The state of global cleantech innovation and investment

Richard Youngman, VP, Global Research & MD Europe, Cleantech Group
richard.youngman@cleantech.com

October 7, 2010

www.cleantech.com
Cleantech Group: Experts on cleantech innovation - globally

We deliver leading market research, convene the industry’s most dynamic events, and provide high impact custom research services for investors, corporations, service providers, and entrepreneurs

**RESEARCH**

Q3 2009 Investment Trends Member Webinar

**CUSTOM RESEARCH**

Skilled team of advisors helps global enterprises decipher the cleantech landscape and capitalize on business opportunities

**EVENTS**


Industry’s most extensive and widely cited data on cleantech venture investments and news locks us onto the pulse of innovation

www.cleantech.com
Cleantech Group tracks innovation across covers the widest cleantech spectrum, with particular focus on some key areas: energy efficiency, the smart grid, transportation and water.
The state of global cleantech innovation & investment

• Key takeaways

• Facts and Figures: end of 3Q review

• Capital Availability Crunch Imminent in Cleantech?

• Closing Thoughts & Discussion Points
Key takeaways

• Flows of venture capital into cleantech companies x-world remain strong
  – Investment through the first three quarter of 2010 ($5.7B) is ahead of FY2009 and very likely to top 2007, meaning 2010 will record the second highest annual total investment
  – $1.53bn across 152 deals in 3Q was down by 30% compared to 2Q10, and 11% lower than the same period in 2009 but followed a record 1H 2010,

• Transportation top 3Q VC sector by dollars invested; energy efficiency attracts most deals
  – Top sectors for amount invested in 3Q are Transportation, Biofuels, and Smart Grid
  – For the fourth consecutive quarter, energy efficiency is top for volume of deals
  – Solar loses its shine, dropping to a four year low in 3Q (following second highest quarter ever in 2Q10!)

• Asia’s momentum continues to ‘impress’
  – China takes 2 of the top 10 deals of 3Q; its 3Q total amounts to 10% share of global investment. Other significant deals in Japan, Korea
  – Majority of funds raised with cleantech connections in 3Q are China-related
  – Majority of IPOs in 2010 are Hong Kong, Beijing

• Corporates and wealthy families balance sheets could be critical to plug what looks like a growing funding gap for the next wave of cleantech innovation companies
  – Less $ recycling than most thought or planned for. IPO market very difficult, especially outside of China. Will a ‘normal IPO market return? Can an M&A-only exit environment provide sufficient investor returns?
  – Large deployment of VC capital in past12 months contrasts with a very difficult fundraising environment, partly caused by inability to prove returns. Asia fundraising dominated in 3Q10.
  – Corporate players from across the globe, many new in the space, continue to feature prominently. Will corporate dollars continue to shape the trends in coming quarters?
The state of global cleantech innovation & investment

• Key takeaways

• Facts and Figures: end of 3Q review

• Capital Availability Crunch Imminent in Cleantech?

• Closing Thoughts & Discussion Points
Year-to-date investment in 2010 edges ahead of FY09

Annual cleantech VC investment segmented by quarter

2010 YTD already ahead of FY 2009. 2010 projected to reach just ~$7.1B

$5.69B (Full Year)

$5.73B (YTD)

• 2010 forecast to be second highest year for cleantech VC investment (above 2007 and 2009, but below 2008)
Cleantech has become the largest innovation theme - measured by the proxy of venture capital $’s

Sources: Cleantech Group, PWC/NVCA MoneyTree Report
Top sectors by amount invested: is the dominance of Solar in venture numbers over?
Energy Efficiency leads deal count and ‘capital-lite cleantech’
California fell in 3Q, while the rest of North America rose
China has very strong third quarter (in relative terms)
With wider Asian investment mirroring the bounce

Includes deals from: China, India, Korea, Japan
Europe’s ‘capital-lighter’ cleantech continues: the number of deals up, but value down.
Rise in deal values halted: Smaller follow-on rounds, the first round coming off its bottom?
The state of global cleantech innovation & investment

• Key takeaways

• Facts and Figures: end of 3Q review

• Capital Availability Crunch Imminent in Cleantech?

