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State of the Union 2007: Alt. Energy Opportunities Abound

Tate Dwinnell submits: According to the weekend edition of Investors Business Daily, the White House has threatened to veto a House-passed bill that would scrap tax breaks for big oil and use the revenue to promote renewable energy. But Bush may offer an alternative. White House economic adviser Alan Hubbard recently said that Bush's speech will "generate headlines above the fold that will knock your socks off in terms of our commitment to energy independence."

After reading that I got to thinking about profit opportunities should these headlines really knock my socks off. I remembered the run that some of the alternative energy plays had after the the last State of the Union address, particularly in the ethanol space and began to do a bit of research. It didn't take long for me to see that someone beat me to it. Himanshu Pandya of Financial Nirvana recently wrote up a nice piece about these profit opportunities. Rather than abandoning my article, hopefully I can add a bit to what Himanshu began.

One diversified way to potentially profit both in the short term and longer term is through the PowerShares Clean Energy Fund (PBW). I first wrote about investing in this fund with a March 2006 post at Seeking Alpha entitled Deconstructing PowerShares' Clean Energy Portfolio. In the 2 months following that post, the fund ran up more than 20% before ultimately sliding into a lengthy correction right along with the rest of the market in mid May. Following a 30% correction, a steep drop in crude and a state of union speech tomorrow night expected to highlight ways in which the government will continue to push for alternative energies, I believe it's time to take another look at this fund, particularly for the buy and hold investor looking out over the next couple years. However, in the shorter term, the technical picture indicates it needs to spend a few more weeks seeking a bottom.

Boiling it down to a lean, mean clean energy profit producing machine The following is the current weighting of the PowerShares Clean Energy Fund (PBW). I've taken this list (the original can be found here) and rearranged each group so that the best companies (in terms of technicals and fundamentals) are listed at the top. For example, in the Renewable Energy Harvesting group, MEMC Electronics (WFR) is a highly profitable company that recently broke out of a base while the last company mentioned, Distributed Energy (DESC), has never been profitable, isn't expected to be anytime soon and is mired in a long term downtrend. **Companies with an *** next to them are companies I would include if I were putting together my own clean energy fund**. Why not have a more tightly focused fund comprised of just the best? I'll put the companies I've asterisked into a watch list and compare the performance of my fund versus the Powershares Fund and report back in 3 months.

Renewable Energy Harvesting - 33% sector weight (11 stocks @2.95% each; +1 banded)

MEMC (WFR). Producer of the polysilicon needed in many crystalline solar PV cells. ***SunPower** (SPWR). Solar, Efficient PV panels with all-rear-contact cells. ***SunTech Power** (STP). Solar, fast-growing and major producer of PV is based in China. ***Applied Materials** (AMAT). Semiconductor fabrication, growing solar PV aspects. ***Cypress** (CY). (Parent firm of SPWR above, and owns the major block of their stock). ***Zoltek** (ZOLT). Wind, makes carbon fiber for wind blades and product 'lightening'. ****Kyocera** (KYO). Solar PV, integrated manufacturer is doubling production.**Ormat** (ORA). Geothermal, works as well in recovered

energy, biofuels.**Emcore** (EMKR). Solar, 28% ultra-efficient PV cells for satellites and terrestrial use.**First Solar** (FSLR). Maker of thin film, CdTe solar panels that reduce silicon need.**Evergreen** (ESLR). Unique string-ribbon solar PV with efficient silicon-use.**Distributed Energy** (DESC). Part solar, wind; mainly in DG, some H2: an integrator.

Power Delivery and Conservation - 21% sector weight (7 stocks @2.93% each; +1 banded)Color Kinetics (CLRK). Light Emitting Diode [LED] lighting systems. ****Itron** (ITRI). Monitoring, designs energy measurement and management systems. ***International Rectifier** (IRF). Efficiency-enabling electronics producer.**Universal Display** (PANL). Organic light emitting diode OLED panel displays.**UQM Technologies** (UQM). Hybrid vehicle electrics; motor & power systems. *** (*I'll throw UQM in the fund based on technicals alone*)**American Superconductor** (AMSC). Superconductors, 'no'-resistance 2G HTS wire.**Cree** (CREE). LEDs, makes efficient lights, power-saving electronics.**Echelon** (ELON). Networking, for management of whole energy systems.

Cleaner Fuels - 17% sector weight (7 stocks @2.43% each)Praxair (PX). Hydrogen, a supplier of many industrial gases. ***Air Products & Chemicals** (APD). Hydrogen, a supplier of many industrial gases. ***Andersons** (ANDE). Biofuels and ethanol; highly diversified across agribusinesses. ***MGP Ingredients** (MGPI). Biofuels, ethanol and fuel alcohol. ***Pacific Ethanol** (PEIX). Aims to be a leading biofuels producer for Western U.S. ***VeraSun Energy** (VSE). Biofuels, is the 2nd largest corn ethanol producer in U.S.**Diversa** (DVSA). Enzymes to convert biomass, cellulosic feedstocks into biofuels.

Energy Storage - 13% sector weight (4 stocks @2.87% each; +3 banded)Fuel Systems Solutions (FSYS). Gaseous fuels integrator for cleaner-fueled vehicles.***OM Group** (OMG). Producer of nickel and precursors in rechargeable batteries, FCs.***Ultralife Batteries** (ULBI). Batteries, advanced lithium ion, polymer rechargeable.***Energy Conversion Devices** (ENER). Very diversified: in batteries, solar PV, also H2 FCs.***Active Power** (ACPW). Flywheel power storage, a firm power alternative to batteries.**Maxwell** (MXWL). Ultracapacitors, a battery alternative such as for hybrid vehicles.**Quantum Fuel** (QTWW). Hydrogen gas storage systems for cleaner-fuel vehicles.

