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CleanTech Observations

The clean technology sector ("CleanTech") can be broadly defined as technology that improves operational performance, productivity or efficiency while reducing costs, inputs, energy consumption, waste or pollution. Sample investments include cost-effective solar panels, water purification systems and Ethanol blends.

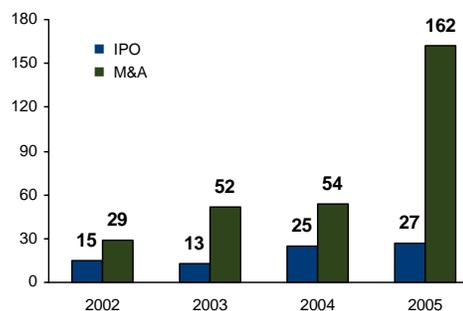
Clearly, there is growing interest in CleanTech among both institutional investors and venture capitalists. In 2004, CleanTech companies captured 6% of North American VC investments (\$1.2 billion out of \$21 billion) and, according to the CleanTech Capital Report, could capture 10% of such investments by 2009. If true, that would put CleanTech on a faster growth pace than the biotech sector when it began to emerge as a legitimate investment sector in the 1980's. We now count 60 venture and project finance firms with CleanTech capabilities, compared to a mere handful of firms just ten years ago. Mainstream investors are starting to back these firms. For example, CalPERS and CalSTRS recently allocated \$450 million to this sector and committed to allocate approximately another \$1 billion in the coming years.

While we believe CleanTech investments can deliver both positive social benefits AND strong investment returns, we urge investors to vet CleanTech VC funds thoroughly – after all, (1) there is a cacophony of hype surrounding this sector, (2) there are a select few VC firms with strong CleanTech teams and (3) valuations recently have been rising.

Reasons for Optimism/CleanTech Growth Engines:

- Worldwide energy demand continues to accelerate. Energy prices are rising, especially outside the U.S. Oil prices are high and crude oil is at its production limit. The need for new solutions is great.
- Environmental concerns about global warming and pollution are multiplying. Worldwide government subsidies for alternative energy are growing.
- Nations desire to be energy independent, including for national security purposes.
- There is a need for distributed energy generation and a more reliable delivery infrastructure.
- There is a downward-sloping cost curve for alternative-energy technology.
- CleanTech now meets the high returns expectations of top VCs (e.g., VantagePoint and Kleiner Perkins invested in Miasole and Draper Fisher Jurvetson invested in Konarka and CoalTek).
- CleanTech now represents annual global revenues of >\$150 billion, and certain sectors have recently grown by >30% per year. Capital markets increasingly have provided liquidity to CleanTech companies. Globally, the number of IPOs and M&A deals has grown (see chart).

Global CleanTech Liquidity Events



Source: CapitalIQ, New Energy Finance and Vortex Energy

A Few Cautionary Thoughts:

- Truly new technological developments are susceptible to regulatory changes that could hinder commercialization.
- Latest bandwagon? If so, investors want to be ahead of the "dumb money" but not so far ahead that it takes too long to generate liquidity which would decrease returns.
- Some CleanTech "investments" are science projects better funded by corporate and public research dollars.
- Some people wonder if today's increased activity is akin to the activity that followed the rise in energy prices in the early 1970's. However, we view today's activity as fundamentally sound and sustainable.
- Manager selection is crucial. We would favor established VCs over new entrants from the scientific or corporate community.

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