

# Winslow Environmental News

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## FEATURED COMPANY

### GROUNDING IN GREEN: WFI INDUSTRIES

BY ELLEN PFEIFER

During the winter in New England, as the winds howl and the snow accumulates outside our office, it can take strong willpower to resist turning up the thermostat. For chilly locals concerned about the



financial and environmental impact of cranking the heat, sometimes another sweater may seem like our only choice. But the answer might be right underneath our feet and yours – geothermal heat power.

Geothermal heat systems, which harness the relatively constant temperature of the earth just a few feet below the surface, work with an efficiency that electricity and fuel-based heating and air conditioning can't match. They don't use fuel and emit far fewer pollutants than traditional systems, which is

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In this special issue of Winslow Environmental News, we try to answer the question most frequently asked of us: "Is the growing interest in alternative energy for real this time?" We hope you'll agree with us that it is.

## Green Energy 3.0: This Time, It Is Different

BY JACKSON W. ROBINSON

IN 1979, WITH THE COUNTRY STILL REELING FROM THE EFFECTS OF THE OIL PRICE SPIKES IN THE MID 1970S, PRESIDENT CARTER INSTALLED A SOLAR HOT WATER SYSTEM ON THE WHITE HOUSE ROOF, AND THE NATION WAS EXCITED ABOUT ALTERNATIVE ENERGY. BY 1986, THE PRICE OF OIL HAD FALLEN DRAMATICALLY, AND NO ONE NOTICED WHEN THE PRESIDENTIAL SOLAR PANELS WERE REMOVED.

In 2000, investors staggering from the dotcom crash turned to alternative energy as the next big thing, sending the price of many solar and fuel cell company stocks soaring. By 2003, oil prices had again fallen dramatically, investors moved on, and the high flying stocks crashed – and some burned.

Then in 2006, with oil prices sky-high again, politicians, investors, and even farmers began touting the benefits of alternative energy again. So as we enter 2007, with worldwide oil prices having moderated slightly and hovering around \$60, even strong advocates of green energy have to ask: is it any different this time?

Oil is primarily used for transportation, while most alternative energy (biofuels such as ethanol and biodiesel aside) is used for electricity and heat



generation. Nevertheless, the two are inextricably linked in the global consciousness – alternative energy is interesting when oil is expensive, not when oil is cheap. No one debates that the current political environment is one of the major determining factors in the price of oil. As the chart on pages 2-3 of this newsletter demonstrates, geopolitical events ranging from the

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## PORTFOLIO UPDATE PAGE 6

### ISIS Phase 2 Clinical Trials Impressive

Cholesterol-lowering drug shows high efficacy with strong safety profile



## PORTFOLIO UPDATE PAGE 6

### Fair Winds Blow Maxwell's Way

Maxwell nets 3 million ultracapacitor order from European wind energy company

Iranian revolution to the recent U.S. military actions have a clear impact on the price of oil.

**Why Now?**

While there's plenty of political uncertainty ahead of us, at Winslow we believe the outlook for alternative energy is indeed different this time, and it is here to stay. We see a wide-ranging and compelling list of reasons new to this cycle, both for continued elevated oil prices, and for long-term

confidence in alternative energy, regardless of the price of oil:

