



Clean Technologies & Renewable Energy

1Q09



Copyright © 2009
in conjunction with
VB/Research

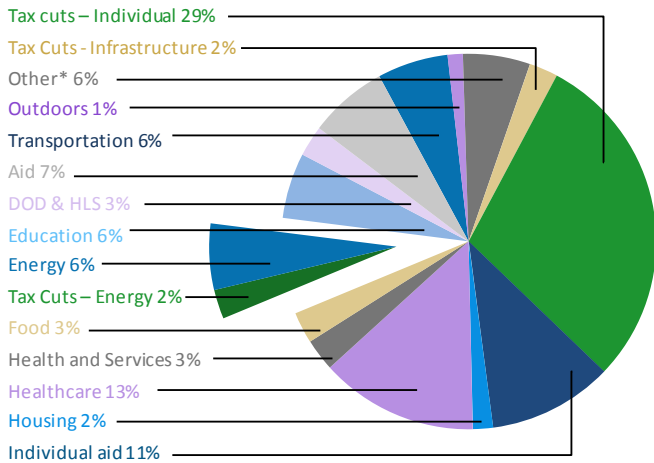


Contents

1. The Avascent Group: The Impact of the American Recovery and Reinvestment Act (ARRA) on the Energy Sector	3
2. Industry News & Trends	5
3. Venture Capital & Private Equity Investment Global – 1Q07 to 1Q09	6
4. Number of Active Investors and Financed Companies Global – 1Q07 to 1Q09	7
5. Venture Capital Investment Global – 1Q07 to 1Q09	7
6. Venture Capital Investment: Sector Breakdown Global – 1Q09	8
7. Top 10 Venture Capital Transactions Europe – 1Q09	8
8. Top 10 Venture Capital Transactions North America – 1Q09	9
9. Top 10 Venture Capital Investments in Solar Global – 1Q09	10
10. Top 10 Venture Capital Investments in Energy Efficiency Global – 1Q09	11
11. Top 5 Venture Capital Investments in Energy Storage Global – 1Q09	11
12. Early- vs. Late-Stage Investment Europe – 1Q07 to 1Q09	12
13. Early- vs. Late-Stage Investment North America – 1Q07 to 1Q09	12
14. Early-Stage Investment Global – 1Q08 to 1Q09	13
15. Late-Stage Investment Global – 1Q08 to 1Q09	14
16. Early- and Late-Stage Investment in Energy Storage: Sector Breakdown Global – 4Q06 to 1Q09	15
17. Top 5 Private Equity and Buy-out Transactions Global – 1Q09	16
18. Mergers & Acquisitions Global – 1Q05 to 1Q09	17
19. Top 10 M&A Transactions Global – 1Q09	18
20. Markets Relative Performance July 08 – May 08	19
21. 2009 Outlook	20
22. Contact Information	21

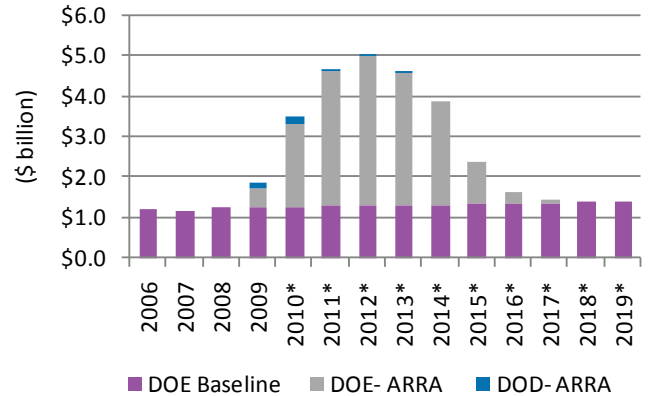
1. The Avascent Group: The Impact of the American Recovery and Reinvestment Act (ARRA) on the Energy Sector

ARRA – Allocation (\$787bn) by category



* Other includes 18 categories each totaling less than 1% of total ARRA allocations
 Source: Avascent analysis

Notional impact of ARRA on Federal Energy Spending**



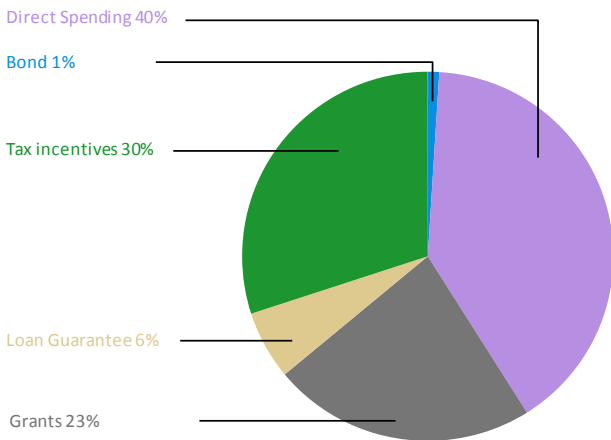
* Modeled analysis utilizes DOE, CBO, and Avascent analysis
 ** DOE baseline, modeled using historical agency spend on Renewables and Energy Efficiency; out-years are estimated from 2010 through 2019 using a 1% CAGR
 Source: Avascent analysis

- The Obama administration’s energy policies are heavily focused on investment to support the development of alternative energy. One of the principal headline targets is to ensure that 10% of electricity is generated from renewable sources by 2012 increasing to 25% by 2025.
- In parallel the administration is determined to reduce North America’s dependence on imported oil. Through improved fuel efficiency standards, tax incentives and promoting electric vehicles and hybrids the government is aiming to eliminate current oil imports within 10 years.
- This investment is also intended to foster an environment that generates green jobs. The administration aims to generate five million new jobs through strategic investments exceeding \$150 billion over the next ten years.
- The largest share of ARRA focuses on tax cuts & credits: tax cuts to individuals account for nearly 30% of ARRA appropriations with infrastructure and energy receiving benefits of 2% each; manufacturing and investment tax credits should enable developers to take a mixture of credits; however, all come with a variety of restrictions and clauses.

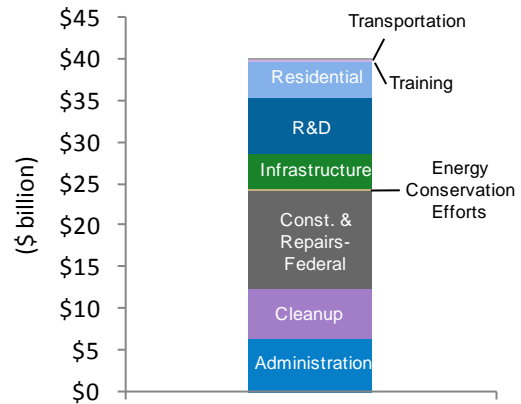
- “Out-year” funding represents a considerable source of the addressable funding. While significant spending occurs in years 1 and 2 of ARRA, the stimulus funding remains accessible until 2019.
- The DOE has maintained its energy leadership across the Federal space. Since its founding, the DOE has been responsible for energy research, development, and demonstration (R&D) to deploy advanced renewable, fossil, and nuclear technologies. Consequently the lion’s share of ARRA funds has been allocated to the DOE.
- Within the energy sector, the stimulus highlights both recovery and reinvestment activities. While stimulating the economy, ARRA adds additional funds to DOE’s existing discretionary funding to recapitalize the research foundation across the DOE network.
- Energy-related spending in ARRA tends to lag initial allocations. While the DOE will begin to spend/allocate funds in 2009, the natural lag associated with R&D and deploying advanced technologies stretches out the funding curve to the right.
- \$420 million of direct energy-efficiency work has been allocated within the DOD. ARRA allocated \$300 million to develop energy efficient technologies and the remainder for ECIP (Energy Conservation Investment Program).

The Avascent Group: the impact of the American Recovery and Reinvestment Act (ARRA) on the Energy Sector – cont.

