

Putting Knowledge Into Action



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Why Energy Companies are Not Investing in The Future

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The underinvestment in clean energy and clean technology is mind boggling, considering the market opportunity. Capital outlays on research and development seem not to be focused on the approaching carbon constrained world and the myriad opportunities presented.

The outlays for R&D last year were \$4 billion for U.S. energy companies—that includes oil, gas and power companies. We see little movement this year, as well. The Federal government's outlay was \$7.5 billion in many politically wired projects. The energy industry is the most capital-intensive industry on the planet and requires vast reservoirs of capital. The funny thing is that the industry is awash in capital but seems content on stock repurchasing and dividend boosting. It's not a very enlightened approach to the future.

In fact, it can be argued that the major oil companies are now in a liquidation phase of their existence. Their reserves-to-production ratio is declining, and they are now beginning to peak as they now produce and monetize their depletable assets. Investment in a new energy future is not being pursued by many energy companies yet. I see the energy companies, therefore, as the buyers of the new clean energy technology, not the innovators producing them.

Large Pools of Capital Are Not Being Deployed

So, the energy companies don't seem to have the vision to create a better future in alternative energy, cleantech, gasification and energy efficiency. Why aren't large institutional investors filling this capital vacuum? The answer is that they don't like government regulated and mandated markets, as well as tax leveraged investments. To test this thesis, I recently spoke at a Dow Jones private equity conference in New York City. I didn't realize that there are hundreds of private equity funds with names that most people were unfamiliar with besides the KKR, Carlyle Group and Blackstone. These

funds are tracking the sector, but not deploying capital. We are talking about many funds in the \$5 to \$10 billion range and up. They are focused on subprime workouts, leverage buy outs, and replatforming companies in roll ups. My take-away from the conference was that the investment consensus was that this was a great time to play in the distressed asset space. Despite the three high profile funds in the alternative energy space, most private equity shops are not investing in the energy sector outside traditional oil, gas, and coal production plays. There is some interest in uranium as well.

Part of the reason for this phenomenon is that Wall Street is always focused on fees. Investment banking fees, legal fees, engineering fees, and other deal fees. The research on this new emerging clean energy sector is scarce and large investment houses in New York don't focus on areas that don't feed the fee machine. That is why the preponderance of deals has been focused on ethanol, wind and PV solar. To say the sector is under researched is an understatement. Smaller boutique houses such as Jefferies, Ardour Capital Management and Piper Jaffray are carrying the bulk of research on public companies, and Cleantech Venture Network and Clean Edge are providing much of the intellectual capital for the private companies.

