



WORLD  
RESOURCES  
INSTITUTE

**6** ENVIRONMENTAL STORIES  
*to watch*  
**in 2004**

---

REMARKS BY JONATHAN LASH ON DECEMBER 22, 2003  
NATIONAL PRESS CLUB BRIEFING FOR JOURNALISTS  
*ENVIRONMENTAL TRENDS AND TOPICS*

# SIX ENVIRONMENTAL STORIES TO WATCH IN 2004

---

Remarks by Jonathan Lash on December 22, 2003

National Press Club Briefing for Journalists

*Environmental Trends and Topics*

## The Fate of the Kyoto Protocol

This story isn't a new one, but it may reach a crisis point in the coming year. The Kyoto Protocol is the agreement among the countries that have ratified the Framework Convention on Climate Change to limit the growth of greenhouse gas emissions in the coming eight years. In 2001, President Bush announced that the United States would withdraw from the Kyoto Protocol and take no steps to implement it. Nevertheless, the rules set up in the Protocol provide that if 55 countries representing 55 percent of industrialized country emissions ratify the Protocol, it takes effect.

The European Union, Canada, and a number of other countries have ratified it. Whether the Kyoto Protocol takes effect depends on Russia. Without Russia and without the United States, the Protocol can't take effect. If Russia ratifies the Protocol, it will take effect. The news coming out of the recent climate conference in Milan, Italy, revealed Russia on both sides of the issue. One Russian official said it was not in Russia's interest to ratify the Protocol. Another said Russia was preparing to ratify.

Why is this likely to become an important story in 2004? The first reason is obvious — Russia's decision will determine the fate of the only mechanism that the world has agreed upon for taking modest first steps to slow the rapid increase in greenhouse gases in the atmosphere. If Russia chooses not to ratify, it leaves the European Union, which has said it will implement the Protocol even if it doesn't

come into effect, in a difficult position. The EU countries will face increasing pressures from its industries not to impose the costs of reducing greenhouse gas emissions on them when the rest of the world isn't doing so.

Secondly, if the Kyoto Protocol doesn't take effect, the world will have taken a very significant step backwards. It's likely to be a number of years before the world can again put together some form of international collaboration on limiting greenhouse gases.

Why is that important? The five warmest years in recorded weather history have taken place in the last six years. The ten warmest years in recorded weather history have taken place since 1987. Around the globe we're seeing indicators that the phenomenon of global warming is real and accelerating. Whether it's the retreat of glaciers, the melting of the permafrost in Alaska, or the increase in severe weather events, the world is experiencing what the global warming models predict.

If Russia appears to be changing its mind on ratification — they had previously said they would ratify the Protocol— it is because without the United States in the mix the market for Russian reduction credits (the so-called Russian “hot air”) has steeply declined from perhaps \$20 billion to less than \$1 billion. There are concerns in Russia that a growing economy might somehow be restrained by the necessities of complying with the Kyoto Protocol.

Key things to watch for: Do the Europeans offer added incentives to the Russians to ratify the Kyoto Protocol? Does the United States in some form or another actively seek to discourage the Russians from ratifying? Do the Russians communicate what they would want in order to ratify? It has the makings of quite a significant international political story.

## Will Congress Help or Hinder the Growth of Renewable Power?

The second story is a more encouraging one — the rapid rise of renewable power as a source of energy. The fastest growing source of electrical energy worldwide is not coal. It's not natural gas. It's renewable power from landfill gas, wind, solar energy, and biomass. Renewables, often called “green power,” grew at 6 percent worldwide, or at about twice the pace at which coal fired electrical power is growing. In the United States, for example, wind energy has been growing for five years at an average rate of 26 percent per year. Germany already gets 20 percent of its energy from wind power. In Denmark the figure is 15 percent. The United Kingdom in December 2003 announced the largest wind project in history — a huge wind farm off its coast.

World Resources Institute works with a group of twelve Fortune 500 companies — ranging from General Motors and Dupont to Alcoa and Kinko's — who are purchasing green power to supply their electricity. These companies have made purchases that now amount to 112 megawatts of power from landfill gas, wind, solar energy, and biomass. To put that amount, 112 megawatts, in perspective, it's about the environmental equivalent of taking 100,000 cars off the road. It's enough to power a small city. It results in millions of pounds of reduction of carbon dioxide (CO<sub>2</sub>) emissions and hundreds of thousands of pounds of reductions in conventional pollutants, nitrogen oxides, and sulfur dioxide (SO<sub>2</sub>), and so forth. The companies are making these purchases because it is in their economic and strategic interest to do so. In almost all cases, they are either paying below the price for coal-based power or slightly above, but getting a stable power supply.