Breakdown of Financing/Spending Type



Breakdown of Direct Spending



Source: Avascent analysis

- The ARRA funding has been designed specifically to promote alternative energy. Policy objectives include: i) supporting renewable investment including solar, wind, geothermal etc; ii) promoting energy efficiency primarily through initiatives that emphasize insulation and structures; iii) upgrading transmission and promoting smart grid related technologies including demand response; and iv) promoting hybrid electric vehicles and advanced battery technologies.
- Incentives and financing account for 60% of energy related stimulus spending under ARRA: these financing options include tax cuts for individuals and business, investment credits, bonds, and loans for owners and operators of alternative energy generators.
- Grants funnel federal did to industry as well as state and local governments. The federal government has allocated approximately \$15 billion to spur R&D and the adoption of more energy efficient systems. Examples include: grants for advanced battery manufacturing, transport electrification, purchases of alternative energy vehicles (for state and local governments), and research into the feasibility of carbon capture.
- US Government direct spending is intended to foster alternative energy technologies by specifying increased energy efficiency during construction and repair activities. This represents a very sizable indirect market and one that is likely to evolve over time with new technologies and building practices. This is also a way for the US Government to “create” a market for alternative energy/products by requiring them in federal projects.
- According to the Avascent Group approximately 6% of direct spending is directly accessible (\$6.4 billion). This funding primarily covers R&D and other grants to leverage technological and scientific expertise to increase energy efficiency (e.g. advanced battery grants (\$2 billion) and R&D for renewable energy (\$2.5 billion)).
- Albeit small in comparison, the DOD received approximately \$420 million for energy conservation projects and efficient technology development.
- Approximately 12% of direct spending is indirectly accessible (\$11.4 billion). This includes funds allocated for construction, repair, and improvement of federal facilities, including implementing improved energy efficiency standards. This market is likely to remain highly fragmented.
- The Avascent Group estimates that a further 17% (\$16 billion) is possibly accessible. Accessibility depends on acquisition and/or company policy shift; spending focused on R&D for fossil energy, clean coal, and nuclear physics (fusion/high energy) and modernization of the electric grid. The largest individual share of this funding (\$6.3 billion) is allocated for energy efficiency grants to state and local governments.
- The remaining 65% (\$60 billion) largely comprises loans, grants, and tax incentives to individuals, corporations, and governments.

2. Industry News & Trends

US

- ARRA: please refer to the next section contributed by The Avascent Group for an overview of the impact of the American Recovery and Reinvestment Act (ARRA) on the energy sector.
- In addition to ARRA, California announced a 33% renewable portfolio standard (RPS) by 2020 called the Californian Renewables Portfolio Standard while RPS levels of 20% by 2020 and 25% by 2025 are being considered on a federal level.

China

- In March, the Chinese Ministry of Finance announced a new solar subsidy for new solar installations. The subsidy for solar project developers is CNY 20/W or \$2.93/W for installations above 50kW. This roughly equates to the price of a solar module. The programme only covers installations that: i) are completed after March 23 2009; ii) are larger than 50kW; iii) use high quality modules. Building Integrated Photovoltaics (BIPV) projects have been given a higher priority. Applications to the solar subsidy programme will be reviewed bi-annually in April and August. The duration of the programme as well as the guaranteed electricity purchase price from project developers remains unclear. The announcement also did not mention whether there is a cap on the volume of installations to benefit from the subsidy.

Japan

- The Japanese government has introduced a new solar subsidy for residential installations. The subsidy is JPY 70,000 (\$710) per kilowatt installed with a total budget of JPY 20.05 billion (\$203 million). The total amount of MW of capacity installed receiving a subsidy has been capped at 286 MW compared to 230MW in 2008.
- The government has also included a JPY 2 trillion proposal to support solar installations in public facilities. The support scheme is scheduled to last 3 years and is projected to result in a new 1,000 MW of installed capacity a year.
- In the transportation sector, a subsidy of JPY 100,000 (\$1015) will be provided for purchases of new, eco-friendly cars. In addition, a subsidy of JPY 250,000 (\$2,538) will be granted when a car that has been used for at least 13 years is scrapped and replaced with a car meeting certain fuel efficiency standards.
- The government also intends to launch an "eco-points" system to promote the wider use of green consumer electronics. 5% of the purchase price of specified green goods will be rebated in the form of "eco-points" upon the purchase of energy-saving home appliances such as air conditioners or refrigerators.

UK

- The Chancellor Alistair Darling announced several measures to support emerging technologies including CleanTech and Renewable Energy in the UK's 2009 Budget.
- The budget included a pledge of £750 million in the form of an investment fund dedicated to emerging technologies such as high-tech manufacturing, digital industries and renewable energy.
- In addition £1.4 billion will be allocated to CleanTech and Renewable Energy of which £525 million will go to offshore wind farms through the renewable energy obligation scheme; £375 million will be made available for Energy Efficiency measures for homes and businesses and £405 million will be available for what the government has labelled "the advanced green manufacturing sector" which will include investments in infrastructure supporting the development of green technologies and renewable energy (i.e testing facilities).
- Combined Heat & Power projects will be exempt from the Climate Change Levy (CCL) from 2013. CCL is a tax imposed on the energy delivered to non-domestic users in the UK. This has an estimated value of £2.5 billion.
- The UK government committed to cut CO2 emissions by 34% by 2020.

European Union

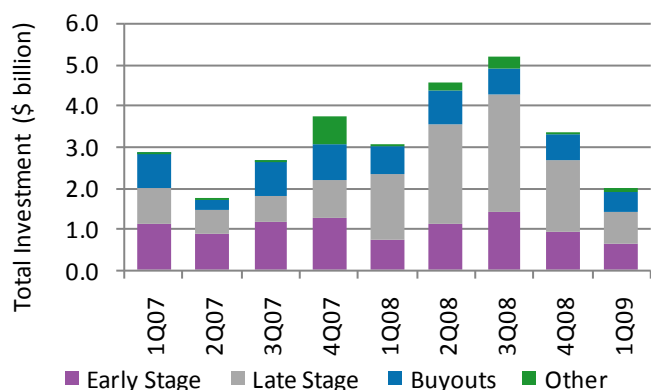
- On March 31 2009 The European Parliament voted in favour of a proposal for "zero-energy" buildings. Under the new legislation all buildings constructed after 2018 must comply with the new energy efficiency requirements. All new residential and commercial buildings must be carbon neutral post 2018. European funding, tax cuts and low-interest loans will be made available to stimulate buildings constructed under the new legislation.
- Slovakia announced feed-in-tariffs for Renewable Energy.

Canada

- In March 09, the province of Ontario formulated the Green Energy and Green Economy Act including measures for renewable energy, energy efficiency and smart grid. Under this programme, renewable energy projects meeting certain criteria (still to be defined) will be guaranteed a connection to transmission and distribution networks with priority access over other forms of power generation. Renewable energy projects will be exempt from all forms of municipal permits. A new office of Renewable Energy Facilitation has also been established to shorten the permitting process. The legislation also reinstated the feed-in tariffs which were cancelled in May 08 and renewed the PPA auction system for large-scale renewable energy projects.
- The Act also introduced a number of energy efficiency measures focused on the built environment including: i) a mandatory audit for properties prior to the sale of a long term lease; ii) a mandatory energy efficiency plan for public agencies which includes the obligation of having energy efficient procurement partners.
- Although the Act did not set out clear measures for a smart grid network roll out, it specified that the timeline for the roll out will be released soon. The Ontario Energy Board was selected to facilitate the implementation of a smart grid network.

3. Venture Capital & Private Equity Investment

Global – 1Q07 to 1Q09



Estimated figures based on disclosed transactions. Other includes PIPEs and OTCB deals.

Early-Stage: up to Series C or equivalent. Late-Stage: Series D or equivalent and above.

- Methodology: For this graph VB/Research breaks down total investment in 4 categories: early-stage, late-stage, buyouts and other. Late-stage investments (Series D and above) include investments not just by venture capitalists but also by private equity funds, hedge funds and even corporates. If we added the early-stage and late-stage investment here, we would get to a total of Venture Capital investment (in the traditional definition of Venture Capital). However, it would take into account investment by Private Equity firms which having traditionally invested in buyouts have entered the sector by investing in expansion rounds (i.e. VC rounds). This reflects the current fluidity of the investor landscape in which private equity funds often invest at an earlier stage (to gain exposure to the sector) and conversely certain venture capitalists invest in later stage rounds (to de-risk their portfolios). We have found that this trend has been reinforced in the current economic climate.

1Q2009

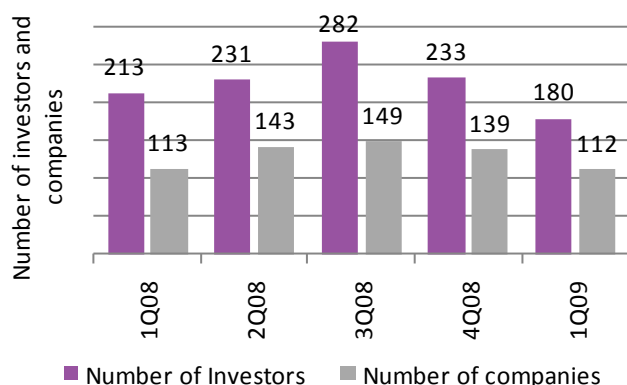
- During 1Q09, just under \$2 billion was invested in private CleanTech and Renewable Energy companies globally. This figure represents a 41% decrease on 4Q08 (\$3.3 billion) and a decline of 35% compared to the same period last year. Total investment in the sector has declined quarter-on-quarter since 3Q08 following a period of steady growth stretching back to 2Q07.
- Of the \$2 billion invested in the sector during 1Q09, early-stage venture capital accounted for \$630 million (32%), late-stage venture capital for \$786 million (40%) and private equity buy-outs a further \$490 million (25%).
- Early-stage venture capital investment in 1Q09 was down 31% on 4Q08 and 15% on the same period last year.
- Late-stage venture capital investment in 1Q09 declined 55% on 4Q08 and 50% on the same period last year. For 4Q08, the \$1 billion investment in Vital Renewable Energy Company (“VREC”) by an international consortium of investors led by Paladin Capital Group is excluded from our total for comparison purposes.
- Private equity buy-outs in 1Q09 (\$490 million) declined 18% on 4Q08 (\$599 million) and were 28% lower than 1Q08 (\$680 million). VB/Research tracked ten private equity buy-outs globally during 1Q09, seven of which occurred in the solar sector.

