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*November 12, 2004*

## **Green Trading Markets: Where Are We Now?**

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*This week's **AnalystsCorner** is provided by Green Trading expert Peter C. Fusaro. Mr. Fusaro, with his consulting company Global Change Associates, is an affiliated consultant for UtiliPoint's® Trading & Risk Management practice. Mr. Fusaro has advised firms, governments and other organizations on Green Trading policy issues and holds the annual Green Trading Summit each year in New York.*

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Environmental financial risk is rising as an issue in corporate America. The issues of environmental financial liabilities and the emergence of climate change risk have made companies extremely nervous about proceeding forward in market development with such near term uncertainty.

I coined the term Green Trading several years ago to capture the triple convergence of capital markets and the environment into a mainstream corporate financial issue. The intent was to capture both the problem and the solution as a financial trading means to ameliorate pollution. Building on the successful, almost 10-year program in sulfur dioxide emissions trading in the United States, Green Trading was to be the bridge to reducing greenhouse gas (GHG) pollution, increasing renewable energy credit trading and increasing the use of energy efficiency or negawatt trading through the use of financial markets. The long-term impact would be to reduce pollution in a cost effective manner and accelerate the introduction of more environmentally benign technologies.

This would cause minimal economic disruption to the capital intensive energy industry as well as other industrial sources of pollution. It would create new financial markets where “trading pollution,” as environmentalists call it, would actually create concrete and measurable emissions reductions for American business.

The United States created emissions trading markets in 1995 for sulfur dioxide (SO<sub>2</sub>) and in 1999 for nitrous oxide (NO<sub>x</sub>). The U.S. delegation also proposed emissions trading into the international climate change process. We still have the most mature and advanced environmental financial markets in the world and are actually far ahead on SO<sub>x</sub> and NO<sub>x</sub> and most probably mercury reductions soon.

Cap and trade systems have been proven to work in reducing these pollutants. But what we need to address for green trading are structurally sound emissions and renewable programs because we know the environmental community is going to be watching us, as well as the business community, as we go forward in creating markets. Here government has let us down.

Emissions trading markets are not true commodity markets as they are “cap and trade,” which means that emissions are ratcheted down over time. For the SO<sub>2</sub> markets, it is a 35-year regime of reductions and more stringent standards. For CO<sub>2</sub> and other greenhouse gas reductions, we need a 100 year program that engages the entire world if it is going to be effective. All the current hoopla about the Russians signing off on Kyoto begs the question. Will those small goals even be achieved? Most realized long ago that the Kyoto treaty was a watered down failure and that we needed to broaden the initiative to the developing world with longer-term targets lasting decades. It did not realistically look at the world and was crafted by a bunch of environmental bureaucrats who are very happy to look at the minutiae and not the bigger picture. The reality is, since CO<sub>2</sub> emissions disperse in the atmosphere on a global scale, the entire world is in this together for the long haul. There is no quick technological fix as long as the world is addicted to fossil fuels. That habit is not going to change quickly as it typically takes years to implement the alternatives required to put meaningful dents into CO<sub>2</sub> emissions.

If we are going to treat CO<sub>2</sub> emissions seriously, the solution is that we need a regime that will aggressively reduce global carbon intensity, reduce both stationary and mobile sources, accelerate technology transfer, and increase energy efficiency. The irony is that the technology exists today to get the job done. We are not talking about the vaporware technology of Future Gen and the hydrogen economy, which don't exist today. Instead, we have highly efficient integrated gas combined cycle clean coal technology now. We have affordable hybrid vehicles that reduce both tailpipe emissions and fuel economy now. We have many energy efficiency devices that reduce building loads from both commercial and residential buildings now. And certainly there is the controversial nuclear option. We don't need to study this thing to death anymore, and instead, need to take action now which will create jobs for Americans.

The solutions exist but for many of them to become commercially viable in the near term we need the federal government to set the rules that can bring a financial value to emissions reductions. The point is that both the SO<sub>2</sub> and NO<sub>x</sub> programs are mandated and have financial penalties for noncompliance. These real financial consequences have

allowed technologies such as scrubbers and low-NOx burners to take hold. Voluntary CO<sub>2</sub> programs may be useful in practicing for future global trading of such credits but hard limits will be needed to create a real market driver for change.

Emissions trading is one mechanism to accomplish many of these goals. The ability to monitor and certify verifiable reductions is already in place through both third party certification companies, geopositioning satellites and remote sensing devices. Financial markets work. For the past two years, corporate America has been trying to figure out the business case for GHG reductions. The business case is fairly simple; either pay less now or pay more later. So we have companies beginning to analyze their risk and realize that there is a global issue here and that they have got to do something about it.

One of the drivers behind the GHG market is that we now have institutional shareholders forcing corporations to acknowledge the environmental risk on their books. This has been done by pension funds mostly and is similar to the strategy that was taken in tobacco litigation.

Environmental markets are beginning to take hold, especially for GHG where the markets are finally starting to emerge with about 200 trades of \$500 million in notional value so far. They are getting a little bit of clarity going forward both domestically and internationally.

