

Testimony of Wiley Barbour,  
Executive Director of  
Environmental Resources Trust, Inc.  
before the  
Committee on Environment and Public Works,  
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"Legislative hearing on America's Climate Security Act, S. 2191"

Good morning Mr. Chairman and distinguished members of the Committee on Environment and Public Works.

My name is Wiley Barbour, and I am the Executive Director of Environmental Resources Trust, a program of Winrock International.

I'm here today to talk about how to design a greenhouse gas emissions cap and trade market that will deliver real results in emissions reductions, real value to market participants, and real progress in developing low-carbon technologies and energy alternatives.

I am a licensed professional environmental engineer. In my earlier life I spent six years at the U.S. EPA working in the Policy Office and in the Clean Air Markets Division. I coordinated an interagency team that was responsible for compiling the Federal Government's annual inventory of GHG emissions and reporting that to the United Nations under the terms of the Framework Convention on Climate Change. I instituted an expert and public peer review process which is still in use today to allow scientific and technical input into the development of the GHG emission calculations and I believe we succeeded in creating a policy relevant but policy neutral analytic framework which is widely used today by climate modelers, economists, and policymakers.

Environmental Resources Trust is a politically neutral 501 c) 3) nonprofit organization and we have been working on climate change and energy policy since our creation in 1996. Our mission is to pioneer and catalyze markets to protect and improve the global environment. Our expertise is in the measurement of greenhouse gas emissions, the verification of corporate and project level GHG emission reductions, and in the provision of registry services to companies who wish to buy or sell high quality greenhouse gas emission offsets. ERT owns a portfolio of emission allowances and credits and we have engaged in multimillion dollar trades as we have grown our portfolio over time, so I can tell you from firsthand experience that these markets work and can achieve real environmental benefit.

ERT is composed primarily of scientists and engineers; we are not an advocacy group – we are a market implementation shop offering a variety of technical services to government agencies, private companies and multinational corporations who are serious about engaging in emerging environmental markets. We work with a broad spectrum of companies that are serious about getting the numbers right – about accounting for their carbon footprint with the highest integrity. Amongst the companies that have engaged ERT to verify their global greenhouse gas emissions are Google, Wal-Mart, NewsCorporation (the owner of FoxNews), Entergy Corporation, and AIG.

Our firm also owns 16,000 SO<sub>2</sub> allowances and participates in the Acid Rain trading program.

Many of the companies and private groups we work with are interested or actively participating in environmental markets and emissions trading. Their motivations are as diverse as the companies themselves; some are interested in purchasing verified emission

reductions in order to offset their own emissions and thus become “carbon neutral.” Some are seeking to sell offsets as part of a sustainable business practice. Some of the companies we work with are large emitters who are purchasing greenhouse gas reductions because they are likely to be regulated under a climate change bill and want to gain experience with market mechanisms. These companies are seeking a clear policy signal from Washington.

Leading exchanges are also listening carefully to the statements from corporations and trying to foresee how the market can provide services. The New York Mercantile Exchange (NYMEX), for example, has worked extensively with utilities, hedge funds, investment banks, environmental brokers and environmental groups since March, 2007 to establish a set of contracts that market participants need to effectively manage risk and gain direct exposure to the emissions markets. NYMEX has created an Environmental Markets Steering Committee, which I serve on, and reached out to leading experts in an effort to foresee and prepare for the needs of a future compliance system.

At ERT, we responded to the demand from the private sector and created the GHG Registry®, the world’s first on-line registry of greenhouse gas emissions and reductions. For over a decade, the GHG Registry Program has provided the tools, protocols, guidance, and infrastructure needed to create a fungible commodity for bilateral trading in voluntary environmental markets. The GHG Registry currently contains almost 17 million tons of tradable GHG offsets and members of the GHG Registry have traded over 1.3 million tons of GHG offsets so far this year.

I believe that the lessons we have learned in the operation of our programs are valuable and can serve as a model for the design of mandatory markets. ERT's experience demonstrates that a professional community has developed in this country that understands how to support a trading system. We now have a talent pool in this country that understands how verification and monitoring under appropriate rules and guidelines can measure real environmental improvements. Based on that knowledge, we know that we can create a fungible commodity of greenhouse gas emissions, suitable for exchange in an environmental market, markets that will encourage real greenhouse gas emission reductions across the economy in the most efficient manner.