Last four quarters analysis

- Over the last four quarters total investment in the CleanTech and Renewable Energy sector has declined by 57%, from \$4.5 billion in 2Q08 to just under \$2 billion in 1Q09. Investment has declined quarter-on-quarter since 3Q08, matched by a corresponding fall in the number of active investors and financed companies.
- Early-stage and late-stage venture capital, private equity and buy-out transactions have all contributed to the overall decline in investment in the sector. Early-stage venture capital is down 43% from \$1.1 billion in 2Q08 to \$630 million in 1Q09. Late-stage investment was down 68% from \$2.4 billion in 2Q08 to \$786 million in 1Q09. Buy-outs fell by 40% from \$811 million in 2Q08 to \$490 million in 1Q09.
- In 1Q09, the solar sector dominated venture capital investment, accounting for 43% of investment globally. This figure is up from 21% in 2Q08 and 18% in 4Q08.
- During the last four quarters the average size of venture capital investment fell from \$31 million in 2Q08 to \$16 million in 1Q09. However, the average size of venture capital investment in 1Q09 varied widely between sectors: Solar, \$38 million; Energy Efficiency, \$10 million; Energy Storage, \$13 million; Advanced Materials & Technologies, \$11 million; and Biofuels, \$12 million.

4. Number of Active Investors and Financed Companies

Global – 1Q07 to 1Q09



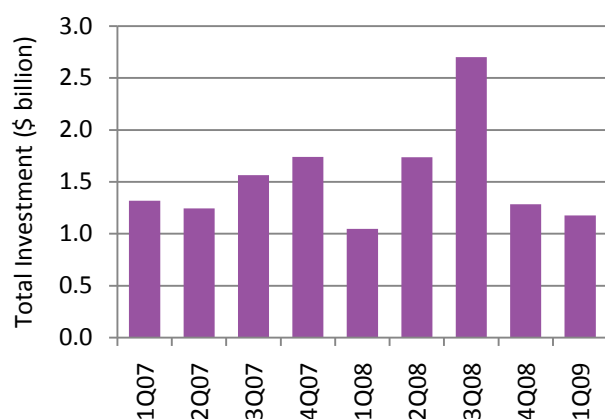
1Q 2009

- In 1Q09, approximately 180 unique investors backed private CleanTech and Renewable Energy companies globally, a decrease of 23% on 4Q08 (233) and of 15% compared with the same period last year (213). The number of active investors in the sector has declined quarter-on-quarter since 3Q08.
- Of the 180 investors, 90 (50%) were venture capital funds, 20 (11%) were private equity funds and a further 32 (18%) were corporate investors. The most active investors in 1Q09 were NEA (4 investments), Globespan Capital Partners (3), NGEN Partners (3) and US Venture Partners (3).

- Of those investors active in the CleanTech and Renewable Energy sector during 1Q09, 59 (33%) were investing in the sector for the first time. Of these new investors 16 (32%) were venture capital firms, 10 (16%) were private equity funds and 12 (19%) were corporate investors.
- First time venture capital investors include: Estag Capital, Firstmark Capital, Hasso Plattner Ventures, Pulsar Energy Capital, Scale Venture Partners and Tempo Capital Partners.
- First time private equity investors include: Duke Investments, One Equity Partners, RedShift Energy, Starwood Energy Group, Viola Private Equity, Waterland Private Equity Investments, Westbury Partners and White Pines Partners.
- Approximately 112 private CleanTech & Renewable Energy companies secured investment in 1Q09, a 19% decrease from the number of companies financed in 4Q08 (139). The number of companies financed has declined quarter-on-quarter since 3Q08.

5. Venture Capital Investment

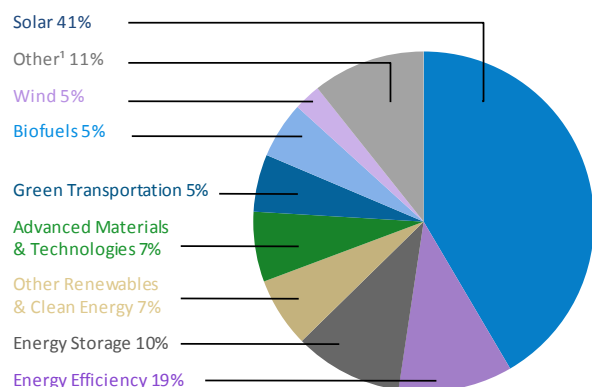
Global – 1Q07 to 1Q09



- Global investment in venture capital in 1Q09 was 8% below 4Q08 but ahead of the corresponding period last year (\$1.0 billion). Excluding 3Q08, the average level of investment per quarter since 1Q07 has been c.\$1.4 billion. With the average in mind, activity during 1Q09 was approximately 15% below the rolling average during the past two years.
- Based on current levels of activity, VB/Research expects to see investment levels closer to 2Q07 than 2Q08. In effect, that would equate to a similar level of activity between 1Q09 and 2Q09.

6. Venture Capital Investment: Sector Breakdown

Global – 1Q09



Other¹ includes Agriculture, Biomass, Environmental Services & Remediation, Recycling & Waste and Water & Waste Water Treatment

1Q 2009

- During 1Q09, venture capital (early-stage and late-stage) investment in private CleanTech and Renewable Energy companies reached \$1.4 billion globally.
- The top five recipient sectors of venture capital investment during 1Q09 were: Solar (\$611 million); Energy Efficiency (\$127 million); Energy Storage (\$120 million); Advanced Materials & Technologies (\$97 million); and Biofuels (\$87 million).
- The average transaction size in the top five sectors was: Solar, \$38 million; Energy Efficiency, \$10 million; Energy Storage, \$13 million; Advanced Materials & Technologies, \$11 million; and Biofuels, \$12 million.

7. Top 10 Venture Capital Transactions

Europe – 1Q09

Company	Country	Amount (\$m)	Sector
NorSun AS	Norway	73.26	Solar
ACTA SpA	Italy	16.18	Advanced Materials & Technologies
Nexeon Ltd.	UK	14.20	Energy Storage
Triton Format AG	Germany	13.38	Water & Waste Water Treatment
ReVolt Technology Ltd.	Switzerland	13.00	Energy Storage
Novald AG	Germany	11.29	Energy Efficiency
Principle Energy Ltd.	UK	10.00	Biofuels
New Earth Solutions Ltd.	UK	7.90	Recycling & Waste
ChapDrive AS	Norway	7.70	Wind
Silecs Oy	Finland	7.69	Advanced Materials & Technologies

- The largest European deal of the quarter involved NorSun AS, a Norwegian manufacturer of mono-crystalline silicon ingots and wafers, which raised \$73 million from Good Energies, Scatec AS and Norsk Hydro Ventures. In parallel the company secured a five-year \$92 million bank loan and \$64 million in bank-guaranteed credit lines. The funding will be used to ramp up production, execute the next phase of R&D and contribute to the development of Sunfilm AG, a thin-film photovoltaic's company in which NorSun holds a 29.5% stake.
- In second position, ACTA SpA., a company operating in the Advanced Material & Technologies sector, secured a \$16 million seed financing grant from the Italian government. The company, based in Pisa, Italy, develops catalyst technologies used to store energy from renewable sources, improve performance and lower the cost of fuels, and enable the creation of low cost fuel cells. In a smaller financing round, Silecs Oy raised \$7.7 million from Finnish Industry Investment Ltd., Tempo Capital Partners LLP and InnovationsKapital.

Based in Finland, Silecs specializes in the development of chemicals and coating materials for the semiconductor industry with a focus on solar cells and LED light applications.

- Energy Storage technologies also attracted investors with companies such as Nexeon Ltd. and ReVolt Technologies securing \$10 million+ Series B financing rounds. Nexeon Ltd., a UK-based developer of high energy density Li-ion batteries received \$14.2 million from Imperial Innovations, PUK Ventures and Invesco Perpetual. In Switzerland, ReVolt Technology Ltd., which develops a rechargeable zinc-air battery for consumer devices, closed a \$13 million Series B investment led by new investor RWE Innogy. Existing investors including NorthZone Ventures, SINTEF, SOFINNOVA Partners, TVM Capital, Verdane Capital and Viking Venture reinvested.
- Triton AG, a German water technology company providing solutions to the maritime, industrial and small municipal sectors, raised \$13.38 million in a round led by Zouk Ventures with participation from Meidlinger Partners LLC.