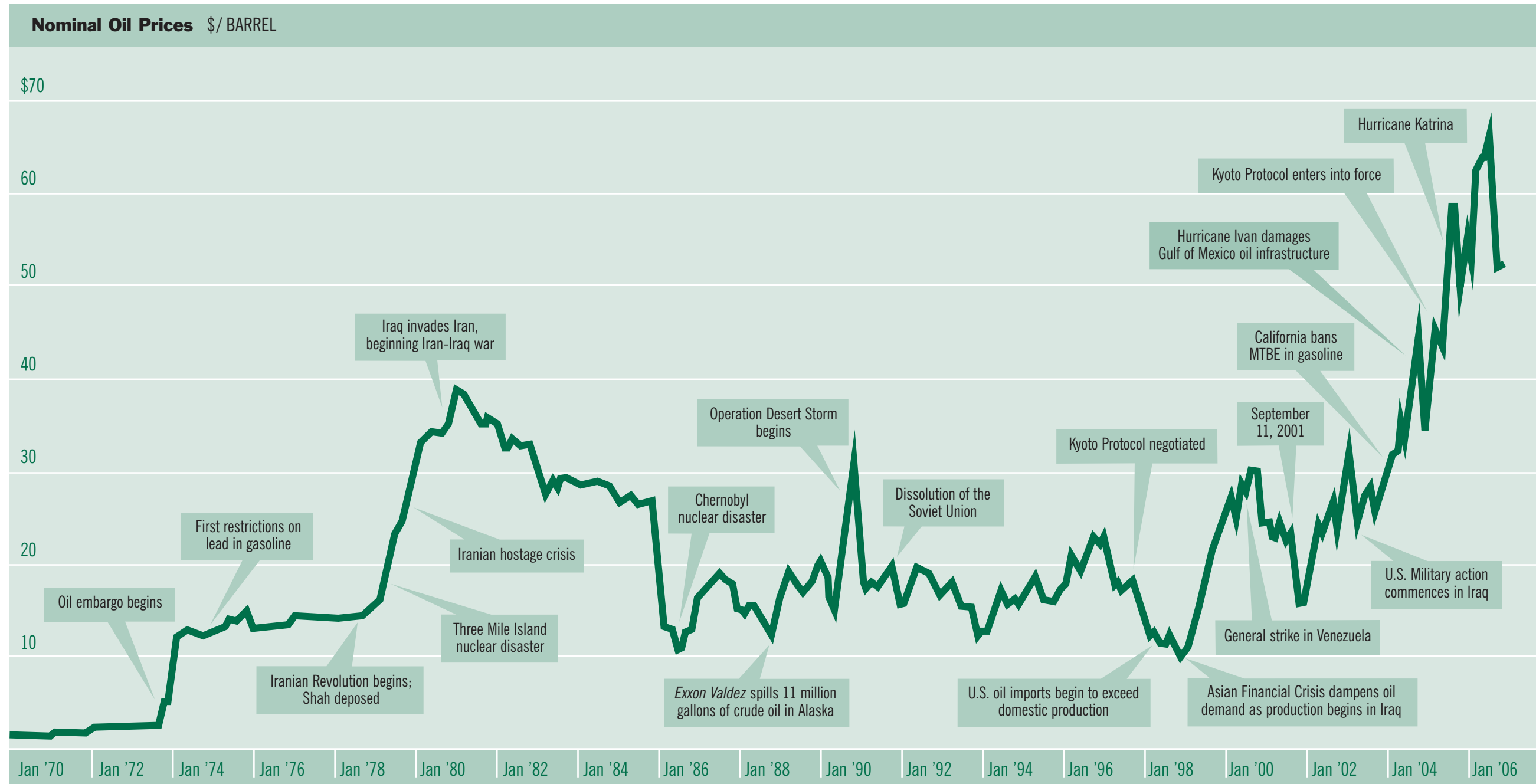
1. Oil consumption is rising rapidly and globally, and the primary demand for oil is no longer limited to the industrialized regions of the world. Exxon Mobil estimated in 2004 that the worldwide demand for oil is poised to grow by 60% to an aggregate of 335 million oil-equivalent barrels per day by 2030. According to

Exxon, the projected growth in the rapidly developing countries of the world such as India and China is massive, estimated at an average of 125%, compared to 22% for the U.S. and Europe.

2. Recent data from the Energy Information Administration of the Department of Energy places proven worldwide crude oil reserves at 1,300 billion barrels. To place that large

number in context, that is enough oil to feed 17 years of global oil use at Exxon's 2004 usage estimates, or 11 years at their 2030 projections. While we're not suggesting that the world will run out of oil in the next 20 years, oil is a finite resource. Even Cambridge Energy Research Associates, in a recent paper claiming that the world is not

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Adapted from Energy Information Administration, www.eia.doe.gov. Data through 1973 reflects the Official Price of Saudi Light. Data from 1974 on reflects the Refiner Acquisition Cost of Imported Crude Oil (IRAC)

**WINSLOW  
CO-SPONSORS ENERGY  
CONFERENCE**

Winslow Management and Rothschild, Inc. recently co-hosted the Renewable Energy & Energy Technology Conference in New York City. The conference represented a new partnership between Winslow, a leader in green investment management, and Rothschild, a global leader in renewable energy investment banking.