I'm here today to testify to the feasibility of a carbon market here in the United States. My colleagues in the GHG accounting business are doing everything we can to make a market function, but one critical piece is missing and that's the law that mandates the cap, which creates the constraint, and ultimately drives demand. To put it another way, only a cap on emissions will create robust demand for allowances and credits that is needed to start the market engine.

If there is any doubt over this observation, market activities over the last few decades should provide sufficient evidence. For the last 20 years we have tried to use voluntary programs in the United States to reduce our GHG emissions. Despite the outreach, consultation and participation of numerous public and private groups, the voluntary approach has failed to deliver at the national level absolute reductions or to change the trend of our ever increasing emissions.

For all the activity in the voluntary markets, it is nowhere near the volume and capitalization we would see under a mandatory system – that volume would result in real

emissions reductions, and would mobilize private sector players to develop low carbon alternatives in a way that we're not seeing now.

## **II. Observations**

I'm sure that you have heard in previous testimony of the success of EPA's Acid Rain Program, which has achieved significant environmental and public health benefits through use of a market-based approach similar to the cap-and-trade provisions of the Climate Security Act of 2007.

In the eleven years that the program has operated, the Acid Rain Program has reduced SO<sub>2</sub> emissions by more than 5.5 million tons from 1990 levels, or about 35 percent of total power sector SO<sub>2</sub> emissions. NO<sub>x</sub> emissions are down by about 3 million tons from 1990 levels, so that emissions in 2005 were less than half the level anticipated without the program.

The General Accounting Office recently confirmed the benefits of this market approach to reducing acid rain pollution, finding that the SO<sub>2</sub> allowance trading system has saved as much as \$3 billion per year—over 50 percent—compared with a command and control approach typical of previous environmental protection programs.

The SO<sub>2</sub> program has provided valuable market experience for the electric generating industry, virtually all of which will be participants in a greenhouse gas emissions trading market. The SO<sub>2</sub> program is a closed system that affected 3,456 operating electric generating units as of 2005 with most emissions produced by only about 1,100 coal-fired units. Over 16 million allowances have been issued under the Acid Rain

program and of those almost 7 million are “banked” by participants seeking the flexibility to use them in the future, giving them price certainty and operational flexibility.

Banking is an important feature of a well designed market based system – it incentivizes companies to over comply today and bank their unused allowances for later use. Participants in that program have expressed enthusiasm for the flexibility this mechanism provides. It’s often referred to as the “when/where” flexibility of the program – allowing individual firms to determine when and where it is best for them to make the required reductions.

The program contains a robust trading market with multiple facilitators participating -- including brokerage firms, traders, and bilateral, or firm to firm, trading. Despite early concerns about companies having to become more savvy about trading, the regulated companies have figured out how to do it, and have enjoyed greater efficiency in their compliance approaches as a result.

The success of this program is a direct result of its excellent design. We can design a larger greenhouse gas emissions market to engage the same mechanisms to create similar efficiencies and flexibility – leaving it up to companies to decide how best to meet their emissions reduction targets.

Admittedly, a cap-and-trade program for GHGs will be more complicated and require participation of a larger number of sources, but many of the same mechanisms apply. The experiences and lessons learned from existing greenhouse gas emission – or “carbon”-- markets, both here in the US as well as in Europe, will serve us well as we develop our own solutions. I’d like to talk a little bit more about:

- What are core elements that make the market work?

- What are the core things you have to watch out for?
- (And I will get into the EU experience on both topics, which is very helpful for us.)

### **Building Environmental Markets**

The foundation for a successful market is built on our ability to measure, report, and verify GHG emissions by each source and to track these emissions over time. A market requires a set of rules governing the creation and ownership of allowances and credits and a system to track these as they are created, allocated, traded, and ultimately used and retired from the system.

Fortunately, this market infrastructure is largely now in place. Based on our experience here in the U.S. with voluntary markets, and drawing on the experiences and lessons we have taken away from the Acid Rain program, the EU emissions trading program and the international GHG market, we now have in place the fundamental building blocks for successful environmental markets.