8. Top 10 Venture Capital Transactions North America – 1Q09

Company	Country	Amount (\$m)	Sector
Solyndra Inc.	USA - CA	219.20	Solar
LUCA Technologies Inc.	USA - CO	75.90	Other Renewables & Clean Energy
Boston-Power Inc.	USA - MA	55.00	Energy Storage
SolFocus Inc.	USA - CA	47.50	Solar
Solar Power Partners Inc.	USA - CA	47.00	Solar
ZeaChem Inc.	USA - CA	34.00	Biofuels
Fallbrook Technologies Inc.	USA - CA	25.40	Green Transportation
SAGE Electrochromics Inc.	USA - MN	20.00	Energy Efficiency
Scuderi Group LLC	USA - MA	20.00	Green Transportation
TPI Composites Inc.	USA - RI	20.00	Wind
Ze-Gen Inc.	USA - MA	20.00	Biomass

- When Europe recorded most of its largest transactions in Cleantech (Storage, Energy Efficiency, Advanced Material) most of the large transactions in North America occurred in Renewable Energy (Solar, Wind, Biomass, Biofuels).
- In the Solar sector, Solyndra Inc. raised \$219 million in Series E financing from Argonaut Ventures, US Venture Partners, CMEA Ventures and Redpoint Ventures. The CA-based company manufactures copper indium gallium selenide (CIGS) solar power installations. Still in California, but on a smaller scale, SolFocus Inc., a concentrated photovoltaics solar systems manufacturer raised a \$47.5 million Series C round. Meanwhile, Solar Power Partners Inc. ('SSP') secured \$47 million in Series B financing from Energy Investors Funds, Globespan Capital Partners and Silicon Valley Technology Group. SPP develops, owns and operates distributed solar energy facilities throughout the US.
- LUCA Technologies, a Colorado-based developer of Clean Coal technologies raised \$76 million in Series C financing from BASF Venture Capital GmbH, KPCB, One Equity Partners and Oxford Bioscience Partners LLC. The biotechnology company uses microorganisms to re-activate or intensify the production of methane from oil, coal and other carbon sources. In the Biofuels sector, Californian cellulosic ethanol producer ZeaChem Inc. raised \$34 million in Series B financing from Firelake Capital Management LLC, Globespan Capital Partners, Mohr Davidow Ventures, PrairieGold Venture Partners and Valero Energy Corp.
- Boston Power Inc., a developer of rechargeable Li-ion batteries based in Massachusetts, secured \$55 million of Series D financing. The round was led by new investor Foundation Asset Management and supported by existing backers Oak Investment Partners, Venrock Partners, GGV Capital and Gabriel Venture Partners.

9. Top 10 Venture Capital Investments in Solar Global – 1Q09

Company	Country	Amount (\$m)	Sector
Solyndra Inc.	USA - CA	219.20	Expansion Capital
NorSun AS	Norway	73.26	Expansion Capital
SolFocus Inc.	USA - CA	47.50	Early Growth
Solar Power Partners Inc.	USA - CA	47.00	Early Growth
SolFocus Inc.	USA - CA	19.28	Early Growth
HelioVolt Corp.	USA - TX	17.50	Early Growth
Borrego Solar Systems Inc.	USA - CA	14.00	Expansion Capital
Positive Energy Inc.	USA - VA	14.00	Early Growth
Jiangyin Alcom Solar Equipments	China	11.40	Expansion Capital
Exosun SAS	France	6.11	Early Growth

- In 1Q09, venture capital investment in Solar reached \$611 million broadly in line with the \$608 million invested in 4Q08 in the sector. This sector accounts for 41% of venture capital invested in the CleanTech and Renewable Energy sector during 1Q09 a 27% increase on 4Q08.
- In 1Q09, 18 solar companies secured venture capital financing with an average deal size of almost \$34 million compared to \$30 million during the previous quarter.
- US Solar companies still dominated the sector in terms of number of transactions representing seven of the top ten transactions and 57% of the total number of solar transactions.
- The seven US-based companies financed included: three solar residential and commercial scale system installers and four solar module designers and manufacturers. Solyndra Inc., a Californian manufacturer of large roof-top mounted solar systems, closed the largest funding round securing \$219.20 in Series E financing from Argonaut Ventures, U.S. Venture Partners, CMEA Ventures and Redpoint Ventures.
- European solar companies attracted almost \$100 million of venture capital investment in 1Q09. These companies were all involved in the development of new solar technologies including solar thermal systems, thin film Building Integrated Photovoltaics and solar cells.

10. Top 10 Venture Capital Investments in Energy Efficiency Global – 1Q09

Company	Country	Amount (\$m)	Stage
SAGE Electrochromics Inc.	USA - MN	20.00	Early Growth
COPAN Systems	USA - CO	18.50	Expansion Capital
Silver Spring Networks	USA - CA	15.00	Expansion Capital
Novald AG	Germany	11.29	Early Growth
Soladigm Inc.	USA - CA	10.60	Early Growth
SynapSense	USA - CA	7.00	Early Growth
CoolIT Systems Inc.	Canada - AB	5.10	Early Growth
Lightscape Materials Inc.	USA - NJ	3.00	Early Growth
Responsive Load Ltd.	UK	0.44	Early Growth
Wireless Environment LLC	USA - OH	0.40	Angel Funding

- Venture Capital investment in Energy Efficiency companies in 1Q09 reached \$127 million, down from \$317 million in 4Q08. This sector accounted for 11% of all global venture capital investment in CleanTech & Renewable Energy.
- In 1Q09, twelve Energy Efficiency companies secured venture capital financing with an average deal size of \$10 million, much lower than the \$27 million average deal size recorded in 4Q09.
- US companies accounted for seven of the top ten venture capital financing and nine of the twelve companies financed globally.
- Among the nine US-based companies: three are developing Light Emitting Diode (LED) technologies, two are developing Green IT & Components such as energy efficient data centres and data storage, two are developing smart technologies and two are developing smart glass technologies for the green building market.

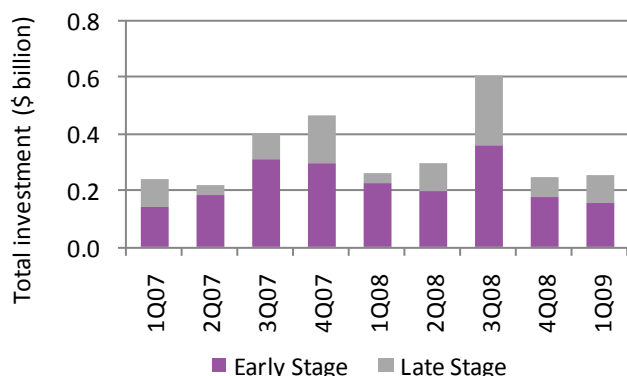
11. Top 5 Venture Capital Investments in Energy Storage Global – 1Q09

Company	Country	Amount (\$m)	Stage
Boston-Power Inc.	USA - MA	55.00	Expansion Capital
Nexeon Ltd.	UK	14.20	Early Growth
ReVolt Technology Ltd.	Switzerland	13.00	Early Growth
CFX Battery Inc.	USA - CA	11.00	Early Growth
Superprotonic Inc.	USA - CA	8.00	Early Growth

1Q 2009

- Venture capital investment in Energy Storage companies in 1Q09 reached \$120 million accounting for 10% of total venture capital investment in CleanTech and Renewable Energy sector globally.
- Three of the five largest venture capital transactions in 1Q09 involved companies developing Li-ion battery technologies. In this quarter's largest transaction Boston Power Inc., a developer of rechargeable Li-ion batteries primarily for notebooks, secured \$55 million of Series D financing from Foundation Asset Management, Oak Investment Partners, Venrock Partners, GGV Capital and Gabriel Venture Partners. Unsurprisingly Boston Power is also developing a Li-ion battery for Hybrid and Electric vehicle markets.
- Lithium ion (Li-ion) technologies received the largest share of venture capital investment in Energy Storage sector during 1Q09 with total financing topping at \$80 million up from \$33 million in 4Q08 and \$21 million in 1Q08.
- Li-ion batteries have numerous applications. Many are centered on the consumer device vertical but more lucrative markets, such as transportation (particularly the HEV – EV) and higher-power portable equipment for industrial and military markets, are attracting companies and investors. Lead acid and nickel metal hydride (NiMH) chemistries were previously seen as the best choice for HEVs and EVs but Li-ion batteries are increasingly considered more appropriate. The main reasons being that Li-ion batteries have better overall performance characteristics when compared to lead acid and NiMH, a high energy density and long life cycle and are more compact and lighter.

