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Thread for examples of solar plays

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Author	Message
Suresh	Posted: Fri Feb 17, 2006 9:01 pm Post subject: Thread for examples of solar plays quote

Joined: 16 Sep 2005
Posts: 5401
Location: Maryland

Sharp's Secret Weapon: Solar Cells and Systems (SHCAY)

Related Stocks: KYO, SANYY

Sharp (SHCAY.pk, TSE ticker: 6753) is primarily known for its consumer electronics, and these days big screen thin panel LCD TVs are getting all the attention and big investment dollars.

Though largely overshadowed by LCDs, Sharp Solar is rumored to be worth a good chunk of Sharp's approximately $20b market-cap and in a few years will help cut the company's energy use costs to zero. Red Herring interviewed Ron Kenedi, head of Sharp North and South America's solar operations. Below I pulled out the key points and quotes and I added some comments from my own research along with a quick look at Q3 earnings.

• Sharp Solar has ~43% of U.S. solar market share
• ~30% of global market share
• World's number 1 solar manufacturer since 2000
• Sales of solar cells increased 34% in the 3rd quarter (ended Dec. '05) +34% y-o-y to 38.4 billion yen (approx. US$325 million at Y118/US$1)
• Solar cell sales accounted for approx. 5% of all Sharp's sales in Q3; unfortunately more precise data is unavailable because Sharp classifies solar cells under its "Other Electronic Components" product group, although solar accounts for about half of this group's sales
• Benefited from Japanese government's 10-year subsidy beginning in 1994 due to have been phased out as of last year; similar to how German manufacturers benefited from government subsidies (the two nations overtook the U.S. as the leading solar manufacturers over the past ten years)

(Sources: Red Herring article, California Public Utilities Commission, Sharp press releases)

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Investing In Wind Energy
The Domestic and Foreign Stocks Poised to Dominate the Wind Sector.
www.GreenChipStocks.com/Wind_Rep

Suresh	Posted: Wed Mar 15, 2006 6:41 pm Post subject: Cypress Semiconductor's SunPower subsidiary quote

Joined: 16 Sep 2005
Posts: 5401
Location: Maryland

Solar 'competitive in five years' says Cypress
...
Solar power will be competitive with mainstream electricity generation methods in five years, according to Cypress Semiconductor, which has a solar cell manufacturing subsidiary called SunPower.
...
SunPower is one of the growth drivers in the Cypress stable of businesses. In its current fiscal year it expects sales of $210m compared to $78.7m in fiscal 2005.

"We use two tons of silicon a day," said Taffe. "The solar market has grown at 31 per cent compound annual growth rate since 1995 in terms of MegaWatts."
...
Cypress sold off 15 per cent of SunPower in an IPO last November raising $115m ...

The Nomura Solar Energy Index rose by 161 per cent in 2005 and by a further 56 per cent in January 2006. The market capitalisation of the sector now stands at over $20bn with European companies accounting for nearly half of that.

The current leaders in solar cell production are: Sharp, Kyocera, BP Solar, Mitsubishi Electric, Q-Cell, Shell Solar, Sanyo, Isofoton, SunTech Power, Deutsche Cell/SolarWorld Europe and RWE Shott.

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Suresh

Joined: 16 Sep 2005
Posts: 5401
Location: Maryland

Posted: Thu May 10, 2007 5:00 pm Post subject: New business model for solar power companies

Wal-Mart: Here comes the sun
...
Wal-Mart is looking to the sun for power - and to save a few pennies on its electric bills.

The giant retailer says it will install solar rooftop panels at 22 facilities in California and Hawaii that will provide as much as 20 megawatts of electricity, for prices less than it currently pays local utilities.

Wal-Mart (Charts, Fortune 500) will purchase the electricity from BP Solar, a unit of global energy giant BP (Charts) based in Frederick, MD, from SunEdison, a privately held firm headquartered in Beltsville, MD, and from SunPower Corp. (Charts) of San Jose, which provides solar power to Wal-Mart's experimental store in Colorado.