• Closing Thoughts & Discussion Points
IPO market remains tough – especially in the West

- Ameresco ($87m on the Nasdaq)
- Amyris ($85m on the Nasdaq)
- Indosolar ($78m on the Bombay Stock Exchange)
$61bn “required” by cleantech ‘up-starts’ in next 5 years – if past is some kind of prologue to the future

Historic cleantech VC investment and projected 5-year requirements

Past 5 years = $33.8 B

Capital needs projection for next 5 years = $60.7 B

Preliminary analysis – not ready for citation!
This $61bn demand should be seen in the context of the tough fundraising climate for all funds – including cleantech.
‘Capital to be available’ suggests a $22bn shortfall between supply and demand

If cleantech has a 20% share* of overall VC there could be a $22B shortfall over the next 5 years

*In 2009 the share was 19%
China dominates funds raised in 3Q10 with some cleantech angle – what will 2011 bring?

<table>
<thead>
<tr>
<th>Investor</th>
<th>Size</th>
<th>Geographic focus</th>
<th>Company focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>VantagePoint Venture Partners (Tianjin VantagePoint Hi-tech</td>
<td>$100m</td>
<td>China</td>
<td>Chinese cleantech and financial services companies.</td>
</tr>
<tr>
<td>China FIVCE Fund)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DT Capital</td>
<td>$221m</td>
<td>China</td>
<td>Early and expansion stage companies in the clean energy sector as well as other sectors such as consumer, technology and industry.</td>
</tr>
<tr>
<td>Vanterra C Change Transformative Energy &amp; Materials Fund</td>
<td>$100m</td>
<td>US</td>
<td>Companies that help large industrial firms gain enhanced competitiveness through better use of energy and materials.</td>
</tr>
<tr>
<td>(founded by Vanterra Capital and C Change Investments)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DFJ</td>
<td>$350m</td>
<td>US/India</td>
<td>Cleantech among other sectors such as IT, mobile and life science. $50 million for India with cleantech the major theme.</td>
</tr>
<tr>
<td>DCM (DCM Fund VI)</td>
<td>$400m</td>
<td>US/Japan/China</td>
<td>Devoted to core areas of: cleantech, digital media, and Internet. Early-stage focus.</td>
</tr>
<tr>
<td>DCM</td>
<td>$29.5m</td>
<td>China</td>
<td>Devoted to core areas of: cleantech, digital media, and Internet.</td>
</tr>
<tr>
<td>Venrock</td>
<td>$350m</td>
<td>US</td>
<td>Early stage technology, healthcare and energy companies.</td>
</tr>
<tr>
<td>Omnivore Capital (founded by agribusiness company Godrej</td>
<td>$50m</td>
<td>India/US/Canada</td>
<td>Agricultural start-ups.</td>
</tr>
<tr>
<td>Agrovet along with private investors)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wuhan High-tech Agriculture Biological Venture Capital (state</td>
<td>$16m</td>
<td>China</td>
<td>Agricultural companies.</td>
</tr>
<tr>
<td>owned)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring Capital Asia</td>
<td>$250m</td>
<td>China/Hong Kong</td>
<td>Spring Capital invests in healthcare, cleantech, consumer/brands, and professional and business service sectors.</td>
</tr>
<tr>
<td>Ivy Capital</td>
<td>n/a</td>
<td>China</td>
<td>Energy storage, battery technology, irrigation technology, green agriculture and other sectors.</td>
</tr>
<tr>
<td>DFJ Mercury</td>
<td>$70m</td>
<td>US</td>
<td>Seed and early-stage information technology, advanced materials, and bioscience companies.</td>
</tr>
<tr>
<td>TBG-Dalian Growth Fund (created by the Balloch China Fund and Dalian Hairong Hi-Tech Venture Capital Management)</td>
<td>$74m</td>
<td>China</td>
<td>Several sectors including cleantech and advanced materials.</td>
</tr>
</tbody>
</table>
The state of global cleantech innovation & investment

• Key takeaways

• Facts and Figures: end of 3Q review

• Capital Availability Crunch Imminent in Cleantech?

• Closing Thoughts & Discussion Points

www.cleantech.com
How sustained will the corporate venture-stage activity prove to be?