12. Early- vs. Late-Stage Investment Europe – 1Q07 to 1Q09

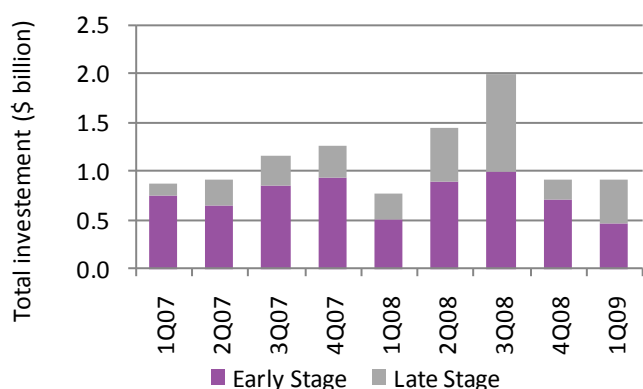


Early-Stage investment is defined as Angel, Seed, Series A, Series B, etc up to Series C or equivalent. . Late-Stage investment is defined as Series D or equivalent and above but excludes buy-outs.

1Q 2009

- A total of 82 CleanTech and Renewable Energy companies secured early-stage and late-stage investment globally during 1Q09, raising a total of \$1.4 billion, at an average deal size of approximately \$16.8 million.
- Europe represented 26 transactions (32%) down slightly from 28 in 4Q08 and 28 in 1Q08. This amounted to \$252 million (18%) broadly in line with 4Q08 (\$244 million) and 1Q08 (\$262 million).
- The average deal size in Europe in 1Q09 was \$9.7 million, significantly lower than the global deal size of \$16.8 million.
- In Europe early-stage investment reached \$153 million in 1Q09, representing 61% of the total early-stage and late-stage combined.

13. Early- vs. Late-Stage Investment North America – 1Q07 to 1Q09



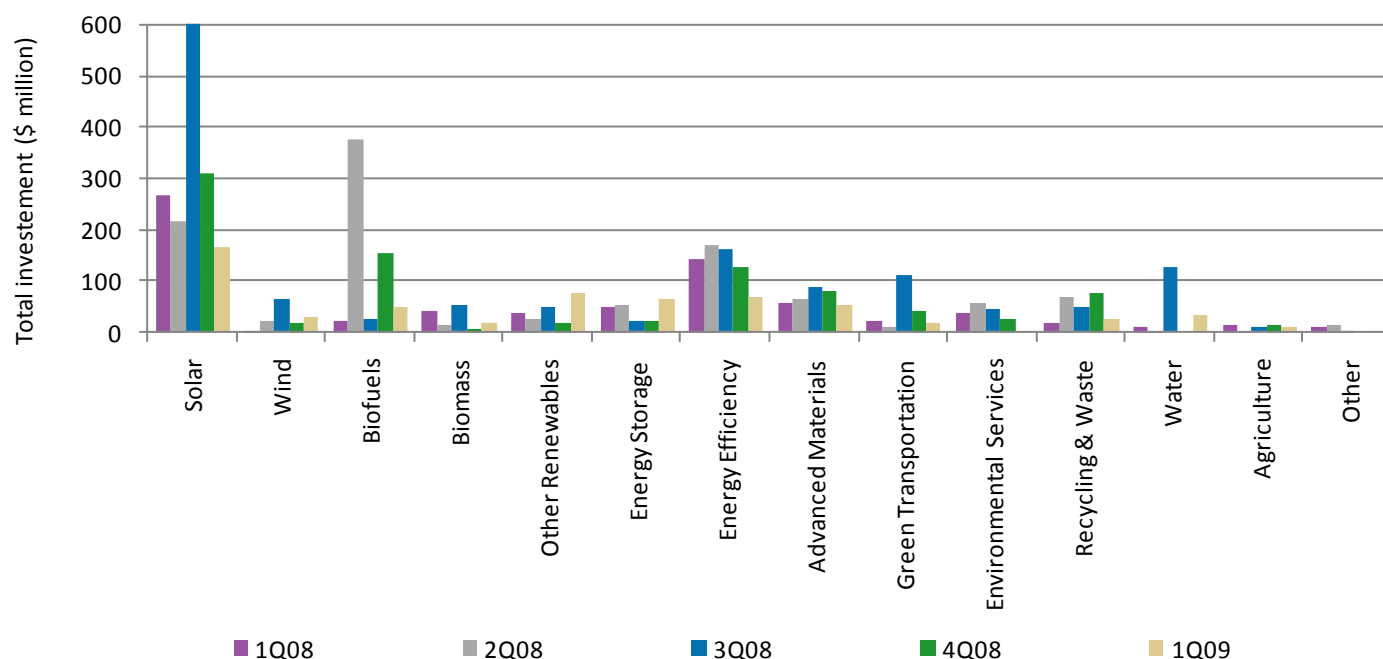
Early-Stage investment is defined as Angel, Seed, Series A, Series B, etc up to Series C or equivalent. Late-Stage investment is defined as Series D or equivalent and above but excludes buy-outs.

1Q 2009

- North America represented 47 transactions (57%) representing a total of \$912 million and an average deal size of approximately \$19 million.
- At \$912 million investment in North America was broadly in line with Q408 (\$915 million) and up 18% on Q108 (\$775 million). However, venture capital investment in North America during 4Q08 and 1Q09 was significantly down on levels seen in 2Q08 and 3Q08.
- Early-stage investment accounted for 52% (\$477 million) and late-stage investment the remaining 48% (\$434 million).

14. Early-Stage Investment

Global – 1Q08 to 1Q09



Early-Stage investment is defined as Angel, Seed, Series A, Series B, etc up to Series C or equivalent.

1Q 2009

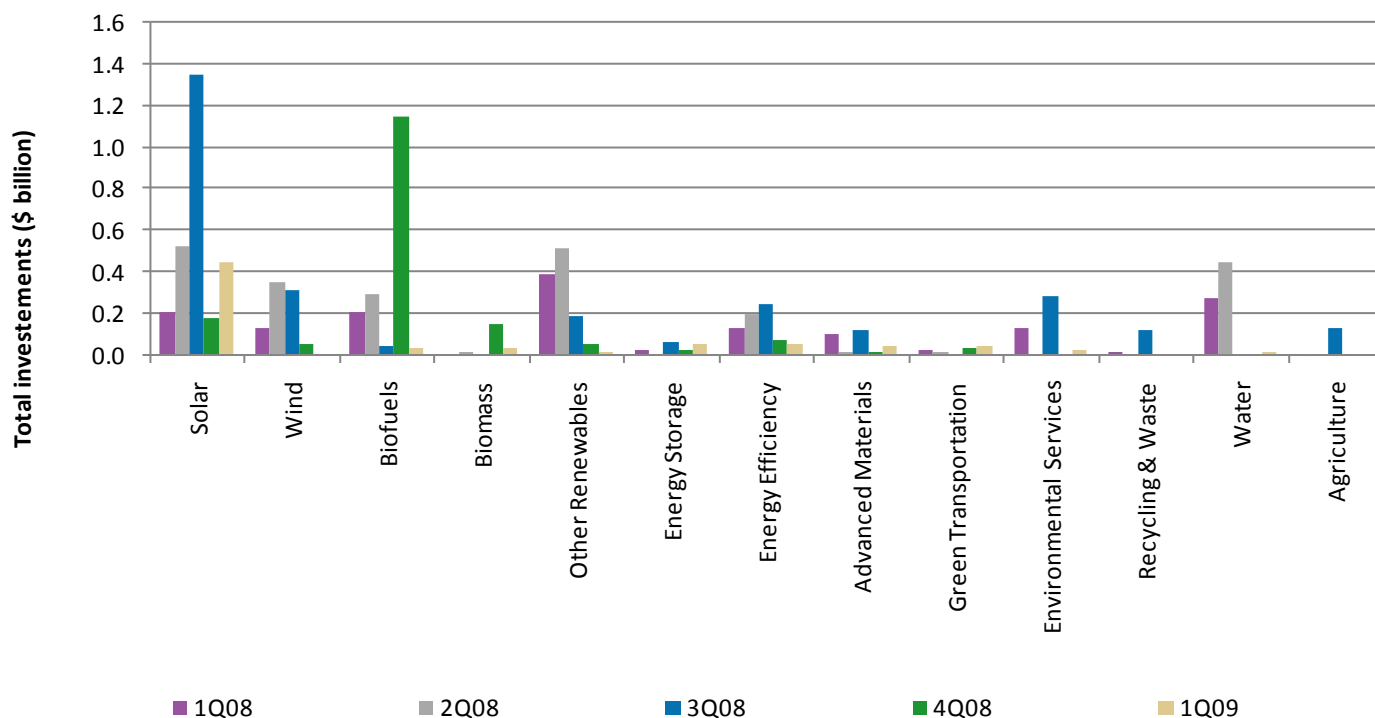
- During 1Q09 early-stage investment in private CleanTech and Renewable Energy companies reached \$630 million, accounting for 32% of total investment in the sector globally.
- The top five recipient sectors of early-stage investment during 1Q09 were: Solar (\$165 million); Other Renewables (including Wave/Tidal, Hydro, Clean Coal, MicroGen and Geothermal) (\$78 million); Energy Efficiency (\$68 million); Energy storage (\$66 million); and Advanced Materials & Technologies (\$54 million).
- In 1Q09, nine solar companies closed early-stage venture capital funding, accounting for 26% of total investment at an average deal of \$18 million. Of these companies five were based in the US, two in Denmark, one in France and one in Israel.
- During the last four quarters, early-stage investment in private CleanTech and Renewable Energy companies reached \$4 billion, accounting for 27% of total investment in the sector globally.

