (26%), however, will not invest in cleantech funds managed by first-time teams.

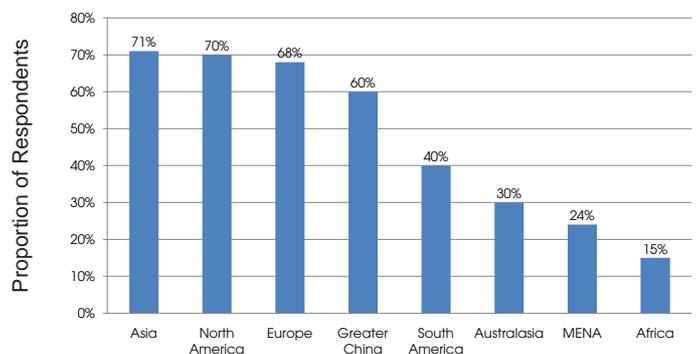
Full profiles for 150 key institutional investors in cleantech are listed in the Review, including investment plans, sample investments, contact details and key financial data.

Outlook

With an excellent stock of new funds on the road, and with investor appetite running at high levels, the future for the cleantech industry appears promising. Amongst both the investor and manager community there is growing interest in emerging markets. Asia emerges as the most promising region for new cleantech investments amongst the fund manager community, with 71% of those interviewed as part of our fund manager study stating Asia as a current area of interest (Fig. 6). Their sentiment is shared by the 58% of investors that will consider investing in emerging markets. The full results of both our fund manager and investor studies are available in the body of the Review.

With the number of opportunities for cleantech investment growing, we are already seeing increased interest in the sector from diversified fund managers including cleantech within a

Fig. 6 Fund Managers' Views on Most Attractive Regions for Cleantech Investment Opportunities in 2011



Source: Preqin

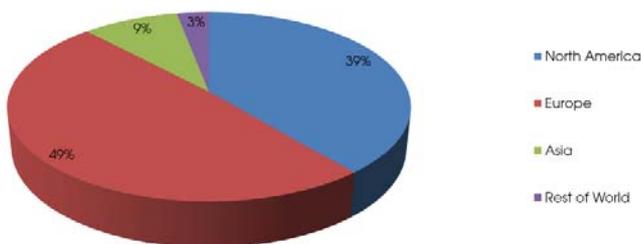
wider set of industry foci. Although this trend is set to continue, it will not be at the expense of focused players, which are not only showing excellent potential in terms of returns, but also represent compelling investment solutions for the increasing number of investors with specific remits for including CSR-friendly investments in their portfolio. As investors continue to carve out such allocations in the coming year, cleantech is set to become an increasingly important and established sector within the private equity industry.

Institutional Investors

Investor Location

- The majority of institutional investors with an interest in cleantech are based in Europe and North America, with 88% of LPs that have an interest in the sector headquartered in these regions.
- 39% of investors interested in cleantech in 2011 are North American based. This is a decrease of two percentage points from 2010.
- The largest proportion, 49%, of investors showing an interest in cleantech in 2010 are based in Europe. The margin between LPs based in Europe and North America has increased from two percentage points in 2010 to 10 in 2011. Asia and Rest of World has the smallest proportion of investors with an appetite for cleantech, with 12% of these LPs based in the region.

