

*Putting Knowledge Into Action*

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## **What People Know and Don't Know About Energy & Environment**

*By Peter C. Fusaro  
Chairman, Global Change Associates  
and UtiliPoint Affiliated Consultant*

I recently attended Goldman Sachs' third annual alternative energy conference in New York, along with 1,000 others. The take away is that there is increased investor interest in the sector, but the key stumbling block is still the lack of regulatory certainty for the deployment of more capital. Public policy in the climate change arena is diffuse as a patchwork of state actions has replaced the lack of federal action on both energy and environmental issues. That's all about to change. What is imperceptible to the policy pundits is the power of the Internet to activate the polity to foment change at the grassroots. For example, today, 600 U.S. cities have taken the lead on climate change. As Al Gore stated at the Goldman Sachs event, "The world is awakening to the absolute necessity to adopt a carbon strategy." I will add, finally, the U.S. Federal government, just not this current administration.

At the Goldman Sachs event, Silicon Valley trotted out all its big guns, and it is clear that they are still learning the energy business. Kleiner Perkins is still touting its template of 50 "disruptive" technologies that it will invest in. I don't see 50 by a long shot. What's wrong with deploying better technology for today and the disruption technology later on? Their hubris is they need to make 5 and 10x on their investments. But folks, this is the energy business and not tech. It is really energy project finance. What the venture capitalists fail to realize is that the opportunity is massive and capital costs are way beyond their experience in tech. What venture capital is learning is that the energy sector will require long-term engagement, and need many new people to provide the solutions necessary to reduce carbon, increase efficiency and deploy renewables.

It's nice that Silicon Valley now has funded 70 startups to become "Solar Valley," but the opportunity is much larger. Underinvestment in energy infrastructure is over \$1 trillion, and it's another trillion dollars for water. Those are real numbers and just for the United States. The cleantech sector is still woefully underinvested although the numbers are increasing. The money is going to have to come from the private sector. The government revenue machine is dead. States are in budget deficit again, and the U.S. government is

rapidly depleting its coffers.. So, where is the capital going to come from? The private sector and specifically private equity which has “soft circled” this space but is barely deploying major league capital in it. As someone at the Goldman conference remarked, “More money flows through the capital markets daily than all governments annually.” The catalyst for this game changer will be the price discovery for carbon through cap and trade mechanisms.

### **Need an EPA with Teeth**

Many people are running around thinking we need more laws. However, we have 38 years of Federal environmental law in this country, and we need to enforce existing laws for clean air and clean water. The climate change law is not the only game in town. What's needed is to unleash enforcement of existing environmental laws. That will further incent industry to invest in cleaner energy. I am already meeting Ph.D.s in ecology who are moving from helping industry avoid environmental compliance to creating environmental banks for credits as well as creating energy service companies to do the engineering work required.

### **EPA Waiver on Ethanol**

The deleterious effects of short-sighted public policies on ethanol and biodiesel have had a knock on effect on global food markets. The record highs on food prices are sustainable, and their political cost is rioting and political instability in the developing world. The reality is that we are going to need to grow food in the United States for these hungry people not put it in our gas tank. There is also a little-known opt out to the biofuels mandate. The EPA can allow opt-out for states by granting a waiver and this is what happened in Texas with Governor Perry's request recently. Corn-based ethanol may be hitting another speed bump as more states opt-out.

### **Why Energy and Environmental Policy are Linked**

The increased use of energy is exacerbating our environmental problems. For example, let's look at water and energy. Water accounts for as much as 15 percent of energy consumption in many parts of the country; by increasing efficiency through water conservation and recycling measures, we can dramatically cut our energy consumption and preserve a scarce resource that is starting to become the next crisis issue. The key is to use energy more efficiently and reduce the carbon, as well as other emissions footprints, at the same time. A clear price signal for carbon will spur new and better technologies for development and deployment.

The way to look at the Federal carbon policy is that Congress will create “carbon assets” sometime in late 2009 or early 2010. That will unleash the power of the capital markets to invest substantially in this underinvested sector. We're talking hundreds of billions of dollars **not** a Federal Apollo program, that has been widely touted, but rather private sector investment. In fact, that may lead to further privatization schemes for infrastructure as government coffers are bare.

## **What We Run Our Energy & Environmental Policies on Election Cycles**

The political reality of getting elected and re-elected supersedes any reasonable effort to create a long-term energy and environmental policy in the United States. Not only are renewables intermittent as sources of power, but so are the policies for renewables. Endlessly expiring tax credits falling into the legislative abyss for one year extensions are no way to run a renewable energy policy. The need is for long-term policies that incent long term investments. For example, solar is a long-term climate change solution but is too expensive, needs to scale and become more efficient. The need is a long-term policy.

The problem is that tax credits in the Federal budget need to be offset. The pay as you go House of Representative policy, except for Iraq appropriations, runs contrary to investing in a long term energy and environmental future. It is going to take a long time to create the momentum to deploy the better technology and next generation technology. How to change this cycle will be centered on climate change policy not energy policy alone. Climate change policy will require a long-term 50 to 100 year solution. That regulatory certainty will create the template for financial certainty.

### **The Rates Will Rise**

The other no-no for politicians is to level with its constituents and tell them that is going to cost more for a cleaner environment and a more secure energy future. Politicians don't want to talk about that, and in fact, the pandering of a summer rebate on the federal gasoline tax shows how weak the politicians really are in telling the truth. We are talking about significant rate increases for electric power and more expensive prices for transportation fuels and their users. In effect, a *de facto* carbon tax is being created by the cost burden that will shift to U.S. consumers through cap and trade legislation. No one yet wants to say this on Capitol Hill or any state office. There is a price tag for a cleaner environment, and it is not fire sale prices but premium prices. Energy costs will go up for building owners, airlines, auto manufacturers, and electricity costs for residential customers.

### **The Largest Problem**

I have maintained that changing human behavior will be the hardest part of the climate change equation. Market incentives will create some behavioral changes particularly at the corporate level but individuals and communities must also have positive impacts on mitigating climate change impacts. The problem is not the technology, but getting people to see the future differently. It's called hope. But is that such a bad thing?

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Peter C. Fusaro is chairman of Global Change Associates in New York and has been actively engaged on energy and environmental issues for 33 years. He is holding his latest Carbon Markets seminar on May 21st in New York City ([www.pgsenergy.com/seminars](http://www.pgsenergy.com/seminars)).



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