### **Where Are We Now?**

We are at Kyoto 7+ years, and with the Russian recent announcement that it signed on to the agreement it will finally go into effect for participating countries in 2005. Due to this factor, we are beginning to see companies start to analyze their climate risks by inventorying them. Multinational corporations in the United States and Canada and around the world are starting to realize that they have compliance issues at many locations. We cannot wait until 2008 to effect the change necessary. It will sneak up quickly and in the E.U. Emissions Trading (ETS) program begins Jan. 1, 2005.

Now it's time for that second wave. Projects and trades have begun. Much institutional money has flowed into project-based reductions. It's true that as for trades, there have been only a handful, but this will now accelerate. In the U.S., we are getting uplift from the marriage of CO<sub>2</sub> injection for enhanced oil recovery and carbon sequestration. Ironically, a lot of this activity is centered in the oil and gas production in Texas.

The Chicago Climate Exchange (CCX) launched a GHG program in September 2003. And we are seeing over 60 companies sign up on a voluntary basis for CCX as well as many companies outside of CCX starting to look seriously at self-imposed caps. These markets are trading around \$1 per ton. It's a start, and a noble effort.

### **What is Happening in Europe?**

The overwhelmingly big program that we should all be paying attention to is in European E.U. ETS beginning Jan. 1, 2005. The allowance trading system of close to 6,000 facilities is going to be covered in the E.U. system. Companies are going to know

whether they're buyers, sellers, or neutral. Multiple industries are covered in this program. Transactions have already occurred between Shell and Dutch utility NUON and Shell and Barclays, which represent both the participation of energy companies and banks. We need market makers to make these environmental financial markets a commercial reality.

The Europeans are really moving ahead quickly, and have tried to embrace the experience and knowledge that we have had in the U.S. emissions markets and they are taking it a step beyond right now. So the first phase will be 2005 to 2007, covering CO<sub>2</sub> only. It will include generators, cement industry, steel and chemicals. A wide array of industries will be covered with various different degrees of control costs and that should make for a good market.

The European program will be a company-to-company cap and trade program, and the tradable unit will be E.U. allowances. This is really probably the best hope for proving that we can have a successful GHG market globally. If the E.U. succeeds, there will be a lot smoother transition for GHG, and the United States may possibly come back to the negotiating table more quickly. We have seen other national programs in the U.K. and Denmark. These have been very small scale and they have not included all the industries such as the E.U. program.

We are witnessing a market transformation. We are starting to see the risk manager in some major corporations handling the GHG issue along with carbon finance playing a bigger role. We are now positioned for the beginning of a liquid spot market instead of one-off trades. Next year will be the breakthrough year with spot trading, high volumes, price indices, and advanced brokerage, similar to the power and gas markets, and we will see a growth in carbon finance.

### **What's Up Ahead**

In the United States, renewable energy credits (RECs) are going from promise to reality. The Texas REC market has been extremely active. And we are starting to see real market growth as more states adopt renewable energy credit programs and renewable portfolio standards that promise to kick start more green trading activity. There is also demand from commercial and industrial customers seeking green energy, with many active green power marketers meeting that market need. There are also state purchase mandates that include renewable energy procurement with some federal agencies also participating.

The evolving regulatory landscape is still an open issue. On the horizon, we expect more states to consider and enact renewable portfolio standards (RPS) and GHG reduction systems. We saw in the U.S. SO<sub>2</sub> program something that we might see in GHG and something that we might see in renewables. That is, so many states started to put together their own regulations that companies operating in multi-state environments finally said to the federal government they wanted some consistency in the regulation.

That's how the Clean Air Act amendments went forward and started the first successful emissions trading program in 1990 in SO<sub>2</sub>. That action will happen in GHG. There are more than a dozen states that already have GHG laws and proposals under consideration.

The GHG markets are beginning to start on a forward basis. It will take several years to come to fruition—from investment decision, to operation of these projects, and implementation of their reduction plans. Companies have to act early. Here are two examples of timelines in terms of the creation of markets. The first example is the SO<sub>2</sub> market for acid rain reduction. In 1992, the first SO<sub>2</sub> transaction occurred and 1995 was the first year of compliance for SO<sub>2</sub>. The second example is the NO<sub>x</sub> market for ozone transport region. June of 1998 was the first NO<sub>x</sub> trade and 1999 was the first year for NO<sub>x</sub> compliance.

The GHG markets are expected to take off in the next year and follow a similar rate of acceleration as SO<sub>2</sub> and NO<sub>x</sub> experienced. This is because there is more at stake and because the European market can draw on the U.S. experience. But they can also draw on the experience and the talented pool of people that are available in the financial community and the energy trading community. Moreover, U.S. multinational companies active in Europe are now in the vise of dual environmental standards, i.e., one for Europe and one for the United States. This is an untenable position for corporate America.

Green Trading markets are now entering the hockey stick phase of market development. Next year promises to bring us the financial market acceleration that has been expected for many years. The United States is still well positioned to lead on environmental financial market development with its entrepreneurial culture, risk capital and knowledge base in trading.

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