Fig. 7: Location of Investors in Cleantech Funds

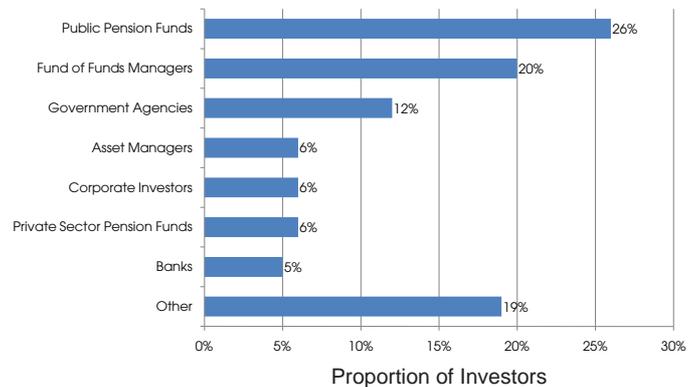


Source: Preqin

Investor Type

- The cleantech sector has benefited from an increased awareness of climate change issues and responsible investing policies. As international and governmental initiatives grow in popularity, cleantech has become a more recognized and attractive sector for limited partners and therefore attracts a range of institutions.
- 26% of investors known to have invested in funds dedicated to cleantech are public pension funds. Fund of funds managers account for 20% of investors in cleantech funds, followed by government agencies (12%) and corporate investors (6%).
- A number of fund of funds managers, such as US-based North Sky Capital or Switzerland's SAM Private Equity, raise their own dedicated cleantech vehicles and are expected to make substantial investments in the energy, utilities and clean technology sectors going forwards.

Fig. 8: Breakdown of Investors Known to Have Invested in Pure Cleantech by Type



Source: Preqin

Historical Fundraising

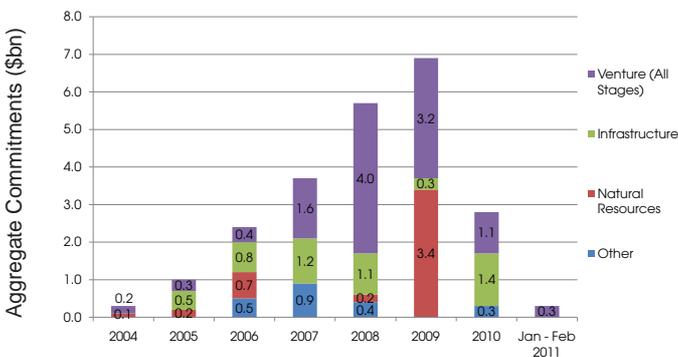
Fundraising by Fund Type

- In the period between 2004 and 2008, pure cleantech funds consistently accounted for around 30% of all cleantech funds closed each year, by number. By 2009 this figure had dropped considerably to 21%, when 19 funds raised a record \$6.9bn. In 2010, 18 pure cleantech funds raised an aggregate \$2.8bn.
- Owing to the fact that cleantech is a sector that relies on new technologies and innovation, the private equity cleantech fundraising environment is dominated by venture capital funds. Such vehicles have raised \$11.1bn from 2004-February 2011, representing 48% of all pure cleantech capital raised over this period.
- Growth/late stage venture capital funds raised \$0.3bn in 2010, having peaked at \$1.8bn in 2009. This is partly due to the Hudson Clean Energy fund, which closed in December 2009 on over \$1bn. Early stage venture capital fundraising peaked in 2007 at \$0.5bn, but has made a relatively small contribution to annual fundraising since, not surpassing \$0.1bn. Early stage funds represented 10% of the market in 2010, when the venture cleantech market was dominated by venture funds with no specific stage focus. There was one expansion vehicle closed in Q1 2011.

Fundraising by Region

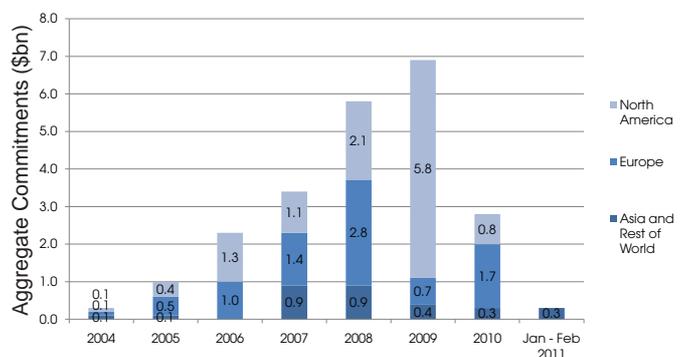
- The aggregate capital raised by primarily Europe-focused funds was relatively similar to that raised by primarily North America-focused funds from 2004 to 2008. North American fundraising experienced a large increase in 2009, primarily due to the final close of the \$3.4bn Riverstone/Carlyle Renewable and Alternative Energy Fund II, which accounted for almost 60% of the region's total for the year. Fundraising for European-focused vehicles improved in 2010, with \$1.7bn raised, in comparison to the \$0.8bn raised by North America-focused funds.
- Cleantech fundraising by primarily Asia and Rest of World-focused funds first reached significant levels in 2007, when an aggregate \$0.9bn was raised. In 2009 and 2010 fundraising levels dropped to \$0.4bn and \$0.3bn respectively.
- As a result of the economic downturn, 2009 saw fundraising levels fall in all regions except North America. North American fundraising experienced a large increase in 2009, primarily due to the final close of the \$3.4bn Riverstone/Carlyle Renewable and Alternative Energy Fund II. Although European-focused funds improved in 2010, overall funding remained depressed and comparable to 2006 levels.