The largest fuel cell purchase in history took place last year with Dow Chemical and General Motors. It shows that renewables are a realistic power source and that companies can make decisions in their own interest to purchase power that reduces, rather than increases, greenhouse gas emissions. The questioning smile that one sometimes gets from fossil energy executives when mentioning renewables is simply wrong. Renewables are the place to make money in the future.

As part of the energy policy debate, will Congress choose to encourage or undercut the growth in renewables? Will Congress reduce subsidies for fossil fuels? Will Congress extend and expand tax incentives for renewable energy generation?

## Hydrogen

The third story for 2004 is the growing debate over hydrogen. There are some things to look carefully at. Hydrogen is not a source of energy. There are no hydrogen mines and we won't be going out and drilling deep wells into the ground to extract the hydrogen. Hydrogen can serve as an energy carrier. But it takes energy to produce hydrogen.

The debate over hydrogen raises two key questions for environmentalists. First, where do you get the energy to create the hydrogen? Second, when will hydrogen become practically available? When you turn hydrogen back into energy, it's very clean. The only result is water. There is no pollution. But if you use, say, coal to make hydrogen then you create a significant amount of pollution, including carbon dioxide (CO<sub>2</sub>), the leading cause of global warming. It's not a winning proposition from a climate policy point of view unless you capture and store ("sequester") the CO<sub>2</sub> — a solution that has yet to be proven feasible and reliable.

When will hydrogen and fuel cells be available and affordable for everyday use? Many in the environmental community, the World Resources Institute included, think hydrogen is an important alternative for the future, but not for the near future. You aren't going to be able to buy a fuel cell car next year. You probably won't be able to buy a fuel cell car in 2010. There won't be plants making hydrogen renewable resources in the next 10 or 15 years. It's a very important long-term option with many questions still to be answered. So, as the energy debate heats up again, it is important to think about what hydrogen will be made from, where will the energy to make it come from, when will this option be viable, and why is it being offered as an alternative to immediate action to reduce greenhouse gas emissions?

Some of my colleagues at WRI did an analysis of the leading automobile companies in the world (BMW, Citroën Group, DaimlerChrysler, Ford, GM, Honda, Nissan, PSA Peugeot, Renault, Toyota, and Volkswagen) to look at how those companies are positioned with respect to the technologies for the future and what proportion of their profits are derived from efficient vehicles versus SUVs. It's interesting to note that while a company like Toyota has developed all of the available technologies for reducing emissions — fuel cells, high efficiency diesels, and hybrid vehicles — U.S. automakers have invested less in technology and generally relied on the profitability of inefficient SUVs. GM is now working hard on fuel cell vehicles, but that is a technology of the future, unlike the clean, efficient hybrids sold by Toyota and Honda today.

Can U.S. automakers compete in a world demanding more efficient less polluting vehicles? Where will the hydrogen for fuel cells come from in the future? If the hydrogen is produced from the use of fossil fuels, then the climate benefits may be very limited.

## **Will Pollution Trading Schemes Remain in Vogue?**

Pollution trading has become a hot approach to solving environmental problems. Its popularity stems from the enormous success of the Clean Air Act Amendments in 1990 and the sulfur dioxide (SO<sub>2</sub>) trading scheme set up to reduce the emissions leading to acid rain. The predictions in 1990 were that every ton of reduction of SO<sub>2</sub> would cost from \$800 to \$1,600. The trading system was set up, and pollution reduction credits are bought and sold on the Chicago Commodity Exchange. Companies who find it inexpensive to reduce the amount of SO<sub>2</sub> that they release can make bigger reductions than needed and sell the excess on the exchange, and companies that find it expensive, can buy the excess. Each company acts in its own economic interest.

The reductions have gone much faster than expected. They have been deeper than expected. And the price of a ton of SO<sub>2</sub> reduction credits on the commodity exchange has hovered around \$100 to \$112, about

one-tenth of what the industry said it would cost them. That experience has raised hopes about using market mechanisms for achieving environmental progress.

