# Green tech cleans up with investors

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Is there still big green to be made in green tech? A few years ago, investing in green technology companies in Silicon Valley was as de rigueur as vertical social-media sites. Those sites went away, but money continues to pour into clean-tech ventures as world events dictate a serious look at alternative energy sources such as solar, wind and electric cars.

"It's not alternative: We think of it as mainstream," says Alan Salzman, CEO of VantagePoint Capital Partners, an investor in electric-car maker Tesla Motors, which went public last year, and BrightSource Energy, slated for an IPO in 2011.

It's hard to put a price tag on the potential market for clean technologies. Several venture capitalists interviewed say it could be hundreds of billions of dollars - if not more - when adding up various slices, such as wind (estimated $60 billion) and solar ($20 billion to $30 billion).

There is little doubt what venture capitalists think: They poured $4.9 billion into domestic start-ups last year, up 40 percent from 2009, says market researcher Cleantech Group.

The numbers suggest "strong long-term VC interest," says Sheeraz Haji, an analyst at Cleantech Group who notes that an increase in the average size of deals shows a "continued bias towards later-stage deals."

Clean tech is as hot as the rest of the tech industry. Startups are raking in record amounts of investments. Large, established companies such as

Intel are pursuing partnerships with up-and-coming companies. Promising start-ups are being snapped up as acquisitions. Initial public offerings are sprouting like vegetables. In other words, expect the momentum to continue.

World events and economic factors have thrust early clean-tech companies into the positions of being - potentially - influential trendsetters in battery technology, solar energy, wind power and electric cars, says Erik Straser, general partner at Mohr Davidow Ventures, an investor in Nanosolar, Recurrent Energy and others.

"Each of these companies is an exciting little story that, put together, creates a huge, transformational picture" in energy use, he says.

Everyone, it seems, is going green - or thinking about it:

-During a speech in Seattle earlier this month, Microsoft co-founder Bill Gates said the U.S. must invest in energy technology. Last year Gates helped start the American Energy Innovation Council, which hopes to persuade the federal government to spend up to $16 billion a year on research and development of clean-energy technology.

-More than a half-dozen clean-tech companies have filed to go public this year, and U.S. venture-capital investment in pre-IPO clean-tech companies rose to $1.75 billion in the first quarter, up 21 percent from the same quarter of last year. Last month, BrightSource Energy, which makes solar-thermal power systems, filed for an initial public offering of up to $250 million of its common stock this year.

-Google recently said it is pumping $55 million into a project to build wind turbines in Southern California, the latest in a recent string of investments in wind power and other alternative generation technologies by the search-engine powerhouse.

-The electric vehicle is ready to merge into the mainstream after decades of stalls and sputtering starts. Tesla Roadsters, Chevy Volts and Nissan Leafs are on the market, with several more in the pipeline from major automakers.

-Ford Motor is using Google technology to help it come up with new ways to optimize energy efficiency. Google's Prediction API, for example, would let drivers of Ford hybrid automobiles turn off their engines to limit pollution based on their past driving habits, says Ryan McGee, a technical expert at Ford.

-In another sign that traditional energy companies are betting on solar power, French oil giant Total last month said it plans to buy a 60 percent stake worth $1.38 billion in SunPower, Silicon Valley's dominant solar-panel maker.

-Intel signed a year-long consulting agreement with MiaSole, to help the solar start-up boost production.

-Harvest Power in March said it raised $51.7 million in Series B funding, which will help it ramp up construction of facilities to turn yard and food waste into methane, the principal component of natural gas. The new funding brings the total equity financing raised by Harvest Power to roughly $70 million, CEO Paul Sellew said.

"Instability in the (oil-producing) Middle East, oil at $100 a barrel, the nuclear fallout in Japan - they all play into this," Haji says. Cleantech expects a record $9.5 billion to be invested in clean-tech companies this year, up 20 percent from in 2010.

The increase in investments reflects how big companies such as Total, Chevron and General Electric are aggressively jumping into clean tech, Haji says.