Carbon is the Green Equalizer

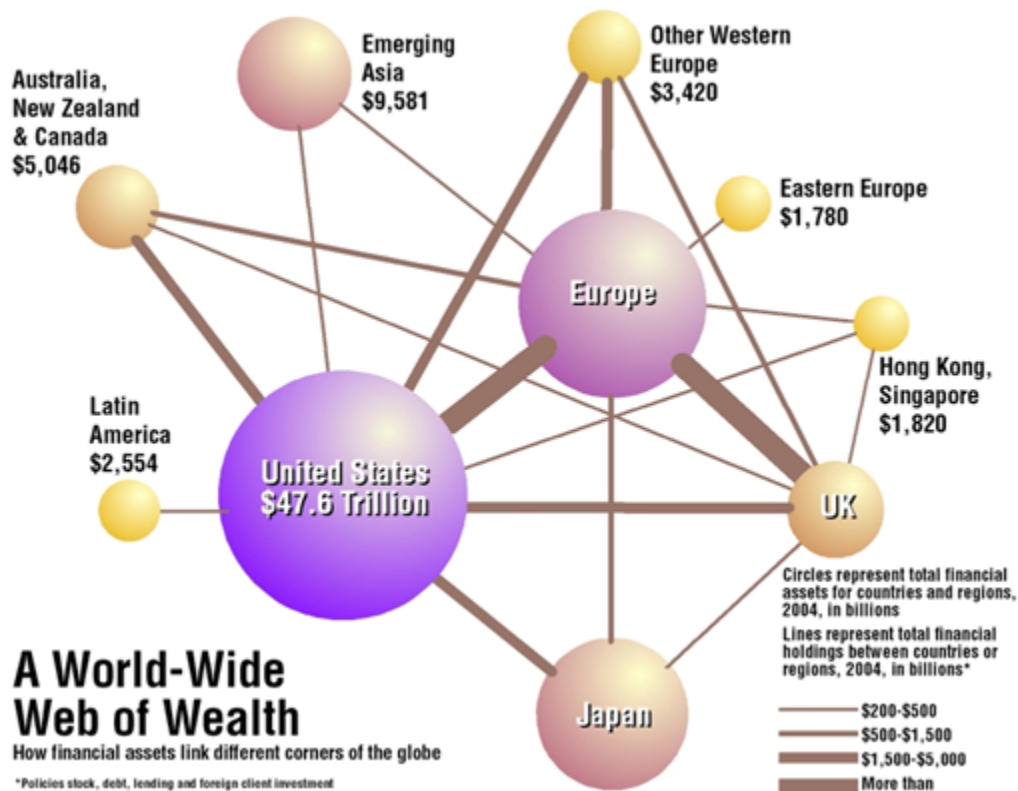
Many folks holler about the need for a level playing field for renewable and clean technology. Well, one is coming, and it's called carbon constraints. They are going to be economy wide, and that has not happened before. And many companies outside the energy sector don't have much if any experience in reducing their emissions footprint. You can look at greenhouse gas reductions as a business cost center or an opportunity. The opportunity is to invest in the future and make more money in streamlining business practices. But the learning curve will be steep. What's really needed is price discovery for the price of carbon on all economic inputs and outputs. That will move the needle, and that day will arrive in two years with Federal mandatory greenhouse standards.

Market Opportunity Immense, Capital Currently Deployed Miniscule

Last year's investment in Cleantech in the United States and Europe was \$5.18 billion, according to the Cleantech Group (www.cleantech.com). This was up from \$3.6 billion in 2006, and \$3.95 billion of that investment was in North America. That investment was concentrated in energy generation, energy storage, transportation, energy efficiency, recycling and waste reduction. While investment was up for the sixth consecutive year and will most probably grow again this year. This level of investment is far short of what is needed to move not only the US economy, but the global economy, onto a cleaner and greener economic path.”

I am convinced more than ever that two things are now going to occur to accelerate this transition and economic transformation. One is the U.S. movement into the greenhouse gas reduction scheme on a national and international basis. So, carbon will be an accelerator in this economic equation and a facilitator for cleantech investment. The second factor is the scale of capital needed, and ironically the capital is there as the graph shows below. The private equity sector is going to have to get over its apprehensions of government mandates and see the economic opportunities. That means investment returns. If it looks likes project finance, which many of the technologies do, it is not

going to excite Wall Street to invest full tilt. But if the investment returns can show 5, 10 and 20 times capital invested, then not only excitement but a shift to defining or game changing technologies then investment starts in earnest . It's the scale that's needed.



On the street today, Goldman Sachs has invested in 11 later stage defining technologies for their own portfolio. The other banks have not moved that far, as yet. But they will. The hundreds of private equity funds are nibbling around the edges and the studying the sector. Deployment of capital is now needed in the hundreds of billions range. It's infrastructure, transport, energy efficiency and most importantly it's carbon reductions will ignite this new investment acceleration. The entrepreneurs and the dreamers are out there in the hinterlands creating the next economic cycle, and it is not a bubble. Higher sustained energy prices, more rapid technology shift and a price for carbon will materialize investment in tangible projects for today and next generation technologies for tomorrow. This is the holy grail of sustainability - building a sustainable future backed by sustainable returns.

Peter C. Fusaro has been active in the energy and environmental arena for 33 years during countless market cycles. He holds the annual Wall Street Green Trading Summit VII (www.wsgts.com) on April 2nd and 3rd and a pre-conference carbon markets seminar on April 1st in New York.



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