Fig. 9: Aggregate Commitments to Pure Cleantech Funds by Fund Type, 2004 - Feb 2011



Source: Preqin

Fig. 10: Aggregate Capital Raised by Pure Cleantech Funds by Regional Focus: 2004 - February 2011



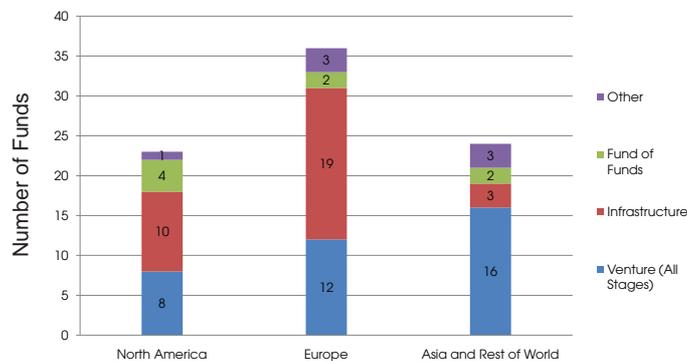
Source: Preqin

Current Fundraising Analysis

Funds Overview

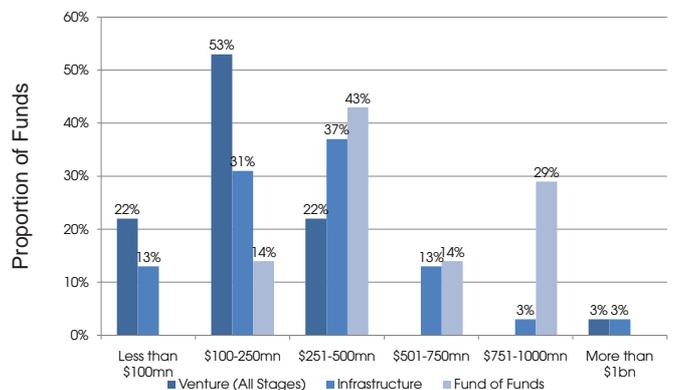
- As of Q1 2011, there were 223 private equity vehicles on the road seeking capital that include cleantech investments as part or all of their industry focus (including 83 dedicated cleantech vehicles, representing 5% of the total number of private equity funds currently).
- At present, funds in market that include a cleantech focus are looking to raise an aggregate \$80bn in capital commitments. This represents 14% of all private equity vehicles currently raising capital in terms of number of funds, and 13% in terms of total capital being sought. Pure cleantech funds, which are dedicated entirely towards cleantech investment, are seeking \$23.5bn, accounting for almost 4% of the total capital being sought by all private equity funds.
- Funds investing across the venture stage spectrum are the most numerous type of pure cleantech private equity vehicle in market, with 36 funds seeking an aggregate \$7.5bn in capital commitments. Infrastructure funds are seeking the most investor capital of all pure cleantech fund types currently in market, with 32 funds seeking \$10.6bn, equating to 45% of the aggregate target being sought by all pure cleantech funds.
- 75% of pure cleantech venture funds are targeting \$250mn or less in their fundraising efforts, while only a small number of such funds are targeting more than \$500mn.
- The majority of cleantech funds (69%) are seeking between \$100-500mn in capital commitments, while 17% are targeting below \$100mn.
- For cleantech-focused infrastructure vehicles, fundraising targets are generally higher, with nearly 20% of such funds seeking more than \$500mn

Fig. 11: Pure Cleantech Funds Currently Raising by Fund Type



Source: Preqin

Fig. 12: Breakdown of Pure Cleantech Funds Currently Raising by Target Fund Size and Fund Type