This deal matters for two reasons. First, it's a vote of confidence in the technology of generating electricity from solar photovoltaic panels; that business is already growing by 30 percent a year in the United States. Second, it's an endorsement of a relatively new business model in which the solar power companies pay the upfront costs of installations and retain ownership of the systems, and enter long-term contracts to sell electricity to their customers.
...
In any event, Wal-Mart won't have to pay the capital costs of its rooftop panels because they will be built and owned by the three providers; it has signed 10-year contracts with each provider to buy electricity. Wal-Mart, as a result, will begin saving money over current utility rates "as soon as the first day of operation," says David Ozment, the company's director of energy.

Wal-Mart says each solar power generating system can provide up to 30 percent of the power for a store. This is especially valuable during the summer months, when the cost of electricity bought from the grid is higher.
...
The solar power initiative nudges Wal-Mart closer to its long-term goal of being supplied by 100 percent renewable energy. The company is also strongly pushing energy conservation and experimenting with wind power as part of its ambitious effort to achieve sustainability.

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Suresh

Joined: 16 Sep 2005
Posts: 5401
Location: Maryland

Posted: Mon Sep 10, 2007 12:46 pm Post subject: Long-haul prospects in alternative energy sector

In the Green Marathon, Which Stocks Will Be the Winners?
...
For buy-and-hold investors interested in alternative energy, a crucial question is this: Which companies are most likely to survive over the long haul? Some of the best prospects may be found among the companies that have made the most of recent fair-weather conditions — either through gains in research or manufacturing processes, the raising of low-cost capital or timely acquisitions.

One company that may fit that profile is SunPower, the manufacturer of solar cells, which is based in San Jose, Calif. Over the last several years, SunPower has increased the efficiency of its solar cells, which can now convert 22 percent of available solar energy into electricity, Mr. Hammond said. That compares with an industry average of 18 to 20 percent, and with SunPower's own efficiency of just 20 percent less than two years ago.

SunPower has also made a shrewd acquisition, buying the installation company PowerLight last year. This step makes a great deal of sense, said Stuart Bush, an alternative-energy analyst at RBC Capital Markets. Installation and service, he said, account for roughly half the total cost of solar systems.
...
Generating electricity from garbage doesn't have quite the aesthetic appeal of coaxing current from sunbeams, but it's a good business for the Covanta Holding Corporation, said J. Michael Horwitz, a partner and senior research analyst at Pacific Growth Equities in San Francisco. Covanta, based in Fairfield, N.J. contracts to buy trash from local municipalities and then burns it to create steam that powers turbines. Electricity derived from municipal waste qualifies for federal tax credits, though the credits are just half those for power generated from wind, solar and geothermal sources.
...
Covanta has been active on other fronts as well, recently taking on a joint venture partner in China. It has also acquired two businesses that produce energy from wood waste.
...
Some promising companies focus on products that reduce electricity demand. Cree, based in Durham, N.C., is a manufacturer of light-emitting diodes, which are slowly emerging as a low-power alternative to conventional lighting. Costs of L.E.D.'s are still prohibitively high for most lighting applications, but they are coming down, said David Carlsen, a co-manager of the Buffalo Science and Technology fund, which holds Cree shares.

Cree has invested heavily in research and manufacturing to accelerate cost reductions, he said. Its capital spending has been running

at 20 percent or more of revenue.

“That’s high for a technology company,” Mr. Carlsen said.

In March, Cree acquired Cotco, a company based in Hong Kong that packages L.E.D. lights into lighting products sold directly to customers.

The deal also gives Cree a stronger international presence and allows greater marketing insight into customer needs.
...
WITH electricity consumption rising, many utilities are facing a choice: find ways to reduce demand or build new generating plants. Often, it is only demand at peak hours that needs to be supplemented. One company that offers a demand-control solution for its utility customers is Comverge, based in East Hanover, N.J. The company went public in April.