Recently, Congress approved and the USEPA has issued rules for trading as a means to try to reduce the amount of nutrients going into surface waters in the United States. The United States has successfully reduced pollution from many cities and large industrial plants, but there are still some 3,400 waterways that are significantly degraded by nutrients, some of those still from large single sources — so-called point sources — many of them from agriculture and from urban run-off. The crisis situation facing the Chesapeake Bay last summer, for example, was caused by unhealthy levels of nitrogen and phosphorus run-off.

The USEPA proposal sets up a trading system in which, say, a municipal sewage treatment plant or a factory which finds it very expensive to make further reductions, could instead buy reductions from a farmer for whom it might be very cheap. The World Resources Institute sponsored some experiments with that approach in the Midwest and created an online trading system called NutrientNet. The costs of reduction were much lower using the trading system. It looks like the USEPA is going to be relying increasingly on trading to deal with an intractable problem and that the states in the Chesapeake drainage are going to enter with enthusiasm, with Maryland and Pennsylvania taking the lead.

This is a win/win story. It turns out, in fact, that it even has climate benefits because the nutrient reductions also lead to reductions in greenhouse gas emissions. But it's essential to understand that markets cannot solve all pollution problems all the time, and that market-based solutions only work where there is effective regulation. You sometimes hear the question "why do we need regulation when we can just use markets?" That thinking is based on the false premise that markets reduce pollution on their own.

You all probably put out your trash and whatever jurisdiction you live in comes and takes it away for free. It's just part of the taxes you pay. If somebody came and offered to take it away for two dollars a bag, you'd laugh at them. It's the same with pollution credits. If it doesn't cost you anything when you pollute, you aren't going to buy a reduction credit from somewhere else. The only reason that you create a market in pollution reduction credits is because you've created some kind of regulatory pressure to reduce levels of pollution.

The Acid Rain Legislation in 1990 set an overall cap on total emissions that translated down into specific targets for different companies. That's what resulted in both the pressure to make the reductions, and each company's calculation of whether they should be a seller or a buyer of credits. It's the same with water pollution. So long as there is pressure to reduce water pollution, you can have a market to trade it and make it efficient. But if you don't regulate the pollution, you can't have a market.

Even if you have regulation, trading doesn't solve all environmental problems. Think about the situation I described with regard to SO<sub>2</sub>. Some companies could make big reductions cheaply. So they made big reductions and sold those reductions to other companies that couldn't make reductions cheaply. That means that emissions are much higher at some utility plants than at others.

There's been a great deal of controversy over a recent proposal from the current USEPA Administrator to set up a trading system for mercury. Mercury is intensely toxic. If you make the reductions in some places and not in others, you're likely to create mercury hotspots. One of our colleague organizations, Environmental Defense, has done a study indicating that such hotspots do exist. If you create mercury hotspots, it doesn't matter that mercury is being reduced overall, nationally. People's health is being affected in those hotspots. So, trading in mercury just doesn't make sense.

Trading would make a lot of sense for a substance like carbon dioxide. When the initial debate took place over the Kyoto Protocol, the

United States was a strong advocate of trading in CO<sub>2</sub> reductions. The European Union was skeptical because it didn't like the idea of companies buying reductions rather than making reductions. Now that Europe is enthusiastic about trading and is setting up a trading scheme, the United States isn't playing.

Interestingly, the first market for CO<sub>2</sub> reductions is in the United States and it is called the Chicago Climate Exchange. It launched in September 2003. A group of companies have taken on voluntary 4% reduction targets. Those that can make reductions cheaply sell credits, and those that can't make those reductions cheaply buy credits. The World Resources Institute joined the Chicago Climate Exchange because we wanted to move it as quickly as possible and have an impact on the integrity of the system. We developed the protocol that's used for measuring the reductions.

The first trades took place a few months ago. The price per ton of reduction was \$0.98, not very much – a signal that controlling CO<sub>2</sub> emissions may not cost as much as opponents claim. Now, admittedly, this is just the beginning, and it is a voluntary program. Will trading prices stay at or around the \$0.98 level? If so, it means that companies are making those reductions at that price. They wouldn't be selling them at that price if they weren't making money. It's a fascinating lesson of what's possible when you set up a flexible system and how the markets can provide real information about the cost of reduction.

