

**Market-Driven Environmentalism:  
Profitable Measures for Curbing Global Warming**

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I've heard it said that we shouldn't wreck our economy trying to stop global warming, since we can't be sure it's happening. I've also heard that switching to clean energy sources would create an economic boom, so there's no reason not to do it. Which is true? The good news is that the second assertion—that cleaning up the energy industry would stimulate our economy—is backed by sound research and policy analysis. The bad news is that energy policy is heavily influenced by the proponents of the first assertion: the fossil fuel industry.

Energy policy frequently caters to the needs of fossil fuel companies and their colleagues, often at great cost to human health and the environment. The 1923 decision to allow lead, a known neurotoxin, to be used as a gasoline additive was made at the urging of General Motors and Dupont in spite of the availability of ethanol, a safer alternative that could not be patented and was therefore not profitable.

Using automobile tailpipes to cover our world with a thin film of lead was a major public health disaster in its day, but it pales in comparison to the dangers we now face as a result of fossil energy favoritism. With the Middle East in possession of two thirds of the world's remaining oil, and global oil production expected to begin its final decline within fifteen years, our gas guzzling ways are in jeopardy. Sadly, the latest terrorist attacks provide cover for an "East vs. West" showdown, billed as a means to control terrorism. In a perverted sense, we "need" this war just as we needed the 1990 Gulf War, when President Bush declared, "Our way of life is at stake." Ironically, the US support of Osama bin Laden and the Taliban militia in the 1980's was largely intended to stabilize Afghanistan so that Unocal, an American oil company, could build a pipeline network there.

While foreign oil policies threaten our security, domestic electricity policies are wreaking havoc on our health. Among the more interesting findings when electric power plants were finally required to report their toxic emissions to the EPA: US electric utilities emit more toxic chemical air pollution than the chemical, paper, plastics and refining industries *combined*. According to a follow-up report sponsored by *Clear the Air*, a national public education campaign initiated by the *Pew Charitable Trusts*, the health care cost from power plant pollution tops \$100 billion annually and kills 30,000 Americans each year.

Nearly one-hundred years of excesses in the wake of this favoritism have made us the least energy efficient country on earth. We use twice the energy per capita compared with Japan, our closest major competitor in this race to the bottom. Americans also emit carbon, the unavoidable byproduct of burning fossil fuels and a known contributor to global warming, at a per capita rate that is five times the global average. Without a doubt, when it comes to inefficiency America stands in a class by itself – a world leader.

But we also lead the world in what George W. Bush likes to call "entrepreneurial spirit". And when inefficiency meets entrepreneurial spirit, as it is now beginning to, we have the makings of a truly exciting opportunity. The ability to generate profits by helping other businesses become more efficient is truly remarkable in its potential to harness market forces to clean up our environment.

How big is this energy efficiency market? In a word, enormous. For starters, Americans spend \$220 billion annually on electricity, most of which is generated by coal at fuel efficiency of about 33 percent, or one-third. In other words, for every three pounds of coal burned by an electric utility, only one pound actually gets turned into electricity, and the other two pounds are thrown away, mostly in the form of heat going up the smokestack. In financial terms, only one third of our \$220 billion goes toward making electricity, while the other two-thirds goes toward making waste. It is this very stream of money, flowing from customers to electric utilities but serving only to make waste, that efficiency entrepreneurs seek to redirect toward projects that reduce energy waste.

As energy efficiency projects are undertaken, several synergistic things happen. The efficiency companies, which make money helping clients reduce waste, provide jobs and other benefits to the local economy. Their clients are businesses that are now able, as a result of improved efficiency, to produce goods at lower cost and therefore higher profit. Consumers that have improved their efficiency at home enjoy lower energy bills, giving them more money to spend in the local economy.

And while these factors are stimulating the economy, pollution is being cut in proportion to the reductions in fuel consumption that accompany efficiency improvements. This ability to provide environmental and economic benefits *simultaneously* is what gives energy efficiency its remarkable power as a means to clean up the environment.