Comverge contracts with Pacific Gas & Electric, Nevada Power and other utilities to lower their peak-time demand by installing specialized residential thermostats. These can shut down air-conditioners and other power-hungry equipment for brief periods during peak hours of electricity use.
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Suresh

Posted: Thu Sep 13, 2007 1:33 pm Post subject: Venture capital and private firms race to build solar thermal plants

quote

Joined: 16 Sep 2005
Posts: 5401
Location: Maryland

Investors bask in solar power's sun
...
Whereas solar photovoltaic panels are installed directly on buildings and convert sunlight into electricity, solar thermal power is more complicated: it uses mirrors to concentrate sunlight and heat liquids, which are then used to drive turbines to make electricity.
...
Today entrepreneurs are racing to cash in. Three large-scale solar thermal plants have been announced in recent months in California, the latest coming from a Silicon Valley startup called Ausra.

Ausra announced this week that it has raised more than $40 million from venture capital firms Khosla Ventures and Kleiner, Perkins, Caulfield and Byers, and said it plans to build a 175-megawatt solar thermal power plant at an undisclosed location in central California.
...
Ausra isn't the only company that's betting big on solar thermal.

A Spanish firm called Acciona Solar Power began operating a 64-megawatt solar thermal plant in the desert south of Las Vegas in June. Pacific Gas & Electric (Charts, Fortune 500) said in July that it will contract to buy 550 megawatts of solar thermal power to be produced in the Mojave Desert by an Israeli company called Solel Solar Systems.

And BrightSource Energy, a Oakland, Calif.-based privately held company, said last week that it plans to build a 400-megawatt solar thermal plant, also in the Mojave. Earlier, Stirling Energy Systems of Phoenix, Arizona, announced plans for two solar thermal plants in partnership with utilities in southern California.
...
Ausra executives say the company's technology and manufacturing plans will reduce the capital costs of building solar thermal plans. Once its plants are running, and its borrowing costs come down, the company says it will sell electricity for much less than existing solar or wind installations.

"As soon as we can build solar power projects with the same cost of capital as building conventional coal or natural gas plants," O'Donnell says, "we'll deliver electricity at the same cost as coal."

If so, that by itself would be a significant breakthrough.

A second claim being made by Ausra is equally bold. The company says, rain or shine, its plants will be able to store heat for up to 20 hours, allowing it to sell electricity to the grid whenever demand is greatest.
...
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The success of Ausra's business model depends on borrowing costs coming down? That's going to happen in the current and likely future interest rate environment?

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Suresh

Joined: 16 Sep 2005
Posts: 5401
Location: Maryland

Posted: Thu Jan 03, 2008 7:07 pm Post subject: Nanosolar to produce solar panels cost-comparable in watts to coal plant

quote

New York Times: Start-Up Sells Solar Panels at Lower-Than-Usual Cost

Nanosolar, a heavily financed Silicon Valley start-up whose backers include Google's co-founders, plans to announce Tuesday that it has begun selling its innovative solar panels, which are made using a technique that is being held out as the future of solar power manufacturing.

The company, which has raised $150 million and built a 200,000-square-foot factory here, is developing a new manufacturing process that "prints" photovoltaic material on aluminum backing, a process the company says will reduce the manufacturing cost of the basic photovoltaic module by more than 80 percent.
...
While many photovoltaic start-up companies are concentrating on increasing the efficiency with which their systems convert sunlight, Nanosolar has focused on lowering the manufacturing cost. Its process is akin to a large printing press, rather than the usual semiconductor manufacturing techniques that deposit thin films on silicon wafers.

Nanosolar's founder and chief executive, Martin Roscheisen, claims to be the first solar panel manufacturer to be able to profitably sell solar panels for less than $1 a watt. That is the price at which solar energy becomes less expensive than coal.

"With a $1-per-watt panel," he said, "it is possible to build $2-per-watt systems."

According to the Energy Department, building a new coal plant costs about $2.1 a watt, plus the cost of fuel and emissions, he said.

The first Nanosolar panels are destined for a one-megawatt solar plant to be installed in Germany on a former landfill owned by a waste management company. The plant, being developed by Beck Energy, is expected to initially supply electrical power for about 400 homes.
...

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Suresh

Joined: 16 Sep 2005
Posts: 5401
Location: Maryland

Posted: Tue Apr 15, 2008 5:47 pm Post subject: Ausra, SolarReserve, eSolar propose solar thermal systems that store energy

quote

New York Times: New Ways to Store Solar Energy for Nighttime and Cloudy Days

Solar power, the holy grail of renewable energy, has always faced the problem of how to store the energy captured from the sun's rays so that demand for electricity can be met at night or whenever the sun is not shining.

