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# Energy Shift™

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October

2006

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## Keep up the Momentum in Spite of Lower Gasoline Prices

Many people are celebrating the dropping fuel prices at the pump. Others are dreaming of the profits to be made from the recent new oil source found in the Gulf of Mexico. Most have written off concerns about a natural disaster impacting the flow of energy. Are we receding back into the ignorant but blissful state of mind that brought us to the vulnerable state in which we now exist?

Remember, dollars are not the sole reason for shifting away from fossil fuel use. Everyone likes to feel as though they are “getting a good deal” or are not the victim of price gouging, but what are the long term effects of this temporary drop in gasoline prices? The urgency to fund and develop alternatives is lost and the status quo looks more acceptable. In the short term, we go back to wasteful ways, sensing that “it doesn’t really matter” if we squander this finite resource. We tell ourselves that there is a lot more oil out there and others are working on alternatives that will be in place in ten or twenty years. Everything is okay; “they” will figure it out. But ultimately, who is “they”? It is us! Us-- is every single one of us that depends on readily available energy to support the most basic aspects of our daily lives.

Movement away from fossil fuel use is more important now, than it has ever been. There are four key reasons for maintaining our focus and not letting convenience distract us:

**1. Economic Security:** We continue to pour billions of dollars every week into the pockets of other nations, ignoring the exploding trade deficit. We could be funding overseas projects that are directly opposed to our own best interests.

**2. Environmental and Human Health Concerns:** If you are not confident that global warming is a real issue, brought on by excessive carbon dioxide in the atmosphere from the burning of fossil fuels; there are enough other negative health impacts from fuel use to support shifting away from it’s use. Heart and lung disease due to coal burning is just one example.

**3. Personal Finances:** Not paying \$3.14 for a gallon of gas is great, but does it make you more financially secure? No. The cost of gasoline could go right back up again in just a few days if the right conditions arise. Change your behavior, first in small ways, so that huge jumps in the cost of fossil fuels can no longer have a correspondingly huge impact on your financial health.

**4. Protection of Precious Gifts:** Whether your faith tells you that it is your responsibility to be a good steward of all of God’s gifts or you are protective of Mother Earth; the destruction of life supporting habitats and ecosystems is a crime against the only earth we have. We cannot go out and get another one.

## Biowalls Are Gaining Popularity in Areas with Long Winters

North Americans spend over 90% of their time indoors. So it is not surprising that the quality of the indoor air can have tremendous effects on our health. Usually, air handling systems in buildings replace used, “dirty” indoor air with new outside air. In the summer, this new air must be cooled and in the winter it must be heated before being distributed. This conditioning of the new air represents a substantial portion of the energy costs for the building. The biowall can lower energy use by reducing the need to bring new air into the space.



*This biowall is 8 m wide by 3.6 m high for a total surface area of 28.8 sq.m. (only a portion of the wall is shown above). The system filters the air in the lobby. The cleaned air then diffuses through the rest of the JAS Robertson Building in Ontario, Canada.*

The biowall is constructed with a range of plants including ferns, orchids, peace lilies, maiden hair ferns, mother-in-law tongues, philodendrons, bromeliads and others that flower throughout the year and bring color and life to the lobby. The sound of running water down the back of the plants provides a soothing and relaxing atmosphere in the lobby. The diverse selection of plants are planted hydroponically (without soil) into a synthetic media. Carbon dioxide in the air is used by the plants for photosynthesis and then oxygen is released back into the building.

This “living-breathing-wall” acts as a biofilter that will remove contaminants from the indoor air. Not only is the biowall aesthetically pleasing, but more importantly these green plants purify the air inside the building, reduce energy use and costs, and utilize some of the carbon dioxide in the air.

### Push to Expand Domestic Energy Supplies Result in Unprecedented Growth

If only this article was about the solar power or wind energy sectors. In fact, the high priority in our predominately rural, energy rich, North West is to get the energy up and out and flowing into the economy—at any cost. The Bureau of Land Management (BLM), caretaker of more land and wildlife than any other federal agency, is reportedly keeping its wildlife biologists busy reviewing energy drilling permits rather than out in the field monitoring wildlife. As a result, the BLM has severely diminished its ability to deal with the consequences of the drilling boom it is encouraging on public lands.

Recent studies of mule deer and sage grouse in western Wyoming show steep declines in their numbers since the gas boom began there about five years ago: a 46 percent decline for mule deer and a 51 percent decline for breeding male sage grouse. Early results from a study of pronghorn antelope show that they, too, avoid the gas fields. In the meantime, the wildlife biologists, who were hired to protect wildlife, are at their desks working on a backlog of paperwork.

Wyoming Gov. Dave Freudenthal, state wildlife managers, environmental groups, many local residents and some oil industry executives agree that there appears to be a lack of balance in the federal push for more drilling – particularly with the scientific studies that show troubling declines in wildlife around gas fields.

