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REALLY CHANGE THE WORLD?

..and how the Venture Capital community may see its **biggest payday** in history



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President Barack Obama said it succinctly
in his Nov. 4, 2008, victory speech:
“Change has come to America.”

This is true on many different levels but rings especially true in terms of increased investment in environmental technologies, which Obama made clear will be a key objective of his presidency. As he said late last year during his Energy and Environment Team Announcement, “One of the key points that I want to make at this press conference and I will repeat again and again during the course of my presidency is there is not a contradiction between economic growth and sound environmental practices. I think that the future of innovation and technology is going to be what drives our economy into the future. And the energy economy is going to be part of what creates the millions of jobs we need.”

And as he progresses into his presidency, he is making it more clear he sees a strong link between the U.S.’ long-term economic interests and green technology development.

Among his green-tech initiatives, Obama’s comprehensive New Energy for America plan calls for 10 percent of electricity consumed in the U.S. to come from renewable sources by 2012 and 25 percent by 2025. Additionally, the plan would implement an economy-wide cap-and-trade system intended to reduce greenhouse gas emissions and would help create five million new jobs by strategically investing \$150 billion during the next 10 years toward private efforts to build on clean energy.

And because Obama’s energy policies are in line with many green-tech industry leaders, a massive payday could be on the horizon for the venture capital community.

THE NEXT REVOLUTION

As three-time Pulitzer Prize winner and New York Times columnist Thomas Friedman told an audience of more than 2,000 at the University of Colorado in February, “Energy technology is going to be the next industrial revolution.”

Top venture capitalists obviously agree with Friedman’s statement. They are investing heavily in green tech because of the abundance of opportunity; they understand that investing in green tech could be the foundation for renewed economic growth in the U.S. And with Obama’s legislative agenda slated to bring great change to the energy industry, venture capitalists stand to profit tremendously.

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"Green tech could be the largest economic opportunity of the 21st Century," said John Doerr, partner with Kleiner Perkins Caufield & Byers, which was behind Google, Sun Microsystems and Netscape. Doerr often is cited as the world's top venture capitalist.

According to Friedman, green energy is the only solution to potential worldwide economic, political, environmental and social meltdown from what he identifies as the world's five disastrously large problems: energy and natural resource supply and demand; petropolitics; climate change; energy poverty; and biodiversity loss. According to Friedman, these problems double as "a set of incredible opportunities."

BENEFITING FROM CAP-AND-TRADE

On Feb. 25, in a speech to both houses of Congress, Obama reiterated his intentions to move forward with his plans for energy reforms despite the economic recession, saying: "To truly transform our economy, protect our security and save our planet from the ravages of climate change, we need to ultimately make clean, renewable energy the profitable kind of energy. So I ask this Congress to send me legislation that places a market-based cap on carbon pollution and drives the production of more renewable energy in America."

Obama's proposed cap-and-trade program would reduce carbon emissions 14 percent below 2005 levels by 2020 and 83 percent below by 2050 and raise \$646 billion from 2012 to 2019 by auctioning all pollution credits, enabling heavier polluters to buy credits from cleaner companies. The cap-and-trade program would, in theory, give businesses more certainty about future energy costs and help them make better business decisions. A small part of the receipts generated from auctioning allowances—\$15 billion per year—would be used to support clean-energy development; invest in energy-efficiency improvements; and help develop the next generation of biofuels and clean-energy vehicles.

Such changes likely will be underway even earlier in California, which has a long record of environmental leadership in the U.S. and more stringent greenhouse gas reduction targets. The Global Warming Solutions Act of 2006, for example, establishes a time table to bring California into near compliance with the Kyoto Protocol's provisions. The act requires that by 2020 California's greenhouse gas emissions be reduced to 1990 levels.

Additionally, 10 states—Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont—are involved in the Regional Greenhouse Gas Initiative, the first mandatory, market-based emissions cap-and-trade program in the U.S. By 2018, the states will cap and then reduce their carbon emissions from the power sector by 10 percent.

One company that stands to benefit greatly from the installment of these cap-and-trade programs is Bloom Energy, Kleiner Perkins' first green-tech investment, as well as Khosla Ventures' and Excess Venture's.

The company, located in Sunnyvale, Calif., has developed a solid-oxide fuel cell that can run on almost any type of hydrocarbon fuel—ethanol, biodiesel, methane and natural gas, to name a few—to produce clean, reliable and affordable energy. Because this fuel cell does not require combustion, it produces 50 to 100 percent less carbon emissions than other conventional energy sources. Bloom Energy's approach is to have Fortune 500 companies have their own Bloom box, which could generate more than enough electricity to power their facilities. Any excess electricity could be sold back to the grid. The cost savings and direct payments from the electric company would allow the box to pay for itself in five years.

The Bloom box has been undergoing tests during the last several years at the University of Tennessee in Chattanooga. According to Henry McDonald, the University of Tennessee professor overseeing the Bloom box, when the box was run nonstop on natural gas for 6,000 hours, it proved twice as efficient as a broiler burning natural gas and its carbon emissions were 60 percent lower.

Companies like Bloom Energy will undoubtedly prove hugely successful in the newly competitive alternative energy market. As Friedman stated regarding his vision of energy technology as the next industrial revolution, "Did you ever have a revolution where no one got hurt?" The ones being hurt, according to Friedman, will be today's major energy companies.