First, the accounting of emissions and their reductions needs to be established and scientifically based.

We have a scientific basis, grounded in peer reviewed literature, for quantifying emissions by sources, and removals by sinks, of greenhouse gases. These methods are described and documented in guidelines developed by the Intergovernmental Panel on Climate Change with extensive input and leadership by U.S. scientists and experts. We understand the processes that create greenhouse gas emissions. We have accepted methodologies for quantifying emissions of GHGs from combustion of fossil fuels, responsible for over 85% of total U.S. emissions of GHGs. In addition, we can quantify

these emissions with very high degrees of certainty, often with a confidence level of plus or minus two percent or less.

Offsets particularly fall into this category. What's needed is to match or marry these scientific principles with clear policy guidance on what counts, such as: what's the appropriate baseline to count emissions reductions against, how to account for non-permanent "sinks", such as forests, create specific rules for offset project accounting, such as how long the crediting period would last and how to distinguish projects that create additional emissions reductions, and the rigor and frequency. A number of entities, including the USDA, EPA, and prominent universities have established standards for offset projects.

These measurement protocols and methodologies allow for the creation of a standardized, fungible commodity that can be efficiently traded.

Second, establish the mechanisms that will allow this accounting to take place. We have software systems, clearing mechanisms, measurement techniques, and ways to track ownership of allowances that could be rather quickly deployed to support the needs of the GHG cap and trade market. Some of these exist within the EPA as a result of the Acid Rain program; others, such as the financial clearing mechanisms, have been developed in the private sector and stand ready to be used in this market.

Third, establish clear and consistent rules to allow all market participants to plan, make decisions, and allocate capital with a degree of certainty that the program goals are not going to change, such as:

- Reporting requirements need to be clearly stated as soon as possible.
- Information about how to apply for early action credits needs to be clear.

- Provide requirements for auditing or verification of emissions.
- Establish procedures for establishing non-compliance. The rules should incentivize compliance, being set up in such a way that the penalty for non-compliance exceeds the cost of compliance.

These rules need to be articulated for the non-electric energy sector also, including the agriculture, transportation, and commercial sectors of the economy – basically anyone you would expect to be participating.

Fourth, establish market mechanisms, exactly as outlined in the legislation, including banking, borrowing, and trading. These mechanisms are essential to allowing individual regulated entities the most flexibility, including the ability to manage their capital investment decisions, in pursuing emissions reduction goals.

Fifth, allow broad intermediaries, service providers, agregators, and other entrepreneurs to participate, harnessing the creativity of the private sector. Those participants should be engaged unless there were some specific restriction.

Now I will turn to the core things you need to watch out for.

One of the things we learned from the earliest phase of the EU ETS, the European GHG cap and trade market, was that the allocation process itself is a critically important component of both creating a robust trading system and achieving the desired environmental outcome.

In the first phase of the EU ETS, they overallocated allowances, and did not allow the value of permits to exist across allocation periods – in other words, there was no banking allowed across periods. As a result the price, and therefore the value, of those allowances, plummeted in the months before the end of the first trading phase.

This brings up an important point: once regulated entities are participants in the market, they will not only be concerned with high prices, but they will also be concerned with making sure their allowances maintain value – they don't want watch those credits turn into "Monopoly money". We can easily avoid this problem by allowing banking, as the EU now does, and through carefully constructed allocation schemes.

Allocation to individual regulated entities should be conducted fairly, but in accordance with the desired environmental outcome; allocation at the beginning of a compliance period should be consistent with the desired environmental outcome to maintain their value.

What we need now are clear market signals from policy makers, and clear guidance from the federal government on the rules of the road. In the absence of federal leadership on these issues, a host of NGOs, states, and industry groups have waded into these waters. The result has been some disagreement over what counts but this is not an intractable problem.

I believe that S.2191 contains many the most important elements and provides an excellent framework for developing a robust U.S. greenhouse gas emissions trading market.

Once we have clear rules of the road the market will function and help identify the least cost approaches to reducing GHG emissions. I look forward to working with the Committee, EPA, DOE, and my colleagues in the private sector to assist in the transition to mandatory markets. I thank you for your time.