Largest deals in 3Q10 involving corporate names:

<table>
<thead>
<tr>
<th>Company</th>
<th>Location</th>
<th>Amount</th>
<th>Corporate Investors</th>
<th>Additional Investors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trilliant</td>
<td>California</td>
<td>$106 million</td>
<td>ABB, GE</td>
<td>Vantage Point Venture Partners, Investor Growth Capital</td>
</tr>
<tr>
<td>Solazyme</td>
<td>California</td>
<td>$52 million</td>
<td>Bunge Ltd, Chevron Technology Ventures, Unilever</td>
<td>Braemar Energy Ventures, CTTV Investments, Lightspeed Venture Partners, Morgan Stanley, Roda Group, Vantage Point Venture Partners, Virgin Investments, Keating Investments</td>
</tr>
<tr>
<td>Nexant</td>
<td>California</td>
<td>$43 million</td>
<td>Intel Capital</td>
<td>Oak Investment Partners, Telesoft Partners, Beacon</td>
</tr>
<tr>
<td>Nanosys</td>
<td>California</td>
<td>$25 million</td>
<td>Samsung Ventures</td>
<td>Venrock Associates, Polaris Venture Partners, El Dorado Ventures, ARCH Venture Partners</td>
</tr>
</tbody>
</table>

Additional Corporate Investors:

- Applied Ventures (Infinite Power Solutions)
- Siemens Venture Capital (Coulomb Technologies)
- LS Industrial Systems (Coulomb Technologies)
- Life Technologies (SG Biofuels)
- Dow Chemical New Ventures (Blade Dynamics)
- American Superconductor Corporation (Blade Dynamics)
- Honeywell Capital Management (MBA Polymers)

- GM Ventures (Bright Automotive)
- ABB Technology Ventures (Power Assure)
- Cisco Systems (Ambiq Micro)

www.cleantech.com
Can the mega-rich bridge some of the capital supply problem?

Forbes Rich List – top 10 & cleantech connections

<table>
<thead>
<tr>
<th>Rank</th>
<th>Name</th>
<th>Citizenship</th>
<th>Net Worth ($bil)</th>
<th>Residence</th>
<th>Examples of known Involvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Carlos Slim Helu &amp; family</td>
<td>Mexico</td>
<td>53.5</td>
<td>Mexico</td>
<td>Khosla, Sapphire Energy, EcoMotors</td>
</tr>
<tr>
<td>2</td>
<td>William Gates III</td>
<td>United States</td>
<td>53.0</td>
<td>United States</td>
<td>BYD</td>
</tr>
<tr>
<td>3</td>
<td>Warren Buffett</td>
<td>United States</td>
<td>47.0</td>
<td>United States</td>
<td>BYD</td>
</tr>
<tr>
<td>4</td>
<td>Mukesh Ambani</td>
<td>India</td>
<td>29.0</td>
<td>India</td>
<td>Reliance – Solar &amp; Clean Coal</td>
</tr>
<tr>
<td>5</td>
<td>Lakshmi Mittal</td>
<td>India</td>
<td>28.7</td>
<td>United Kingdom</td>
<td>Arcelor Mittal Cleantech Fund</td>
</tr>
<tr>
<td>6</td>
<td>Lawrence Ellison</td>
<td>United States</td>
<td>28.0</td>
<td>United States</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Bernard Arnault</td>
<td>France</td>
<td>27.5</td>
<td>France</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Eike Batista</td>
<td>Brazil</td>
<td>27.0</td>
<td>Brazil</td>
<td>$1 billion EV plant planned</td>
</tr>
<tr>
<td>9</td>
<td>Amancio Ortega</td>
<td>Spain</td>
<td>25.0</td>
<td>Spain</td>
<td>Energy Capital fund</td>
</tr>
<tr>
<td>10</td>
<td>Karl Albrecht</td>
<td>Germany</td>
<td>23.5</td>
<td>Germany</td>
<td></td>
</tr>
</tbody>
</table>

Others: Branson, Brin/Page, Kamprad, Brenninkmeijer, Rausing….the list goes on

www.cleantech.com
For the fundraising CEO, the job just got a whole lot harder – where to spend time? How to find the tail?

- Much of cleantech venture deal activity is concentrated around a relatively small number of very active investors. Top **top 90 most active investors** in 2009 were **involved in about half the deals** (297), which account for **about two-thirds of the total invested** ($3.8 billion)

- In 2009, 8 firms globally completed more than 10 deals (alphabetically): **Draper Fisher Jurvetson, Element Partners, Khosla Ventures, Kleiner Perkins Caufield & Byers, NGEN Partners, RockPort Capital Partners, SAIL Venture Partners, VantagePoint Venture Partners**

- But the tail of contributors is huge. And the mix of types ever-changing (corporates, family offices, HNWI’s, government, etc.)
Keep on top of global cleantech innovation with our steady stream of insights at www.cleantech.com

Join us at one our international events!