The difficulty is that electricity is hard to store. Batteries are not up to efficiently storing energy on a large scale. A different approach being tried by the solar power industry could eliminate the problem.

The idea is to capture the sun's heat. Heat, unlike electric current, is something that industry knows how to store cost-effectively. For example, a coffee thermos and a laptop computer's battery store about the same amount of energy, said John S. O'Donnell, executive vice president of a company in the solar thermal business, Ausra. The thermos costs about $5 and the laptop battery $150, he said, and "that's why solar thermal is going to be the dominant form."

Solar thermal systems are built to gather heat from the sun, boil water into steam, spin a turbine and make power, as existing solar thermal power plants do — but not immediately. The heat would be stored for hours or even days, like water behind a dam.

A plant that could store its output could pick the time to sell the production based on expected price, as wheat farmers and cattle ranchers do. Ausra, of Palo Alto, Calif., is making components for plants to which thermal storage could be added, if the cost were justified by higher prices after sunset or for production that could be realistically promised even if the weather forecast was iffy. Ausra uses Fresnel lenses, which have a short focal length but focus light intensely, to heat miles of black-painted pipe with a fluid inside.

A competitor a step behind in signing contracts, but with major corporate backing, plans a slightly different technique in which adding storage seems almost trivial. It is a "power tower," a little bit like a water tank on stilts surrounded by hundreds of mirrors that tilt on two axes, one to follow the sun across the sky in the course of the day and the other in the course of the year. In the tower and in a tank below are tens of thousands of gallons of molten salt that can be heated to very high temperatures and not reach high pressure.

"You take the energy the sun is putting into the earth that day, store it and capture it, put it into the reservoir, and use it on demand," said Terry Murphy, president and chief executive of SolarReserve, a company backed in part by United Technologies, the Hartford conglomerate.
...
A tower design could also allow for operation at higher latitudes or places with less sun. Designers could simply put in bigger fields of mirrors, proponents say. A small start-up, eSolar, is pursuing that design, backed by Google, which has announced a program to try to make renewable electricity for less than the price of coal-fired power.
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Suresh

Posted: Tue Apr 29, 2008 6:13 pm Post subject: SUNRGI's concentrators drop cost of solar-powered electricity to coal level quote

Joined: 16 Sep 2005
Posts: 5401
Location: Maryland

USA Today: Start-up: Affordable solar power possible in a year
...
SUNRGI's "concentrated photovoltaic" system relies on lenses to magnify sunlight 2,000 times, letting it produce as much electricity as standard panels with a far smaller system.
...
Under its plans, which experts call promising but highly ambitious, SUNRGI would initially target utilities and large industrial and commercial customers. The company — founded by veterans of computer, digital design, aerospace and solar industries — would market to homes within three years.

Executives of the year-old company say they'll start producing solar panels by mid-2009 that will generate electricity for about 7 cents a kilowatt hour, including installation. That's roughly the price of cheap coal-fired electricity. "We're bringing the cost of solar electricity down to be competitive with" fossil fuels, says Bob Block, a co-founder of SUNRGI.
...
Solar panels generate electricity when photons in sunlight knock loose electrons in silicon or another semiconductor. Other concentrated photovoltaic makers magnify sunlight about 500 times. SUNRGI says it can multiply that by four because it has a system to instantly cool its germanium-based semiconductor from 3,300 degrees to 20 degrees above ambient temperature. High temperatures can melt a solar cell.

Also pushing down costs are a highly efficient semiconductor that converts 37% of the sunlight to electricity, more than double the industry average. The unit's compact size allows it to be made at electronics or PC factories, avoiding the need to build new plants.
...