Last four quarters

- The top five recipient sectors of early-stage investment during the period 2Q08–1Q09 were: Solar (\$1.2 billion); Biofuels (\$606 million); Energy Efficiency (\$529 million); Advanced Materials & Technologies (\$289 million); and Recycling and Waste Management (\$222 million).
- Early-stage investment in the solar sector has declined steadily, quarter-on-quarter, since 3Q08 and has fallen 23% since 4Q08.
- Pretty much all other sectors recorded a similar trend: Energy Efficiency fell by 60% from \$169 million in 2Q08 to \$68 million in 1Q09; Environmental Services & Remediation was down from \$57 million in 2Q08 to \$5 million in 1Q09; and Recycling and Waste Management fell from \$68 million in 2Q08 to \$26 million in 1Q09.
- This overall trend was bucked by the Energy Storage sector, which saw investment level in 1Q09 (\$66 million) more than double its level in 4Q08 (\$24 million) and increasing 22% on 2Q08. Please refer to the next section for a further analysis of Energy Storage.

15. Late-Stage Investment

Global – 1Q08 to 1Q09



Late-Stage investment is defined as Series D or equivalent and above but excludes buy-outs.

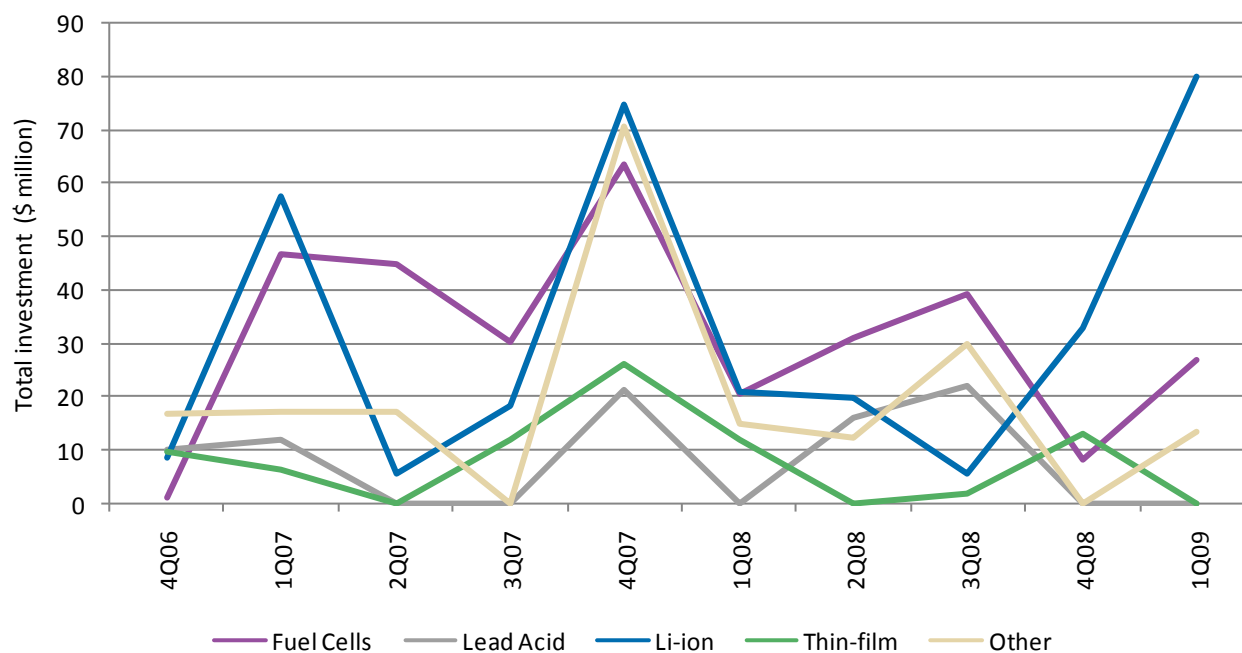
1Q 2009

- During 1Q09 late-stage investment in private CleanTech and Renewable Energy companies was \$640 million, down from \$1.65 billion in 4Q08.
- With the exception of the Solar sector most late-stage investments vanish in 1Q09. Notable solar transactions completed this quarter include the \$219 million Series E round of financing of Solyndra Inc., a CA-based copper indium gallium selenide (“CIGS”) solar panel manufacturer.
- Financing was provided by Argonaut Ventures, US Venture Partners, CMEA Ventures and Redpoint Ventures. In Europe, NorSun AS, a Norwegian manufacturer of mono-crystalline silicon ingots and wafers secured \$73 million of expansion from Good Energies, Scatec AS and Norsk Hydro Ventures. UK-based asset manager. The Foresight Group invested \$63.3 million in three solar projects located in Italy with a combined planned capacity of 10MW.
- On a much less significant scale, Energy Efficiency companies attracted \$59.5 million of late stage investment. Notable transactions in the sector include the \$15 million Series D financing of Silver Spring Networks, a CA-based smart grid technology developer, from Kleiner Perkins Caufield & Byers.

Last four quarters

- The top five recipient sectors of late-stage investment during the period 2Q08-1Q09 were: Solar (\$2.4 billion); Biofuels (\$1.5 billion); Other Renewables (\$713 million) including Marine Power and Geothermal; Wind (\$698 million); and Energy Efficiency (\$583 million).
- The Biofuel sector attracted almost no investment (\$14.3 million) during 1Q08 while it was the leading recipient of late-stage funding in 4Q08 with total investment peaking at \$1.15 billion. However this large figure is justified by the \$1 billion investment in Brazilian ethanol project developer Vital Renewable Energy from Leaf Clean Energy Company, Paladin Capital Group, PCG Clean Energy & Technology Fund, Petercam Asset Management and Vision Brazil Investments.

16. Early- and Late-Stage Investment in Energy Storage: Sector Breakdown Global – 4Q06 to 1Q09



Early-Stage investment is defined as Angel, Seed, Series A, Series B, etc up to Series C or equivalent. Late-Stage investment is defined as Series D or equivalent and above but excludes buy-outs.

1Q 2009

- Early-stage and late-stage investment in the Energy Storage sector in 1Q09 reached \$120 million globally, up 17% on 4Q08 (\$103 million) and a rise of 34% in comparison to 2Q08 (\$90 million).
- In 1Q09, nine Energy Storage companies secured funding at an average deal size of \$13 million.
- The increase in investment in the sector over the last four quarters can be attributed, in large part, to a rise in funding of Lithium-ion battery manufacturers. Investment Lithium-ion has increased quarter-on-quarter since 3Q08 and accounted for 67% of total investment in the Energy Storage sector in 1Q09.
- Total early and late-stage investment in the Energy Storage sector during the last four quarters was \$354 million, accounting for only 3% of total venture capital and private equity (excluding buy-outs) investment in the CleanTech and Renewable Energy sector during this period.

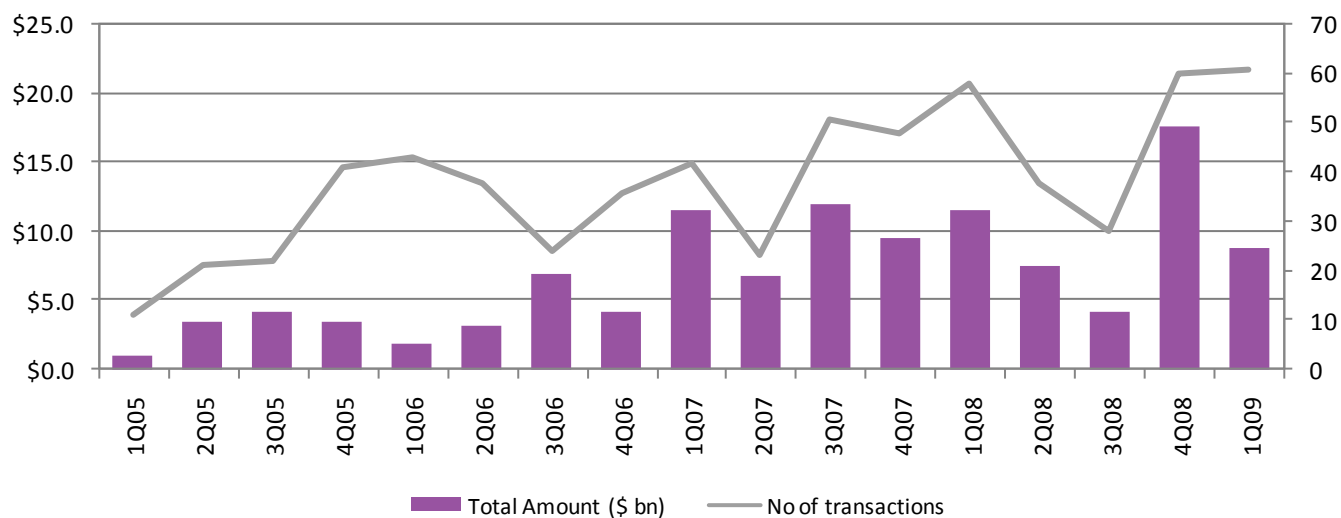
17. Top 5 Private Equity and Buy-out Transactions Global – 1Q09