Attended by a select group of industry experts and institutional investors, the conference provided education and new insights on the renewable energy and energy technology sectors.

The conference's keynote speaker was Michael Eckhart of the American Council On Renewable Energy (ACORE), who reported "more than \$60 billion will be invested globally in renewable energy in 2006." Kathleen Burke of Rothschild added that the trend of increasing investment in alternative energy "is accelerating in 2006, with investment very likely doubling."

Winslow built several international bridges during 2006. As reported in WEN last year, Winslow has partnered with Jupiter Asset Management, a leading green investment firm in the UK, on the Jupiter Green Investment Trust, a closed-end fund focused on the environment.

"Investment firms outside of the United States are adding tremendous value in the area of green investing," said Jack Robinson, Winslow's President and Chief Investment Officer. "Winslow and its clients have already seen the benefits of our growing relationships with top-flight firms such as Rothschild and Jupiter."

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**As New York Times columnist Thomas Friedman often points out, developing viable alternative energy sources that reduce reliance on oil will reduce payments to governments hostile towards America, while encouraging reform within those governments by reducing their oil revenue.**

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running out of oil, depicted a decline in world oil production after 2040. This does not mean the world will be out of oil then either, just that production will begin a gradual decline after that time. The combination of the inevitable reduction in supply and continued increase in demand is particularly frightening, even if it remains a few decades off.

3. The cost of finding and delivering a new barrel of oil is rising, and will continue to rise as new reserves are found in inaccessible locations such as deep ocean floors. According to Arnold Kling, a noted economist and professor at George Mason University, the marginal cost of finding a new barrel of oil today can be estimated at approximately \$50. If Dr. Kling is right, how can anyone reasonably expect the price of oil to drop much below \$50 a barrel on a sustainable basis?
4. According to the Energy Information Administration, in the spring of 1998, the U.S. began importing more foreign oil than it produced domestically. And, as shown on the chart, the price of oil has been rising since, as domestic demand continues to grow in the face of declining U.S. production, increasing our dependence on imported oil. Today, less than 10 years later, the U.S. imports more than 60% of the oil we consume.
5. The combination of very high U.S. trade deficits—the annual U.S. current account deficit is approaching \$1 trillion dollars – and a rapidly growing national debt (now over \$7 trillion, having doubled since 1998) has been a driving force behind the weakening U.S. dollar compared to the euro, yen and other global currencies. A weakening U.S. dollar translates into increasing in oil prices for Americans as their purchasing power of foreign commodities erodes.

As the dollar declines and becomes less stable, a debate is gradually emerging about the wisdom of switching from the dollar as the basis for oil pricing to a basket of international currencies. In such a scenario, the price of oil

would begin to move with, for example, the euro or the yen; and if the dollar continues to weaken against those currencies, it may weaken against the price of oil as well.

In either scenario, macroeconomics is clearly working against the U.S. within the oil economy – our continued ravenous oil demand, our general deficit spending, and our resulting currency depreciation have created a situation where it will be very difficult to reverse the trend of our declining purchasing power.

6. Regardless of personal views of American foreign policy, it is a fact that oil is largely located in, and sold by, countries with generally unfavorable views towards America. Some of the governments of those countries are often linked financially with anti-American terrorist organizations. As *New York Times* columnist Thomas Friedman often points out, developing viable alternative energy sources that reduce reliance on oil will reduce payments to governments hostile towards America, while encouraging reform within those governments by reducing their oil revenue. In addition, a May 2006 *Times* article pointed out that national oil companies, which do not grant access to international oil companies, own 77% of the proven oil reserves – oil that we cannot depend on being able to access.
7. Several high profile energy-related events have raised questions about both the safety and security of a system based on centralized production of energy. The nuclear incident at Three Mile Island in 1979 and disaster at Chernobyl in 1986 continue to influence energy priorities – no new nuclear energy facility has been constructed since Three Mile Island, although several that had been under construction have since been turned on. The northeast blackout in August 2003, not to mention September 11, 2001, only strengthened the case for a decentralized energy system that would be less vulnerable to both failure and attack.
8. The contribution of modern society's energy addiction to climate change is both undeniable and evident. While the Kyoto Protocol attempts to rein in carbon emissions, it

addresses only the tip of the metaphorical iceberg. Game-changing attitudes, awareness, policies, standards, life-styles, and technologies are needed at every level and in every region of the world to halt the growth in carbon emissions. Early signs of the “carrot and stick” approach are emerging; a recent Goldman Sachs study found that 49 countries now have laws promoting renewable energy.