Source: Preqin

Fund Manager Universe Overview

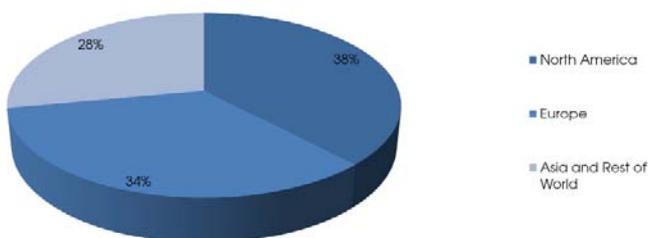
Fund Manager Location

- Preqin has identified 603 private equity fund managers that make cleantech investments, either exclusively or part of a broader investment strategy. 38% of these firms are based in North America, a decrease from 45% last year.
- The decrease in the proportion of managers based in North America can be explained by the rise in the number of Asia and Rest of World managers. Such managers have increased to represent 28% of the private equity cleantech fund manager universe (from 19% in 2009).
- European-based fund managers represent 34% of the total proportion.

Industry Focus

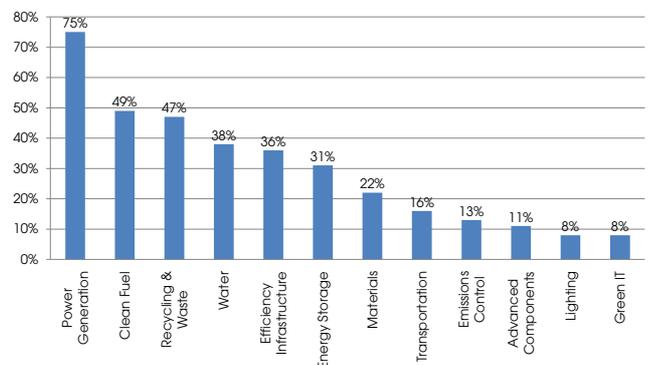
- Power generation, which covers all forms of renewable and clean energy, remains the most prominent industry focus for private equity cleantech funds, with 75% of managers investing in the sub-sector. This represents a slight decrease in comparison to last year, when 79% targeted the area for investment.
- Clean fuel represents the next most prominent industry focus held by private equity cleantech fund managers, with 49% of firms targeting the sub-sector.
- 47% of firms invest in recycling and waste management, a sub-sector that includes waste-to-energy conversion. Water and efficiency infrastructure are the two next prominent areas of interest, with 38% and 36% of managers targeting these sub-sectors respectively.

Fig. 13: Breakdown of Cleantech Firms by Firm HQ



Source: Preqin

Fig. 14: Percentage of Firms Investing in Each Cleantech Sub-Sector



Source: Preqin

The 2011 Preqin Private Equity Cleantech Review

The 2011 Preqin Private Equity Cleantech Review is the ultimate guide to this important and growing sector of the industry, featuring detailed analysis, comprehensive fund listings, profiles for the most important fund managers and institutional investors worldwide, plus much more.

The Review is a vital tool for all those raising funds, and for professionals managing or advising on cleantech assets. This year's edition features a large amount of exclusive information gained directly from fund managers and investors. It is the most comprehensive source of global data and analysis available today.

Key features of this publication include:

- Detailed analysis examining the history and development of the industry, fundraising trends, performance analysis, fund manager universe, institutional investors, fund of funds.
- Profiles for 450 cleantech-focused private equity firms, including direct contact details, firm investment strategies, recent deals, fund details and more.
- Profiles for 150 institutional investors in funds, including investment plans, sample investments and direct contact details.
- Listings for all funds raised historically, funds currently raising, performance metrics for over 130 funds, league tables for biggest firms.
- Covers venture capital, infrastructure, buyout, fund of funds, and other PE firm types focusing on the sector.

Benefits of this year's publication include:

- Wide-ranging analysis will help you understand the latest market trends and is essential for producing reports, presentations and marketing materials.
- Our detailed profiles will save hundreds of research hours looking for firm or investor backgrounds and contact details.
- Most comprehensive report available today, with exclusive information all compiled by our team of dedicated multi-lingual analysts via direct contact with firms and investors.