As Bloom Energy, for example, makes it possible for energy to be created at the location where it is consumed, electrical utilities' extreme inefficiency will become more and more apparent. And, similar to the telephone's trumping of the telegraph, those utilities will swiftly be rendered obsolete.

The details of Obama's cap-and-trade program remain to be determined, but one thing is certain: as new federal laws continue to put a price tag on carbon emissions and pollution-dispersing companies scramble to adopt green energy policies and technologies, venture capitalists stand to benefit greatly.

FUEL EFFICIENCY

In addition to limiting carbon emissions to slow climate change, Obama has made it clear he will address the U.S.' other major energy challenge—our dependence on foreign oil. His New Energy for America plan cites that during 2008, oil provided more than 96 percent of the energy used in vehicles in the U.S. To address this issue, Obama proposes to reduce our consumption of oil by more than we currently import from the Middle East and Venezuela combined within the next 10 years.

Obama plans to achieve this goal by increasing fuel-efficiency standards 4 percent per year; investing in development of advanced vehicles; mandating all new vehicles are flexible-fuel vehicles; developing the next generation of sustainable biofuels and infrastructure; and establishing a national low-carbon fuel standard that requires fuels suppliers in 2010 to begin to reduce the carbon of their fuel by 5 percent within five years and 10 percent within 10 years.

Obama's support of the development of sustainable biofuels is particularly noteworthy because it has further spurred a number of companies to engage in the development of advanced biofuel technologies. One of the most prominent and advanced of these companies is Amyris Biotechnologies, a renewable products company based in Emeryville, Calif.

Amyris, which is backed by Kleiner Perkins, Khosla Ventures and Excess Venture, is providing solutions to our oil crisis by genetically manipulating *E. coli* to convert glucose found in Brazilian sugarcane into renewable fuels for automobiles, trucks and jets.

Designed to be scalable and low-cost with performance attributes equaling or exceeding those of petroleum-sourced fuels, Amyris' diesel has demonstrated in preliminary analysis to have a carbon footprint 80 percent smaller than that of regular diesel. It can be blended at levels up to 50 percent compared with 10 to 20 percent for regular biodiesel and ethanol. And unlike most other available biofuels, Amyris plans to distribute its diesel through the U.S.' existing fuel distribution and storage infrastructure.

Amyris opened its first pilot plant producing diesel fuel this past fall in Emeryville and plans to open another larger plant in Campinas, Brazil, this year, with the goal of pumping a billion gallons of diesel during the next five years. Additionally, a 100-acre test site in Atmore, Ala., is being used to grow and evaluate four varieties of sugarcane to determine the crop's commercial viability in southern Alabama. If the test site proves successful and area farmers adopt the crop, Amyris will seek to build a plant in southern Alabama for producing renewable jet fuel.

According to the Energy Information Administration, U.S. petroleum consumption averages 20,680,000 barrels per day. The transportation sector's consumption is predicted to increase 3 percent annually through 2020. These realities combined with regulatory mandates and tax incentives put Amyris in a position to profit greatly.

AN INTEGRAL ROLE

With the green bubble looming and many predicting it will double the size of the dot-com bubble, the venture capital industry stands poised to profit greatly. The industry thrived during the dot-com bubble—particularly Kleiner Perkins and New Enterprise Associates—and one can only assume the same will be true with the green bubble, only on a larger scale and including Khosla Ventures, Vinod Khosla's spinoff of Kleiner Perkins that focuses primarily on green tech.

As the green bubble rapidly grows, fueled in large part by our new administration's strong focus on energy and the environment, the venture capital community and its major players will play an integral role in its development.

One venture capitalist who will be extremely involved with the new administration is Doerr, who was appointed to the President's Economic Recovery Advisory Board, a new panel of nongovernmental experts from business, labor and elsewhere created by Obama on Feb. 6. Doerr, along with the rest of the panel, will report regularly to Obama and his economic team regarding the economic crisis and possible responses to it.

According to Friedman, markets need to remain the mechanism by which renewable energy takes over and incentives for consumers to switch to renewable energy are necessary. This, Friedman says, is the role government needs to play.

"I think a lot of people who voted for Barack Obama did it because he's exactly the type of person who can make that type of argument," Friedman said during his February speech at the University of Colorado.

So far during Obama's young presidency, this has proved true. And as Obama continues to evoke change in the U.S.' environmental and energy policies, venture capitalists will see their opportunities for profits continue to grow.

David Kaplan wrote in *The Silicon Boys and Their Valley of Dreams*: "Now, the only thing harder than getting money from Kleiner Perkins Caufield & Byers is trying to give it to them. In fact, you don't actually ask—you wait to be asked."

For those lucky enough to be asked, your payday has come.





ABOUT EXCESS VENTURE:

Excess Venture is a leading private equity and venture capital firm focused on disruptive and innovative opportunities. We seek companies that have completed the early development phase of their product or service, have demonstrated clear market acceptance, and are seeking additional capital to expand their efforts or execute strategic acquisitions. We provide late-stage capital for high-growth premier technology companies backed by leading venture firms, specifically Kleiner Perkins Caufield & Byers, Khosla Ventures, New Enterprise Associates and Benchmark Capital.

Excess Venture believes the venture capitalist make a substantial difference. It is our view that by adding value at a later stage for game-changing technology alongside some of the world-renowned early-stage venture firms, is the pre-eminent position for thriving opportunities. We leverage our extensive network of relationships throughout the Valley, U.S., Europe and Asia to deliver strategic gainful opportunities to our portfolio.

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