## **The World's Ecosystems Get a Check-up**

We don't often think about it, but our existence depends on global ecosystems. Our food comes from ecosystems. Our water comes from ecosystems. Many industries depend, either directly or indirectly, on the products of ecosystems. About half of jobs worldwide directly depend on ecosystems. What kind of state are the world's ecosystems in?

There's anecdotal evidence: 50 percent of the world's wetlands have been lost in my lifetime; most of the world's fisheries are being over-

fished or are being fished at their biological limit. There have been stories over the last several years not only on the destruction of the world's forests, but on the huge fires that have taken place in many of the tropical forests of the world. Climate modelers suggest we'll see those again this summer.

There is also a great deal of concern about fresh water. About one third of the world's people face fresh water scarcity now. The use of fresh water is rising twice as fast as population. Most of our food depends on irrigation. Nearly all of the world's major rivers are already being exploited at close to their capacity. There are half a dozen great rivers around the world that no longer reach the sea during a dry season, so much water is taken out of them, including our own Colorado and the Yellow River in China.

How do these pieces fit together? For the first time in history, there now is a global scientific assessment under way. It's called the Millennium Ecosystem Assessment. It is U.N. sponsored and it involves over 800 of the world's leading scientists. This is a useful story to watch because it's going to be the first comprehensive health audit of the state of the world's ecosystems and it's going to provide quite powerful data on what's going on that will be not only global, but region and nation specific. It will provide data not simply in terms of the state of nature, but also the capacity of nature to provide for human well-being. So, it will be possible to connect the story back to people's needs.

## **The Rapid Rise of Private Sector Voluntary Initiatives**

The last story we're watching for 2004 relates to the 65,000 transnational corporations in the world doing about \$5 trillion worth of business. Their decisions affect the environment, development, and social well-being everywhere in the world. One of the interesting things that has happened really only in the past decade has been the rapid rise in voluntary initiatives coming from the private sector dealing with environmental and social issues.

One example is the Global Reporting Initiative, which is an effort to set up common accounting standards for companies that report on sustainability. Another very recent example was the adoption by 17 leading private financial institutions of the so-called Equator Principles that commit those institutions to assessing and taking into account the environmental consequences of their investments. These are institutions that for decades have declared that their only mission is to provide money, that they don't have an environmental impact, and that it's the role of the nations and the companies that do the actual activities to take environmental consequences into account.

Leading business institutions have chosen to move faster than governments have required them to address environmental and social issues. These efforts are often described as "soft law." They aren't created by legislatures. They aren't enforced by courts. But, because of the power of a public commitment, these commitments become strong drivers for the conduct of the institutions involved. Companies make commitments in some instances in response to enormous pressure from nongovernmental organizations and because they've been involved in situations that made them look terrible. They do it for image purposes. But they're also doing it for strategic purposes. Companies increasingly believe that voluntary agreements will position them well in the future and that ultimately the public will demand and governments will respond to this demand for action in each of these areas.

Will this trend grow or will it collapse in 2004? Will there be an increasing perception among corporate leaders that public attention has shifted away from environmental issues and that it isn't strategically necessary to take action? Or, will the perception be that the lack of public focus on environmental issues in the United States is a temporary aberration and that ultimately attention will shift back to these issues?

## **For More Information**

EarthTrends is a rich online resource for information on the environmental and social trends that shape our world. EarthTrends works with the world's leading statistical agencies to provide the public with a high-quality collection of timely and relevant data. For more information on the six stories to watch in 2004, please visit <http://earthtrends.wri.org/TrendsToWatch/>.

For more information about World Resources Institute, contact Rich Barnett, director of outreach and special events, at 202-729-7647 or [richb@wri.org](mailto:richb@wri.org).

World Resources Institute is an environmental research and policy organization creating solutions to protect the Earth and improve people's lives.

Work concentrates around four key goals:

- ◆ **Biological Resources.** Reverse rapid degradation of ecosystems and assure their capacity to provide humans with needed goods and services.
- ◆ **Climate Change.** Protect the global climate system from further harm due to emissions of greenhouse gases and help humanity and the natural world adapt to unavoidable climate change.
- ◆ **Sustainable Enterprise.** Harness markets and enterprise to expand economic opportunity and protect the environment.
- ◆ **Access.** Guarantee public access to information and decisions regarding natural resources and the environment.



WORLD  
RESOURCES  
INSTITUTE

10 G STREET, NE  
WASHINGTON, DC 20002 USA  
202-729-7600  
WWW.WRI.ORG