Energy Conversion - 11% sector weight (4 stocks @2.50% each; +2 banded)*All of these companies are years away from being profitable! I would not include any of them in my clean energy fund.***Ballard Power** (BLDP). Mid-size fuel cells, makes mainly PEM FCs.**Capstone Turbines** (CPST). Micro-turbines 30-60 kW, may be flexible-fueled.**FuelCell Energy** (FCEL). Large

fuel cells as stationary high-temp. flex-fuel MCFCs.**Hydrogenics** (HYGS). Fuel cells and testing gear, H2 electrolysis, regenerative FCs.**Medis** (MDTL). Micro fuel cells, designed for liquid-fuels and a unique electrolyte.**Plug Power** (PLUG). Mid-sized fuel cells for distributed generation, home power.

Greener Utilities - 5% sector weight (2 stocks @2.50% each)Puget Energy (PSD). Wind, Utility. PSD is growing its wind power.**Idacorp** (IDA). Hydroelectric, Utility, mainly hydro; also some fuel cell research.

Playing the Individual Securities The Advanced Energy Initiative set a goal of replacing more than 75% of our oil imports from the Middle East by 2025. Our national security depends on it. not better armor, bigger tanks or missiles with greater precision. I'll use an outline of the initiative here as a framework to look into the alternative energy field and highlight investing opportunities. Currently, the most profitable clean energy companies (WFR, SPWR, STP and AMAT) hail from the the solar arena and this will probably continue (see "Cleantech Industry Should Get Boost From Wal-Mart Initiative" by Himanshu Pandya)... it's the place to be right now. I'll take a closer look at the Solar industry in part II of this report in a few days.In the meantime, I begin with a look at the first part of the initiative - achieving greater fuel efficiency in transportation.

• **Changing the Way We Fuel Vehicles** - develop advanced battery technologies that allow a plug in hybrid-electric to have a 40 mile range operating solely on a battery charge.

Beginning with the Toyota Prius in 2001, hybrid vehicles are quickly gaining in popularity which can be seen in both the stock prices of Toyota (TM) and Honda (HMC), the 2 big Japanese automakers leading the hybrid gas/electric initiative. These cars are an important first step and add significant fuel efficiencies, but their batteries are charged by the gasoline engine and only play a minor role in powering the car. The next step (and profit potential) will come in the form of a plug in hybrid vehicle generating greater fuel efficiencies than current hybrids due to the increased role of the battery.

I've tracked down a few speculative plays in the plug in hybrid space that could move in the next few days. Both companies provide key components of the soon to be released all electric Sport Utility Truck [SUT] by Phoenix Motorcars, Inc. UQM Technologies (UQM) a part of the Powershares Clean Energy Fund (PBW) develops an electric propulsion system that will produce enough power to accelerate the vehicle from 0 to 60 in 10 seconds with a top speed of 100mph! Altair (ALTI) will provide the

NanoSafe battery pack which can be charged in 10 minutes and travel 100 mph on a single charge (Phoenix is working on an upgrade that is expected to increase that to 250 miles). Very impressive indeed! Phoenix will have far exceeded that government goal of developing a plug in hybrid that travels 40 miles on a single charge. Phoenix is a private company but a way to play it is through a purchase of Altair (ALTI), which now owns a 16.6% stake in the company as part of their agreement (see more about ALTI below).

Of course much of this could be PR hot air so we'll have to wait and see. They are expected to sell for about $45K initially but will drop significantly if the government begins to purchase them. According to the company it will cost $3/per charge. Considering the average sport utility vehicle needs somewhere around 13 gallons of $3/gas to go 250 miles (as, it will be about 13x cheaper to run the electric vehicle... If you assume the average miles traveled in a year is 15K miles, you would save approximately $2K/year in fuel. Compare a 25K Ford SUV to the current price of the Phoenix SUV and it would take you 10 years to make up the difference in fuel cost savings. OK, so clearly not practical for the average household, but in 2 - 3 years it will begin to offer huge cost advantages. It will be fun to watch how all this plays out.

UQM is seeing some buy interest as indicated by the chart below:

• Foster the breakthrough technologies ne eded to make cellulosic ethanol cost competitive with corn based ethanol by 2012.

I tend to agree with others that ethanol isn't going to be the long term answer for decreasing our dependence on foreign oil, but it does have strong support from both parties (hey it means votes in America's heartland). In last year's state of the union, Bush targeted the use of ethanol as an important strategy to decrease the use of oil and this industry surged as a result. Companies like Pacific Ethanol (PEIX), Andersons (ANDE), VeraSun (VSE) and MGP (MGPI) should do well again but I wouldn't expect to see the same kind of run they had last year. This industry certainly moved yesterday and could spike some more after the State of the Union. Tonight, Bush is expected to call for a sharp escalation in the federal mandate on the use of ethanol.

• **Accelerate progress towards the President's goal of enabling large numbers of Americans to choose hydrogen fuel cells by 2020**.

This technology still has a long ways to go and getting the infrastructure in place to make it practical for many Americans will take many years. As I mentioned above, I prefer opportunities in the hybrid space which is much closer to reality. None of the fuel cell stocks (see the PBW components above) are anywhere close to profitable and their charts look awful. I'd stay away from this group for now.

The second part of the initiative focuses on changing the ways we power our homes and businesses through the use of clean coal technologies, nuclear energy as well as renewable solar and wind energy. I'll take a closer look at these industries and the profit opportunities in them in a future article (the solar plays were mentioned above).
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