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## Greentech's Top Ten Acquisition Targets

Who will get bought next in greentech? Darned if I know, but here's a semi-educated guess. Bonus: There's also a list of the four that won't likely be bought.

Corporate acquisitions are tough to predict.

But they're a lot of fun to talk about. Will General Electric snap up Southwest Windpower to get into small wind turbines, or will it buy Trinidad and Tobago as a nice vacation spot for its executives? Will Cisco buy SmartSynch and only to realize it thought it was buying Silver Spring? Can Suntech make a rock bigger than it can lift?

The green technology world should probably brace for a wave of mergers. Funding is down, large multinationals want to get in the market, and many of the early startups are probably realizing that building a sales and distribution channel is tough.

And no one wants to wind up as the Veoh Networks, Onsale or [Direct Hit](#) of its day. (You might know their early contemporaries – respectively YouTube, eBay and Google – better.)

With that in mind, here's my list of the most likely acquisition targets in greentech.

1. Verdiem: When Verdiem first emerged, the main question was when was Microsoft going to crush it. The company specializes in software for controlling PCs to curb energy consumption. Instead, it has raised over \$27 million and installed its software at a number of corporations. It saves \$30 to \$60 per year in power costs per PC. More recently, it also announced plans to [push into phones](#). Despite the success, Verdiem faces the challenge of selling a product that performs limited functions to customers who want to get their software from a few sources. Verdiem is also one of the leading partners in Cisco's EnergyWise strategy.

2. One of the CIGS Five: Nanosolar, [Solyndra](#), HelioVolt, Solopower, and Miasolé. Together the U.S. startups that are concentrating on copper indium gallium selenide (CIGS) solar cells have raised well over a billion dollars. Unfortunately, their manufacturing processes all differ and only Solyndra and Nanosolar have managed to release products, and only in small amounts. That doesn't sound particularly attractive until you remember that both [First Solar](#) and Q-Cells have CIGS projects under way. The rest of the solar industry is not going to let these two grow at their



expense. Although no CIGS company will be cheap, it will be too dangerous to pass them up.

3. Adura Technologies: Maybe I hang out with the wrong crowd, but this company has come up quite a bit recently. A spin-out of UC Berkeley, Adura specializes in mesh networking for dynamically controlling lights. (Note: There is also a bus technology company called Adura. Different group.) Lighting constitutes 22 percent of the energy in the U.S. Philips and General Electric have spent enormous amounts of money on lighting companies in the past few years, but mostly on companies that make light sources. The controls market appears to be arriving. Honorable mentions in the control market: HID Labs (large outdoor lights) and Lumergi (florenchillers inside larscent control).

4. Optimum Energy: It makes software (and some hardware) for controlling the [chillers inside skyscrapers](#). There are 150,000 buildings that could use its software in the U.S. If they all were equipped with the software it would cut 75 gigawatts off the grid, the company claims. Think of it as a combination of smart grid and building energy efficiency. Building and data center management could be one of the more active markets for acquisitions. U.S. buildings and data centers aren't particularly efficient, Cisco, GE and other companies have said they want to start to challenge incumbents in energy management, and there are a lot of really interesting startups. Other names to look out for: Tendril ([software and ZigBee networking for in-home energy management and control](#)), Positive Energy (pesky utility bill reminder) and Power Assure (data centers).

5. Imara: The company's battery cathode, which derives from research conducted at SRI, can [dramatically increase the performance of lithium-ion batteries](#). Imara's current plan is to make the batteries and sell them to prove that the concept works. After that, Imara will face a choice: try to build factories so it can sell batteries to compete against LG and Panasonic, or sell its component to the highest bidder.

6. Chromasun: A [solar air conditioner](#) from the people who started Ausra. Moving from making solar panels to solar appliances could become one of the few ways that large module makers will be able to escape the relentless price cutting that will occur over the next three years. (The other two ways are winning large utility contracts and/or losing lots of money.) Something like this would probably look interesting in the Suntech product lineup.

7. SunPower: Sort of the other end of the solar business spectrum. SunPower is one of the two big success stories for the U.S. in solar. Unfortunately, the company builds the most efficient, most aesthetically pleasing solar modules in a market that seems to value price over everything else. It will also begin to face competition at the high end from Pluto from Suntech. The technology is good, but life alone may prove to become difficult. Still, it won't be a cheap acquisition.

8. Lucid Design Group: [Who?](#) The company makes an energy-efficiency console that looks great on a 42-inch plasma TV. You can see your water consumption, gas consumption, etc. AT&T, Verizon and other carriers all seem to be hatching plans to get into energy management. The carriers won't want to make their own software. An impulse buy, like that 750 ml bottle of Rebel Yell on special at Trader Joe's. Greenbox is in the same category.

9. Purfresh: The Serious Materials of food and drink purification. The company started with ozone purification systems for bottled water and vegetables and has moved into technologies for improving crop yields. It has lined up a number of customers. But scaling from this point out will be tough and likely involve lots of FDA meetings down the road. Joining an agribusiness conglomerate will give it better reach.

10. Carbonetworks: SAP has a carbon company, so Oracle and IBM are going to buy some as well. This is a law of nature. Carbonetworks will likely be one of the most sought-after because it has the name that is the easiest to remember.

#### Bonus: The Ones That Will Get Away

On the other hand, there are some companies that, for a variety of reasons, may have to stand alone for some time.

1. Konarka Technologies: Solar dye. Konarka has raised [over \\$145 million](#) but it remains locked in engineering trials. Competitors are also bringing down the price of conventional silicon panels. A great idea that has consistently been waaaaay too ahead of its time.

2. GreenFuel Technologies: It was one of the first to pump carbon dioxide into ponds full of algae to make fuel. The bad part is that there are now over 50 companies that pretty much do the same thing and they will be cheaper to buy. But GreenFuel shouldn't feel bad: Everyone in algae will have a tough time getting sold. The oil giants are going to want to see it work first. UPDATE: A few hours after this ran, [GreenFuel told me](#) that they are shutting their doors. Heed well my powers to predict the future.

3. Achates Power: One of my favorite startups. It has created a high-compression engine that will lead to cars that get over 100 miles per gallon. But there are two problems. First, the company wants to license its technology, not make engines. Executives at most large companies (outside of the medical field) would rather spend time in a minimum security prison than license intellectual property from a startup. Second, Achates' concept is in part based around plane engines from the 1930s. That creates a big prior art problem.



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4. Bloom Energy: The Cleopatra of Clean Energy. It's taken over \$250 million and several years to bring this blockbuster to market, and it's still not out. Whether or not it is the greatest invention since the Wheel-O or not, Bloom would be an expensive purchase. Large companies will sit on the sidelines.