Company	Country	Amount (\$m)	Sector
Enfinity Management	Belgium	64.73	Solar
10MW Solar project	UK	63.30	Solar
Astronergy	China	50.00	Solar
BioMCN	The Netherlands	45.57	Biofuels
SunEdison LLC	USA - MD	20.00	Solar

- The lack of funding has led to a significant decline in the number of buy-outs and large private equity transactions recorded in the CleanTech and Renewable Energy sector. Of the transactions that we recorded, four of the five largest were completed in the solar sector in 1Q2009.
- Waterland Private Equity Investments BV invested \$65 million in Enfinity Management, an international renewable energy project developer. The company focuses on the development of solar projects on company and residential rooftop. Waterland also invested \$45.57 million in Dutch bio-methanol producer, BioMCN.
- UK-based asset manager, The Foresight Group funded a 10MW Italian PV project. Energos and Ecoware SpA will develop the project in Southern Italy.
- Astronergy – Chint Solar received a \$50 million investment. Funding will be used to support the mass production of the company's amorphous / microcrystalline silicon tandem-junction thin film solar module. The syndicate of investors was led by Cybernaut Growth Fund and Shanghai Alliance Investment.

18. Mergers & Acquisitions

Global – 1Q05 to 1Q09



1Q 2009

- During 1Q09 VB/Research recorded over 62 M&A transactions in the CleanTech and Renewable Energy sector, broadly in line with the number of transactions in 4Q08.
- The total value of M&A transactions in 1Q09 was \$8.8 billion, a 49% decline compared to 4Q08 (\$17.62 billion). However 4Q08 saw two very large transactions: the acquisition of NRG Energy by Exelon Corp for \$6.2 billion and the acquisition of Enersis by Espirito Santo, Magnum Capital and Fjord Capital from Babcock & Brown for \$1.5 billion. Excluding these transaction the total value of M&A deals in 1Q09 only declined 10.4% compared to 4Q08.
- Solar deals represented 47.5% of all M&A transactions this quarter and highlighted the consolidation across the solar value chain. More interesting is the fact that consolidation occurred up and down the value chain.
 - First Solar Inc. bought OptiSolar Inc., a CA-based manufacturer of thin-film amorphous silicon photovoltaic solar panels for \$400 million.
 - More interestingly Mitsubishi Corp (traditionally a supplier of components to the solar industry) acquired Amper Solar SA from Acciona SA. Amper is a Portuguese project developer; the transaction was valued at \$300 million.
 - The acquisition by EG Semicon Co. Ltd. (a semiconductor manufacturer) of Youil Ensys Ltd. (a solar plant operator in South Korea) for \$49.38 million was another notable completed transaction this quarter.
 - VB/Research also registered a fair amount of M&A activity in the biofuel sector as overcapacity and negative margins in the US ethanol refining sector drove consolidation.

19. Top 10 M&A Transactions

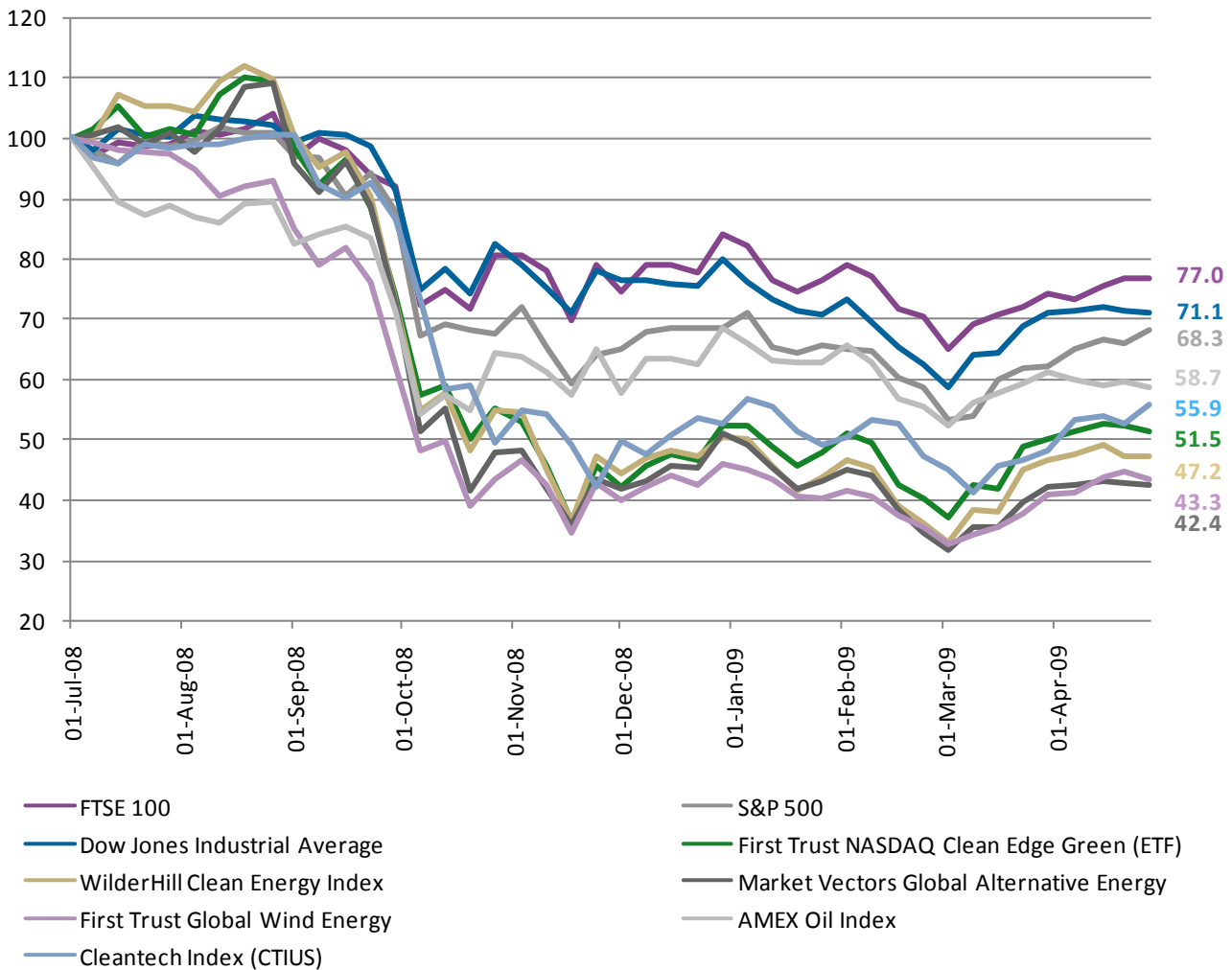
Global – 1Q09

Target	Target Country	Acquiror	Acquiror Country	Sector	Value (\$m)
VeraSun Energy Corp.	USA – SD	Valero Renewable Fuels Company LLC	USA - TX	Biofuels	477.00
NEC Tokin	Japan	NEC Corp.	Japan	Energy Storage	424.00
OptiSolar Inc.	USA – CA	First Solar Inc.	USA - AZ	Solar	400.00
Alta Wind Project	USA – CA	Green St. Energy Inc.	USA - CA	Wind	390.00
Amper Central Solar SA	Portugal	Mitsubishi Corp.	Japan	Solar	330.41
VeraSun Energy Corp. (US BioEnergy Group)	USA – SD	AgStar Financail Services ACA (SDA Group)	USA - MN	Biofuels	324.00
Three photovoltaic plants	Spain	HgCapital's Renewable Power Partners Fund	UK	Solar	300.00
Sensor Switch Inc.	USA – CT	Acuity Brands Lighting Inc.	USA - GA	Energy Efficiency	205.00
VeraSun Energy Corp. (Production facility in Marion, SD)	USA – SD	WestLB AG	Germany	Biofuels	99.00
US Energy Biogas Corp.	USA – CT	Silver Point Finance LLC	USA - CT	Biomass	94.50

- M&A activity in 1Q09 was dominated by renewable energy transactions, representing almost 90% of all deals. Among the top ten transactions, three were in Biofuels, two were in Solar and one in Biomass. Interestingly wind is no longer the top sub-sector in M&A, having witnessed significant consolidation during the past two years.
- Several transactions in the above table relate to VeraSun Energy Corp., an ethanol producer based in Sioux Falls, SD which filed for chapter 11 bankruptcy protection in October 2008. We project a similar level of M&A activity in biofuels during 2009. For example, we recently announced that Renew Energy is seeking a buyer for its 130 million gallon Wisconsin ethanol plant.