While some American businesses, communities, and individuals have voluntarily cut their emissions, it has not been enough. Both grassroots and political momentum is building towards a regulatory approach of reducing emissions. Seven states are current participants (as of December 2006 – hopefully this number grows over time) in a regional plan to reduce emissions, 28 states have established renewable energy standards, and the first carbon tax was passed in the U.S. in November, when the voters of Boulder, CO approved a carbon tax for all consumers of electricity generated by fossil fuels.

9. At the same time, technologies to help us move away from these vulnerabilities are becoming increasingly attractive, both in terms of capabilities and economics. Light emitting diodes (LEDs) use 90% less energy than comparable incandescent lights and are becoming more cost competitive. Residential geothermal heat pump systems (see this issue’s Featured Company, WFI Industries) can potentially pay

for themselves in as quickly as two years, through savings on heating and air conditioning. Hybrid vehicles are available now, and many vehicle fleets are lining up to take advantage of cost savings from reducing their use of diesel fuel. And new wind turbines can produce electricity for as low as 3.5 cents per kilowatt-hour.

#### A New Direction

A recent issue of *The Economist* echoed the fears of many, comparing current interest in alternative energy to the dotcom boom, pointing out that venture capital investments have more than doubled from \$30 billion in 2004 to an estimated \$63 billion in 2006. At the same time, the current energy system leaves us vulnerable on many fronts – to shortages, to increased and increasing prices, to hostile governments, and to perhaps the biggest threat, a changing climate. We feel that these supply, demand, price, trade political, safety, and climate factors point to an undeniable need for a new direction.

As we examine our global energy situation today and the alternatives, both bad and good, is it any wonder that the demand for green energy is attracting so much interest and capital? We don’t think there has ever been a stronger investment story for alternative energy – increasingly cheaper, undeniably better, and more important than ever before. □

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## A GREENER GOVERNMENT?

There is much promise for green energy with the new Congress taking office this month, as often noted in the media. However, we believe the greatest political impact on environmental issues over the next two years will most likely not come from Washington, but from statehouses across the country.

The Northeast Regional Greenhouse Gas Initiative (RGGI) is rolling out as a seven state scheme after two states backed out at the last minute. We are hopeful that Winslow’s home state of Massachusetts will join up early in the tenure of new democratic Governor Deval Patrick, and we hope that other states with new leadership, such as Ohio, will join the RGGI process. With a significant portion of the east coast participating in RGGI and the three west coast states in the Western Governors’ Global Warming Initiative, the federal government will not be able to stall on climate change for much longer.

California Governor Arnold Schwarzenegger handily won re-election, after a significant mid-course correction in which he realized that the only way to win was to be solidly green. We see this as sign of the times – it’s time for governments to green up their act. That’s good news for the environment as well as green investors.

## PORTFOLIO UPDATE

### Isis Pharmaceuticals, Inc.

(NASDAQ:ISIS)

CARLSBAD, CA – In November, Isis Pharmaceuticals, Inc. announced results from two Phase 2 clinical trials of ISIS 301012 at the American Heart Association Annual Scientific Sessions in Chicago. In the first study, patients with high cholesterol on stable doses of statins were treated with ISIS 301012 for five weeks. Patients who received 300 mg/week of ISIS 301012 in this study achieved a 51% reduction in LDL-cholesterol (LDL-C), a 42% reduction in total cholesterol (TC), and a 41% reduction in triglycerides (TG) beyond the levels achieved with statins alone. Isis also presented results from an ongoing study in which patients with high cholesterol were treated for three months with 300 mg/week of ISIS 301012 alone, showing improvements in LDL-C, TC, and TG of 62%, 46%, and 43%, respectively. In addition, ISIS 301012 continued to demonstrate a strong safety profile – as a single agent and when coadministered with statins – in every dose cohort presented.