The BLM's rate of issuing new permits to drill across the West has continued to increase, even though the oil and gas industry is chronically short of drilling rigs and skilled workers and cannot drill enough holes in the ground to keep up with the permits that have already been granted. In the past few years, the BLM has issued more than twice the drilling permits for wells on federal land than industry was able to drill.

Federal law provides for the involvement of the local community in the planning of oil and gas development, in the form of an advisory group to study and make recommendations about the

impact of drilling. However, some of these groups are reportedly “alarmed by BLM's refusal to listen” to a group's advice or adapt its management to findings that drilling is harming wildlife. Even in the face of unprecedented benefit to the states and communities involved, many millions of dollars in revenues to the state and local communities are flowing along with the energy that is being developed in these areas, those that stand to benefit are also questioning the lack of planning and the rush to recklessly develop natural areas.

### Are Your Ready to Do More?

For all of the people that are not listening, or have not yet taken time to start down the path of a less fossil-fuel-dependent existence, there are many that have. If you have gotten a supply of CFLs, are using fewer petroleum-based plastic products, are not wasting water, and are satisfied that the drafts in your home have been eliminated or blocked — then you may be ready to take some bigger steps. Or, at least start thinking about them. Below is a list of useful organizations as you continue to move away from fossil fuel use.

#### Solar Power:

1. The North Carolina Solar Center. Operated by the College of Engineering at North Carolina State University. [www.ncsc.ncsu.edu](http://www.ncsc.ncsu.edu)
2. The Florida Solar Energy Center. Operated by a Research Institute of the University of Central Florida. [www.fsec.ucf.edu](http://www.fsec.ucf.edu)
3. American Solar Energy Society. Listing of State Chapters. [www.ases.org/about/chapters](http://www.ases.org/about/chapters)

#### Wind Power:

1. What Do I Need to Know to Purchase a Residential Wind Turbine? American Association of Wind Energy. [www.awea.org/faq/rsdntqa.html](http://www.awea.org/faq/rsdntqa.html)
2. Wind Resource Potential. U.S. map of best locations for utilization of Wind Power. [www.eia.doe.gov/cneaf/solar.renewables/iland.fig13.html](http://www.eia.doe.gov/cneaf/solar.renewables/iland.fig13.html)
3. Wind Energy Suppliers. Buying Green Energy. [www.eere.energy.gov/greenpower/buying/index.shtml](http://www.eere.energy.gov/greenpower/buying/index.shtml)

Keep in mind what goes into the things we use everyday. Most of us think of gasoline for our cars, coal for power plants that provide electricity to run our household appliances, and natural gas to heat our homes when we think of fossil fuels. But there is so much more to consider.

In fact, many of the chemicals that are used in the production of everything from medicines to paint are petroleum based. Pesticides, herbicides, and fertilizers, waxes, polishes, and plastics all have the common element of petroleum derived ingredients. Being ready to do more does not mean that you need to look at a solar retrofit, although you could. Doing more



may involve the liberating step of simply having less. Understanding that all of the things you chose to surround yourself with involve the use of energy. This is not to say that we should not shop, enjoy, and live our lives. What it does mean is that we can do this conscious of the fact that quality should be preferred over quantity. Quality includes factors such as:

- Were energy efficient practices used in manufacturing the product?
- Are the raw materials needed for the product renewable?

- Are the conditions under which the materials are collected and processed conducted in a way with which I am comfortable?
- Is the product made of durable materials and with care so that it will last for a reasonably long period?
- Are there measurable improvements in the practices under which the product is made?
- Is this an item that I will still value a year or more from now?

**Interconnectedness** (in'ter ke nek'tid nis), n. the quality or condition of being interconnected; interrelatedness; the interconnectedness of all nations working toward world peace. [1920-25; INTERCONNECT + -ED + -NESS] From the Random House Dictionary of the English Language, Second Edition, Unabridged.