20. Markets

Relative Performance July 08 – May 08

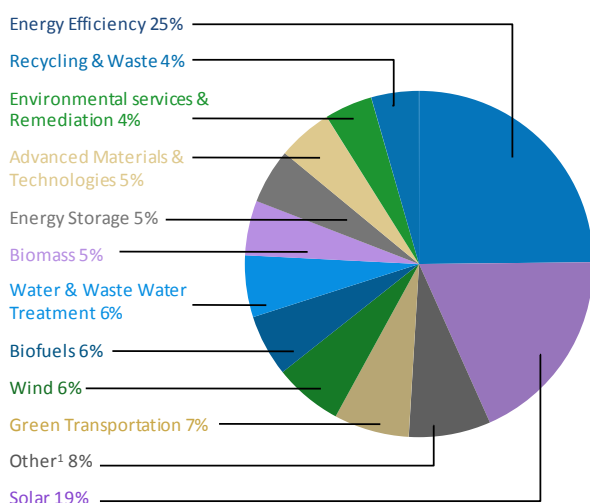


Source: Bloomberg, VB/Research

- Major CleanTech and Renewable Energy indices, along with AMEX Oil Index and the FTSE 100, tumbled in October 2008 with the combination of bad corporate and market news and the withdrawal of funds from the public markets by investors globally.
- However, it is interesting to note that the various CleanTech and Renewable Energy indices we are tracking outperformed the AMEX Oil Index until September 2008. WilderHill Clean Energy Index, First Trust NASDAQ Clean Edge Green (ETF) and Market Investors Global Alternative Energy even outperformed the S&P 500 and FTSE 100 during this period, recovering on average 10 points from July 2008 (July=100 base index for all tracked indices).
- After October 2008, all indices lost at least a fifth of their base value. The worst performer was First True Global Wind Energy which lost 60 points.
- Since then, none of the indices have recovered to last summer's levels and have been behaving steadily compared with one another; The FTSE 100, the best performer, is still down 23%.
- Unlike last year, CleanTech and Renewable Energy Indices entered the spring 2009 behind all the other indices we tracked: Market Vectors Global Alternative Energy, First True Global Wind Energy and WolderHill Clean Energy Index are off 50%. The best performer among CleanTech focused indices has been Cleantech Index (CTIUS) which reached 55.9 in April (slightly behind the AMEX Oil Index).

21. 2009 Outlook

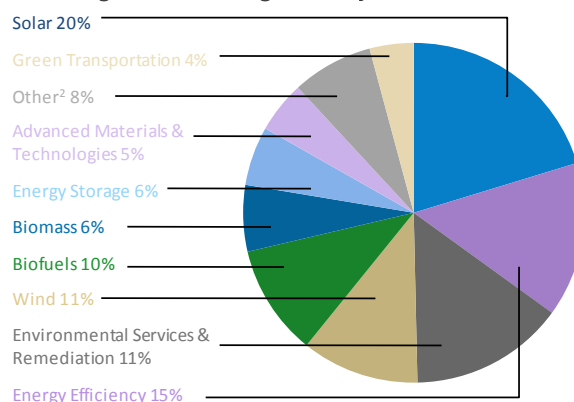
Early-Stage Fundraisings - Global



Other¹ includes Agriculture, Hydro, Hydrogen generation, Marine power and Nuclear

- During 4Q08-1Q09, VB/Research surveyed over 350 CEOs, CTOs, CFOs, venture capital, private equity and other institutional investors in the CleanTech and Renewable Energy sector to uncover fertile areas for investment in 2009. The charts above show a breakdown by sub-sector of those companies contacted that are currently seeking early-stage or late-stage venture capital investment.
- Energy Efficiency and Solar are forecast to be the two sectors that will see the most early-stage investment activity in 2009, accounting for 25% and 19% of those companies currently seeking funding, respectively.
- Recent early-stage investment opportunities announced by VB/Research in the Energy Efficiency sector include: Clavis Holding AS, a Norwegian company developing dynamic impulse wave technology capable of moving water, oil and other viscous liquids significantly more efficiently than conventional pumps that is seeking \$10 million of investment; Novacem Ltd, a UK-based company developing a new type of carbon-negative, recyclable cement, which is looking to raise £1 million of investment to support installation of a pilot production line; and Earthcare Products Ltd., a UK-based provider of environmentally friendly refrigerants and air-conditioning products that is looking to close £0.4 million of investment to support the global licensing of a range of new refrigerants.

Late-Stage Fundraisings & Project Finance – Global



Other² includes Agriculture, Clean Coal, Hydro, Marine power, Micro-generation, Recycling & Waste and Water & Waste Water Treatment

- Recent early-stage investment opportunities announced by VB/Research in the Solar sector include: Helio Micro Utility (“HmU”), Inc., a Berkely, CA-based company that finances, owns and operates solar power systems, which is currently raising \$5 million of Series A investment; Secon Semiconductor Equipment GmbH, an Austrian developer a dry plasma etching system for the production of multi-crystalline silicon wafers that is looking to attract investors for a €5 million round; and Sol Voltaics AB, a Swedish developer of semiconductor nanowire-based, multi-junction concentrator photovoltaic solar cells that is raising up to €7 million of Series B funding.
- At the late-stage level the five sectors expected to show greatest investment activity during 2009 are: Solar (20%); Energy Efficiency (15%); Environmental Services & Remediation (15%); Wind (11%); and Biofuels (10%).
- Recent late-stage investment opportunities include: HelioSphera, headquartered in Athens, Greece, which is seeking €140 million of equity investment to fund construction of a new 200MW facility for production of thin-film photovoltaic modules; and Mainstream Renewable Power, a Dublin, Ireland-based developer and operator of large-scale wind power and other renewable energy projects, which is currently raising €100 million of equity investment to provide working capital and fund development of its project pipeline.

22. Contact Information

The Avascent Group

The Avascent Group is the leading provider of management consulting services to firms operating in industries at the intersection of business, technology, and government policy. Avascent combines the analytic rigor and breadth of general management consultancies with the sector depth of a boutique firm to deliver sophisticated, fact-based and pragmatic solutions for our clients.

Within the energy and environmental markets, Avascent has advised Fortune 500 firms, global government contractors, diversified service and technology firms and leading private equity and investment firms in understanding the dynamics and associated opportunities and risks in this unprecedented time of change. Working with companies improving traditional supply generation (e.g. digital oilfield), revolutionizing alternative energy production (e.g. biofuel refineries, CSP facilities), and optimizing demand and utilization, Avascent has developed strategies addressing the holistic nature of the supply and demand equations. Whether the focus is on assessing the emerging biofuels supply chain or evaluating green aerospace technology investment strategies, Avascent delivers actionable recommendations and solutions to pressing market and operational challenges.

Our consultants combine our deep market knowledge with proven rigorous validation and strategic planning methodologies to provide invaluable decision support to our clients. With over 20 years of experience working in this highly distinctive sector, Avascent can start to add value immediately, bringing a pragmatic, results-oriented approach to our work.

Timothy R. Garnett
Partner
tgarnett@avascent.com
202-452-6934

Steven M. Irwin
President
sirwin@avascent.com
202-452-6990

VB/Research

VB/Research is a leading global source of research and deal intelligence on venture capital and private equity funds and their investments, M&A and the public capital markets covering the Clean Technologies and Renewable Energy sector.

By focusing on fundraisings currently marketed, acquisition targets, M&A opportunities and upcoming IPOs we deliver actionable intelligence that provides insight into tomorrow's industry leading companies. In addition, VB/Research's platform offers the most accurate and comprehensive databases tracking deals and investors in all asset classes including private placements, buyouts, PIPEs, M&A and IPOs since 2002.

Members of our research service range from governments and multinational companies to investment banks, venture capitalists, private equity funds, hedge funds and law firms in over 55 countries. VB/Research was founded in 2005 and employs 25 analysts and journalists in various locations around the globe.

[Register for a free trial at www.vbrpipeline.com](http://www.vbrpipeline.com) or contact us at members@vbresearch.com

Services

- pipeline platform – daily news and deal flow
- databases (VC/PE, public markets, M&A, etc)
- quarterly investment reports
- “Call the Analyst” – direct access to analyst team
- bespoke research
- customised seminars/workshops/events