Isis' Chairman of the Board and Chief Executive Officer, Stanley T. Crooke commented, "With these studies, we have answered three important questions: first, with safe doses of ISIS 301012 we can lower atherogenic lipids as or more effectively than any drug currently in use; second, we've shown that ISIS 301012 as an add-on to ongoing statin therapy results in more than double the reduction in atherogenic lipids achieved with ezetimibe or other drugs typically added to statins; third, we have shown that ISIS 301012 is well-tolerated as add-on therapy to statins. We're very excited about these recent results and they set the stage for continued development of this novel lipid-lowering drug."

### Maxwell Technologies

(NASDAQ:MXWL)

SAN DIEGO, CA – Maxwell Technologies Inc. (Nasdaq: MXWL) announced in December that it had received the largest ultracapacitor order in the company's history. A leading European producer of wind energy systems placed a purchase order for 3 million ultracapacitors to provide backup power for wind turbine blade pitch systems, in wind turbines ranging in output up to 2.5 MW.

Industry sources reported that approximately 11,400 MW of new wind energy generation capacity was installed in 2005, an increase of more than 40 percent from 2004. The worldwide installed base now stands at approximately 60,000 MW, and industry sources estimate the

value of the wind energy market is expected to exceed \$130 billion over the next five years. Maxwell noted that MW class installations are expected to account for an increasing share of new capacity, and ultracapacitors' high reliability, robustness, and long operating lifetime have now been proven in daily operation over the last three years in wind farms around the world.

### Whole Foods Market, Inc.

(NASDAQ:WFMI)

AUSTIN, TX – In November Whole Foods reported that it is entering a period of transition in its growth. Specifically, the company lowered its guidance for 2007 sales growth to a range of 13% to 17%, from a range of 15% to 20%, after three years of strong double-digits growth.

"After producing such strong growth over the last three years, we believe fiscal 2007 will be a transition year for us. As we revert back to our historical comparable store sales growth range, without yet producing a fully offsetting increase in sales from new stores, we believe our total sales growth will be impacted," said John Mackey, WFMI's CEO, chairman, and co-founder. "However, having opened six new stores over the last two months, we believe we are just beginning to execute on delivering an acceleration in store openings that will be a driver of strong sales and comps in the not-so-distant future. We remain confident in our ability to achieve our goal of reaching \$12 billion in sales in fiscal 2010."

### Green Mountain Coffee Roasters

(NASDAQ:GMCR)

WATERBURY, VT – In December, Green Mountain Coffee Roasters and PBS introduced PBS Blend, a new Fair Trade Certified organic coffee, offered in whole bean in 10-oz. packages and single-serve K-Cups for use in Keurig Single-Cup brewers. PBS Blend supports public television's independent and award-winning programming and educational services.

"We are pleased to be working with Green Mountain Coffee Roasters, which shares PBS's commitment to social responsibility and community education," said Andrea Downing, Vice President, Home Entertainment and Partnerships. "This partnership allows PBS a new way to engage and inform consumers around a quality product, provides them with another way to support public television through their every day lifestyle choices and purchases, and ensures that our member stations can continue to deliver a valuable public service in their communities."

Robert Stiller, President of Green Mountain Coffee Roasters, said, "This collaboration with PBS reinforces our belief that when like-minded organizations join together, they can be an agent for positive change. We admire PBS and its member stations' focus on public service and education, as well as its long-standing reputation as a trusted community resource. This delicious coffee provides us with new avenues for supporting our global community and advancing public education about Fair Trade."

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good for the wallet and for the planet. And a company called WFI Industries may be the one that brings geothermal heating to the mainstream.

### From Humble Beginnings...

WFI Industries (TSX:WFI), based in Fort Wayne, Indiana, is composed of WaterFurnace, a leading manufacturer of residential geothermal heat pumps, and LoopMaster, one of the largest geothermal loop field installers in the US. The company is riding the wave of consumer enthusiasm for greater energy independence and efficiency. In 2005, WFI enjoyed record sales, and 2006 is shaping up to be even better. During the fall of 2006, the company introduced a new GHP product line with even greater efficiency, further expanding the potential for future growth.