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Dave

Posted: Fri Jul 11, 2008 12:31 pm Post subject: NASA shows 10%-15% of worlds energy could be generated offshore with wind quote

Joined: 22 Dec 2005
Posts: 1188
Location: Washington, DC

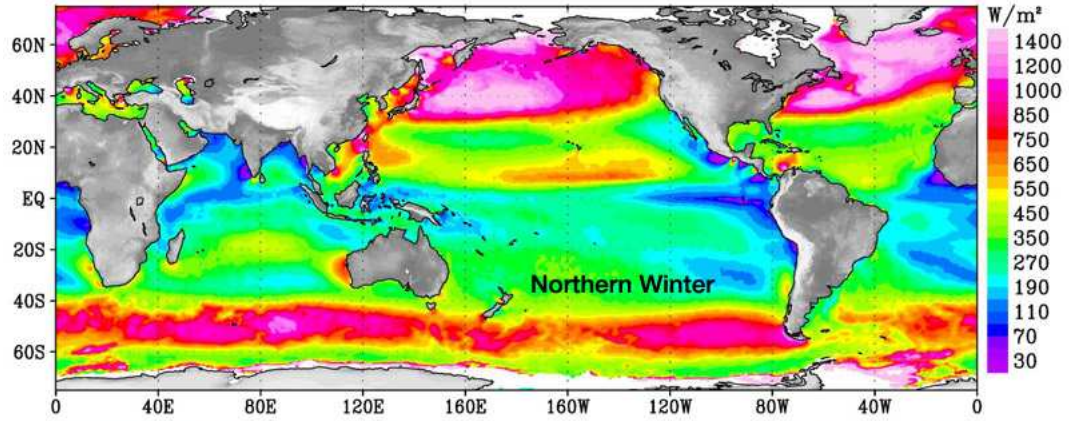
NASA: Ocean Wind Power Maps Reveal Possible Wind Energy Sources

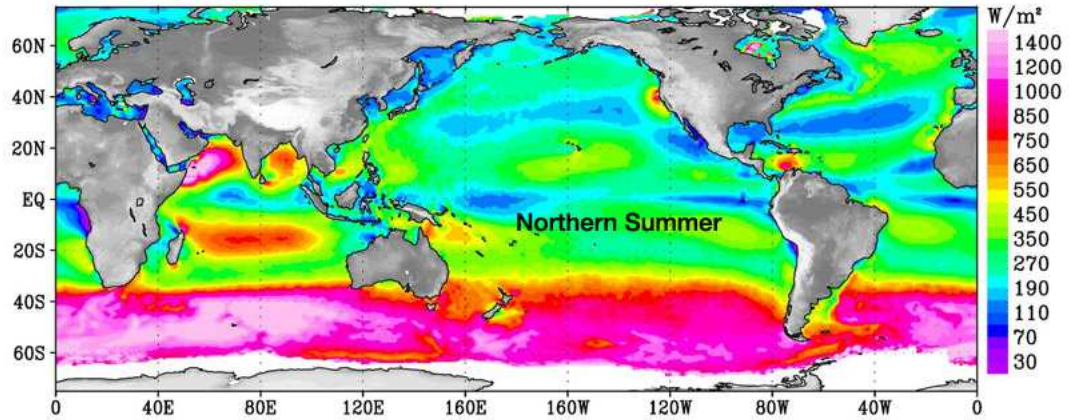
Efforts to harness the energy potential of Earth's ocean winds could soon gain an important new tool: global satellite maps from NASA. Scientists have been creating maps using nearly a decade of data from NASA's QuikSCAT satellite that reveal ocean areas where winds could produce energy.

The new maps have many potential uses including planning the location of offshore wind farms to convert wind energy into electric energy.

Wind energy has the potential to provide 10 to 15 percent of future world energy requirements, according to Paul Dimotakis, chief technologist at JPL. If ocean areas with high winds were tapped for wind energy, they could potentially harvest up to 500 to 800 watts of wind power per square meter, according to Liu's research. Dimotakis notes that while this is slightly less than peak solar power, which is about 1000 watts per square meter on Earth's surface when the sky is clear and the sun is overhead at equatorial locations, the average solar power at Earth's mid-latitudes under clear-sky conditions is less than a third of that. Wind power can be converted to electricity more efficiently than solar power and at a lower cost per watt of electricity produced.

This map shows wind power density over global oceans for winter (top panel) and summer (lower panel) in the Northern Hemisphere. Red and white colors indicate high energy are available while blue color reflects lower energy.





Dave

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