Energy efficiency's potential to stimulate our economy and clean our environment has not gone unnoticed by the Department of Energy. The DOE's *Rebuild America* program, administered in cooperation with state energy offices, is based on improving the efficiency of buildings as a means to enhance business performance. The Santa Fe based, *Rebuild New Mexico*, is one of the most active programs in the country, and in less than two years it has helped clients identify millions of dollars in annual utility savings opportunities. Hotels, hospitals, recreation centers...all are throwing money down the utility drain, and many of them are becoming seriously worried about it.

Turning opportunities for energy savings into actual savings has always been a sticking point, but creative new financing and contracting terms are assisting this process. One financial tool that is beginning to show great promise is called *energy performance contracting*. Under a performance contract, the contractor makes efficiency improvements to the customer's facility and guarantees that the monthly utility savings generated by the improvements will exceed the payment due on the contract. Effectively the contractor pays for the project up front and gets repaid out of the future utility savings created by the job. This arrangement can often be used to finance 100 percent of the job cost, enabling projects to move forward even when the customer has no cash at all.

Performance contracting has thus far been applied only in commercial and industrial markets, but there is no reason it cannot also work at the residential level. Our homes are loaded with energy savings projects waiting to happen: insulating the attic, adding storm windows and weatherstripping, etc., and all of these jobs will pay for themselves many times over with lower utility bills. Most of us would gladly have a performance contractor do the work if we could pay for it out of the resultant utility savings. If natural gas prices go for another joy ride this winter, many of us will have these projects paid off before the ski season ends.

The opportunities for performance contracting go well beyond simple lighting retrofits and insulation upgrades. Loads such as electric heat can be more efficiently and economically served by other fuel sources such as gas, providing simultaneous reductions in both cost and air emissions. On-site generation and heating systems that use wind, solar, biomass, or geothermal energy also improve efficiency and may be viable under a performance contract.

One of the biggest hurdles to rapid growth of the performance contracting industry has been bank financing, and banks are just now warming up to the idea of making loans that are secured by future utility savings. Financial risk managers have discovered that as long as the engineering calculations are sound, loaning money based on projected reductions in utility bills is remarkably safe. Any company with good credit and a track record of paying enormous utility bills can certainly make contract payments after their utility bills have been cut under a performance contract.

Another sticking point with performance contracting is that the early players in this market have primarily been utility affiliates, many of whom have been conflicted in their objectives. They see how to make money in the energy efficiency market, but they can't seem to do it without reducing revenues for the parent utility. This has tended to compromise many projects, and the profiteering and gouging that has ensued threatens to give the industry a bad name. Hopefully the emergence of non-utility performance contractors that we are now seeing will offset this trend before too much damage is done.

The recent increases in energy prices have been a tremendous catalyst for energy efficiency projects. There's nothing quite like tripling the price of natural gas to get businesses interested in energy efficiency. If you thought paying your winter heating bills was tough last year, imagine how the director of our local recreation center felt about having to pay an extra \$10 thousand per month just to keep the swimming pool warm! Investments in thermal pool covers, boiler economizers, and solar heating systems suddenly look pretty tempting.

Electricity deregulation is another concern that has us all reconsidering how efficiently we use energy. Californians got a hard lesson in market exposure when electricity bills tripled and a few utility giants drained the state treasury. In the wake of deregulation Californians have made marked improvements in efficiency and reduced their electricity consumption considerably. But deregulation has clearly revealed its potential for wreaking economic havoc. Of all available means for reducing one's exposure to this highly volatile market, none can match the cost-effectiveness of a comprehensive energy efficiency program.

With our air quality becoming increasingly unsafe, our global climate in question, and our policies in the Middle East threatening our safety, we must develop viable means to lessen our dependence on fossil fuels. We can safely begin with energy efficiency, which promotes economic growth while providing environmental benefits. The performance contracting business model couples energy efficiency with the power of the marketplace to create a remarkable tool for accelerating environmental cleanup.