Now an international company that supplies residences as well as institutional and commercial buildings, WFI started in 1980 like many computer companies and rock bands – three men working in a garage. Two



were “heating and air conditioning contractors who came to stockbroker James R. Shields and borrowed \$30,000 so they could quit their jobs to begin this company,” said President and CEO Bruce Ritchey. By 1990, the company boasted \$5 million in sales, and received loans to build the 115,000 square foot company headquarters – now a showcase for geothermal power. The company went public on the Toronto Stock Exchange in 1996, and between its debut and the end of 2006, the stock has grown twenty-five fold.\*

### How Does Geothermal Heating and Cooling Work?

Geothermal heat pump (GHP) systems work by taking advantage of a little-known fact: just five feet below the surface of the earth, temperatures remain relatively constant – typically between 45°F

\* Past performance in not indicative of future returns.

and 70°F. Using buried pipe loops, a heat pump system can transfer heat from the ground to a building or discharge heat from the building into the ground. These so-called “earth loops” come in two forms: closed and open. In a closed system, a solution of water and antifreeze circulates through sealed pipes, which can be buried in trenches or submerged in a lake or pond. In an open system, pipes draw water up from a well, and then discharge it into a nearby ditch, stream, or pond.

During the winter, the antifreeze solution in both types of systems is warmed underground, and then used to heat the air by an electric-powered compressor. The air is then blown through ducts to heat the building. In the summer, the process is reversed, sending the heat underground. In many

cases, GHP systems can work alone; in extreme climate areas or emergencies, they can be supplemented with conventional heating and cooling systems.

Newly constructed homes on generous suburban

lots, with ample room for the 100 to 300 feet of horizontal trenching required, are ideal candidates for geothermal systems. Buildings on small lots or pre-existing structures, however, can install pipes in deep vertical shafts. Vertical installations are more expensive than horizontal trenching, but tend to operate even more efficiently.

### Costs and Benefits

Admittedly, the upfront cost of a GHP system can appear formidable compared to conventional systems. “On average, a GHP system costs about \$2500 per ton of [water] capacity or roughly \$7500 for a three-ton unit (a typical residential size),” reports the U.S. Department of Energy in “A Consumer’s Guide to Energy Efficiency and Renewable Energy.” This compares to about \$4000 for a conventional HVAC system. However, the

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same guide claims GHPs result in “typical energy savings of 30% to 60%” because they are so efficient, and that “depending on factors such as climate, soil conditions, the system chosen, and financial incentives, a consumer may recoup his initial investment in two to 10 years through lower utility bills.” Further, the guide points out, “when included in a mortgage a GHP system will have a positive cash flow from the beginning. For example, say that the extra \$3500 [for a GHP system versus a traditional one] will add \$30 to each mortgage payment. The energy cost savings will easily exceed that added mortgage amount over the course of each year.”

GHP systems typically also have lower maintenance costs, with fewer moving parts and fewer parts exposed to weather conditions than traditional systems. In addition, homeowners installing GHP systems can qualify for a variety of energy efficiency incentives, from governments, utilities and mortgage companies.

Consumers can warm up or cool down without environmental guilt. According to the Geothermal Heat Pump Consortium, “A typical residential [geothermal] system produces an average

of about one pound less carbon dioxide (CO<sub>2</sub>) per hour of use than a conventional system. To put that in perspective, over an average 20-year lifespan, 100,000 units of typically sized residential systems will reduce greenhouse gas emissions by almost 1.1 million metric tons of carbon equivalents.” And the EPA agrees, stating that GHPs are the most efficient indoor temperature control systems in terms of energy, environment, and cost.

#### Competitive Challenges

A more mature technology and industry than many other alternative energy sources, GHP systems are made by numerous companies including Trane (an HVAC subsidiary of American Standard Inc.), ClimateMaster (a division of LSB Industries, Inc), and McQuay Air Conditioning – all of which compete with WFI. However, WFI is the only one of these entirely focused on GHP products, and it commands an impressive 30% of market share in the U.S.

With the GHP industry growing 20% in the U.S. and WFI's own capacity having doubled in the past year, it's no wonder the company's tagline asserts “smarter from the ground up.” Given the increasing acceptance of the technology and the explosion in sales, the future looks warm and cozy. □



Should you invest for  
the **environment**  
**superior growth**  
or **both?**

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