Indeed, the number of American businesses with green programs grew 54 percent last year, based on research from Buck Consultants, a subsidiary of Xerox. Of about 120 businesses surveyed - including hardware and other technology companies, government offices, consultancies, non-profits, hospitals and the makers of consumer packaged goods - 69 percent said they took deliberate measures to improve their environmental and social impact in 2010.

More than 90 percent cited savings from going green. More than half said they used renewable energy in their buildings last year.

Energy companies have traditionally scrutinized new forms of energy to diversify their product portfolios as people gobble up oil and electricity. Now, there are "just more options" that happen to be clean, says Jennifer Fonstad, managing director at VC company Draper Fisher Jurvetson, an investor in LEDs, light-emitting diodes. One of its clients, Intematix, could be an IPO candidate.

Clean tech's rising wave of IPOs and mergers and acquisitions is likely to continue for years as prices for traditional fossil fuel escalate while those for renewable energy, such as solar, decline, says Tim Keating, CEO of Keating Capital, a pre-IPO fund that invests in companies primed to go public.

"The most important issue for alternative energy has been: 'Can it be price competitive with fossil fuels?'" says Keating, who has invested in four clean-tech companies, including BrightSource Energy. "This is an exciting time for clean tech."

And a necessary one. Japan's nuclear crisis, political conflagration in the Middle East, exorbitant gas prices, the British Petroleum oil spill in the Gulf of Mexico and the coal mine disaster in West Virginia last year have helped intensify interest in alternative energy.

"Japan caused every country to do a reset on a review of their energy strategy," Keating says. "The BP spill put a pause on offshore drilling. Japan has done the same for nuclear energy."

Says Salzman, bluntly: "Did you get the message, guys? Maybe we should think of ways to make energy without killing people in the process. And use it more intelligently without the waste."

Case in point: Total - one of the world's "Big Six" oil and gas companies, with 93,000 employees in more than 130 countries - sees its SunPower investment as a major piece of its plan to enhance its renewable-energy activities, especially in solar and biofuels.

At the same time, Chevron is evaluating the technology of seven solar companies at a testing facility in Bakersfield, Calif. Project Brightfield, which houses 7,700 panels on 8 acres, is one of two solar projects. The other is near Taos, N.M., where the sun is abundant more than 300 days a year.

"We're a technology company that happens to produce energy," says Des King, president of Chevron Technology Ventures, the oil giant's emerging-technologies business unit. "When you look at the world's energy demands, in 2030 it will need 20 percent to 40 percent more energy."

"We need it all: oil, gas, coal, hydroelectric, nuclear and renewables (solar, wind, geothermal and biofuels), which make up just 2 percent." (The International Energy Agency expects that to jump to 4 percent to 8 percent by 2030.)

From 2002-2010, Chevron spent more than $4 billion on renewables and energy-efficient improvement.

No less a corporate player than energy giant General Electric intends to lead the clean-tech march.

"We see an incredible challenge and opportunity," says Mark Vachon, vice president of General Electric's Ecomagination business strategy. "The world is rebuilding its infrastructure with increasingly more finite natural resources (energy and water)."

Since its launch six years ago, the GE initiative has led to $70 billion in revenue from products and services - things such as energy-efficient engines for aviation, gas, wind and water; tools for the power grid; and battery technology and charging stations. At the same time, GE saved $135 million in energy costs.

Over the next five years, Ecomagination hopes to double its R&D budget to $10 billion and reduce its energy footprint.

Perhaps no start-up is more emblematic of the ever-green wave than Tesla. The Silicon Valley automaker, flush with $50 million in funding from Daimler in 2009, capped 2010 with a wildly successful IPO. It says sales of its Roadster electric car are brisk. (More than 1,650 units of the model - starting at $109,000 - have sold in more than two years.)

Most of Tesla's $49 million in first-quarter revenue came from sales of Roadster and partnerships with Daimler (batteries) and Toyota (co-design of the electric version of the RAV4), says Tesla spokesman Ricardo Reyes.

"These are major issues for utilities and all corporations," VC Straser says. "None of this stuff happens overnight. These companies have to plan decades in advance to change their global structure, and invest in technologies."