More information:
www.preqin.com/cleantech

2011 Preqin Private Equity Cleantech Review - Chapters

<p>1..... EXECUTIVE SUMMARY</p> <p>2.....DATA SOURCES/METHODOLOGY</p> <p>3..... OVERVIEW OF THE MARKET</p> <p>4.....FUNDRAISING: PUTTING CLEANTECH IN CONTEXT</p> <p>5.....REVIEW OF FUNDRAISING: 2004 - FEB 2011</p> <p>6.....LISTINGS OF FUNDS CLOSED HISTORICALLY</p> <p>7..... CURRENT FUNDRAISING MARKET ANALYSIS</p> <p>8.....LISTINGS OF FUNDS ON THE ROAD</p> <p>9..... FUND PERFORMANCE ANALYSIS</p> <p>10.....FUND PERFORMANCE LISTINGS</p> <p>11.....FIRM PREFERENCES</p> <p>12.....TOP FUND MANAGERS BY SIZE</p>	<p>13.....FUND MANAGERS ANALYSIS</p> <p>14..... FUND MANAGER STUDY: CURRENT AND FUTURE MARKET PROSPECTS</p> <p>15.....VENTURE CAPITAL ANALYSIS</p> <p>16.....VENTURE CAPITAL PROFILES</p> <p>17.....INFRASTRUCTURE ANALYSIS</p> <p>18.....INFRASTRUCTURE PROFILES</p> <p>19.....FUNDS OF FUNDS ANALYSIS</p> <p>20.....INSTITUTIONAL INVESTOR ANALYSIS</p> <p>21.....INSTITUTIONAL INVESTOR PROFILES</p> <p>22.....INDEX</p> <p>23.....GLOSSARY</p>
--	--

2011 Preqin Private Equity Cleantech Review

The [2011 Preqin Private Equity Cleantech Review](#) provides detailed analysis on all aspects of this important sector, plus listings for all funds, and profiles for the most important fund managers and institutional investors worldwide.

Key features of this publication include:

- Detailed analysis examining the history and development of the industry, fundraising trends, performance analysis, fund manager universe, institutional investors, fund of funds. Profiles for 320 cleantech-focused venture firms and 130 cleantech-focused infrastructure firms, including direct contact details, firm investment strategies, recent deals, fund details and more.
- Profiles for 150 institutional investors in cleantech funds, including investment plans, sample investments and direct contact details.
- Listings for all funds raised historically, funds currently raising, performance metrics for over 130 funds, league tables for biggest firms.
- Covers venture capital, infrastructure, buyout, fund of funds, and other PE firm types focusing on the sector.



For more information visit: www.preqin.com/cleantech

I would like to purchase the 2011 Preqin Private Equity Cleantech Review:

Single Copy:

- £795 + £10 Shipping
- \$1,345 + \$40 Shipping
- €945 + €25 Shipping

Additional Copies:

- £110 + £5 Shipping
- \$180 + \$20 Shipping
- €115 + €12 Shipping

Data Pack:

- \$300 / £175 / €185

Data Pack contains all underlying data for charts and graphs contained in the publication. Only available alongside purchase of the publication.

Shipping costs will not exceed a maximum of £15 / \$60 / €37 per order when all shipped to same address. If shipped to multiple addresses then full postage rates apply for additional copies.

Completed Order Forms:

Post (to Preqin):

Equitable House,
47 King William Street,
London, EC4R 9AF

230 Park Avenue
10th Floor,
New York, NY 10169

Samsung Hub
3 Church Street
Level 8
Singapore 049483

Fax:

+44 (0)87 0330 5892
+1 440 445 9595
+65 6408 0101

Email:

info@preqin.com

Telephone:

+44 (0)20 7645 8888
+1 212 808 3008
+65 6408 0122

Payment Details:

- Cheque enclosed (please make cheque payable to 'Preqin')
- Credit Card Amex Mastercard
- Visa Please invoice me

Card Number: _____

Name on Card: _____

Expiration Date: _____

Security Code: _____



American Express, four digit code printed on the front of the card.



Visa and Mastercard, last three digits printed on the signature strip.

Shipping Details:

Name: _____

Firm: _____

Job Title: _____

Address: _____

City: _____

Post/Zip: _____

Country: _____

Telephone: _____

Email: _____