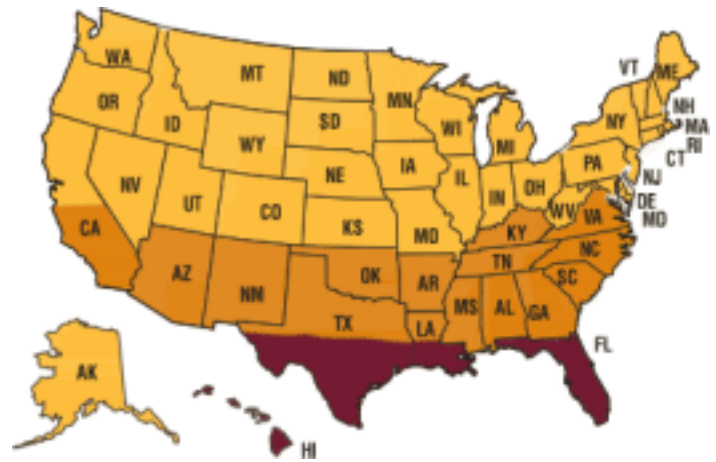
Simplify during the holiday season and save money, energy and reduce stress levels. Not a new concept, but one to actually carry out this year. Stay off the road by ordering gifts by telephone and internet. Stay in touch with friends and family by sending holiday greetings, but use a post card to shorten your message, reduce paper by half, and save on postage as well. Some of you may choose to send e-mail greetings. Less paper means fewer trees cut down to make it (even if you buy a recycled paper card, it takes energy to recycle and manufacture the new cards) fewer trees cut down means less energy expended operating saws and hauling logs from the timber site. Reduced mail volume similarly reduces the fuel the mail trucks will use shipping and delivering your greetings as well. Resist last minute ratcheting up of expectations brought on by aggressive marketing in television and print media. What was a lovely gift idea in November is still a lovely gift idea in December. More is not better; quality, function, and thoughtfulness are better.

**Consider Adding Insulation This Year**

The Department of Energy's Energy Efficiency and Renewable Energy Office reports that one of the most cost-effective ways to make your home more comfortable year-round is to add insulation to your attic.

The "R-value" used in the figure to describe the insulation rates recommended for homes in various parts of the country are the resistance to heat flow. The higher the R-value of a material the greater it's insulating capacity. Older homes were built with far less insulation than is recommended now. Even not-so-old homes that were retrofitted with additional insulation several years ago, likely have less than the R-38 to R-49 value in the attic that is now the standard.

The R-value for fiberglass and cellulose is 3.7 per inch, 2.5 per inch for vermiculite, and more than 4 per inch for foam. All building materials have some R-value. For example, a 4-inch brick has an R-value of 0.8, and half-inch plywood has an R-value of 0.6. So, if you have 4 inches of fiberglass insulation in your attic, your current R-value is about 15. To get up to the recommended R-38 or R-49, at least 7 to 9 inches of fiberglass batting would need to be added. It is also noteworthy that although the brick R-value is higher than that of half-inch plywood, the difference is negligible.



<div style="background-color: #fff9c4; width: 20px; height: 20px; margin-bottom: 5px;"></div> Ceilings: R-49 Walls: R-21 Floors: R-30 Basement Walls: R-13	<div style="background-color: #ffcc00; width: 20px; height: 20px; margin-bottom: 5px;"></div> Ceilings: R-49 Walls: R-15 Floors: R-30 Basement Walls: R-13	<div style="background-color: #800000; width: 20px; height: 20px; margin-bottom: 5px;"></div> Ceilings: R-38 Walls: R-15 Floors: R-30 Basement Walls: R-13
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*Note: These R-values provide the optimal level for energy savings and comfort. They may not be attainable or practical in all existing homes, but homeowners should come as close as possible for the optimal benefit.*

**Something to Think About**

Listening to the news and reading the paper can make one feel overwhelmed. The powerlessness we can feel over world events and even local tragedies will drive some to “give up” and not make an effort in the name of it “not mattering anyway”. Don’t be a victim of defeatist thinking. It is exactly the act of making a difference, through small ordinary acts or bigger more significant ones, that fuels progress and keeps the overwhelmed feeling at bay. Read Andrew Postman’s recent article in the New York Times (Oct 15, 2006, Home and Garden, The Energy Diet) for an amusing sympathetic article about how hard it is for well intended, informed, busy people to actually start their shift away from fossil fuel. In the end, though the article relates a success story that you will enjoy and find useful.

**Energy Shift™ is Having a Holiday Sale!**

With all purchases made between November 1, 2006 and December 14, 2006 you will “get one more” of every item purchased. If you order 4 CFLs, 3 cloth bags, 6 insulated outlet covers, and three Starter Kits; you will receive: 5 CFLs, 4 cloth bags, 7 insulated outlet covers and 4 Starter Kits.

Think of Energy Shift products as stocking stuffers (a water aerator for the basement utility sink) or a

thoughtful, lasting gift of energy savings and helping the people you care about collectively make a difference with you (give a Starter Kit or insulated outlet covers for all of their indoor outlets for the north facing side of their home, or maybe several pairs of draft stoppers for the windows in the bedrooms).

Place your orders by using the Energy Shift web site, [www.energyshift.us](http://www.energyshift.us) or by sending your order in by U.S. mail to:

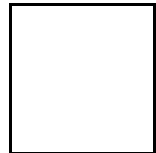
Energy Shift  
P.O. Box 6459  
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All orders received by December 15, 2006 will be delivered by Christmas.

Energy Shift™ Newsletters are printed on a quarterly basis; during January, April, July and October of each year. Energy Shift newsletters are a product of Energy Shift™ Corporation. One year subscriptions are available for \$14.00 per year or as part of the purchase price of an Energy Shift Starter Kit.



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