

Government's Atmospheric Trust Responsibility**

Mary Christina Wood*

Abstract -- In this essay, Professor Wood presents a framework for holding government at all levels responsible for reducing greenhouse gas emissions. She draws upon the Target for U.S. Emissions Reductions recently released by scientists to contend that government has a duty to cap emissions by 2010, reduce emissions by 4% annually thereafter, and ultimately bring emissions down to at least 80% below 2000 levels by 2050. As she explains, there can be no "orphan shares" in meeting this planetary carbon liability. She explains that government has the tools to accomplish this, and as a sovereign trustee of our atmosphere, has the obligation to do so.

I. THE PRECIPICE

In June, 2007, leading climate scientists issued a report concluding that the Earth is in "imminent peril."¹ Runaway climate heating will impose catastrophic conditions on generations to come. It threatens to destroy major planetary fixtures, including the polar

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* Mary Christina Wood, Philip H. Knight Professor of Law, Morse Center for Law and Politics Resident Scholar (2006-07), Luvaas Faculty Fellow (2007-08), Founding Director, Environmental and Natural Resources Law Program, University of Oregon School of Law. The author thanks Rachel Black-Maier and Zach Welcker for editorial assistance, and Heather Brinton for helpful analysis. This research was supported by the Luvaas Faculty Fellowship Endowment Fund.

¹ James Hansen et al., *Climate Change and Trace Gases*, PHIL. TRANS. R. SOC. A, 1925, 1949 (2007) [hereinafter *Climate Change and Trace Gases*], available at <http://www.planetwork.net/climate/Hansen2007.pdf>.

ice sheets, Greenland, the coral reefs, and the Amazon forest. It will bring floods, hurricanes, heat waves, fires, disease, crop losses, food shortages, droughts, and trigger the kind of mass extinction that hasn't occurred on Earth for 55 million years. It will force massive human refugee migrations and pose a threat to world security. In the words of leading scientists, our continued carbon pollution will cause a "transformed planet."²

We face a problem that is unprecedented in terms of its consequences; a problem that is caused by virtually everyone on Earth; a problem that so far has been ignored by most governmental officials in this country; a problem that, to solve, requires us to overhaul our sectors and lifestyles; and, as if that were not enough, a problem that requires us to act before Nature passes a critical tipping point looming right in front of us.

And yet, we have the human imagination, the resources, the legal tools, and the bureaucracy to tackle this challenge head-on. We can change this disastrous course, and we can do so without inflicting pain or misery on our citizens. In fact the changes we make can vastly improve the American condition. But this is clearly a task for government. Individuals can make changes to reduce their carbon footprint. Those efforts are very important, but at the same time, those reductions are quickly nullified by the carbon emissions of others. Look around. Our society is nowhere near decarbonizing.

² Jim Hansen, *The Threat to the Planet*, 53 THE NEW YORK REVIEW 12 (July 13, 2006) [hereinafter *Threat to the Planet*], available at http://pubs.giss.nasa.gov/docs/2006/2006_Hansen.pdf.

This is exactly why we have government – to address threats to society and organize a response commensurate with the scale of the problem. All of our regulatory authority and public funds are locked up in government. We need those resources to be put to use immediately in curbing greenhouse gas emissions. Yet, do you see mayors, city councils, county commissions, state legislatures, Congress, and the President -- along with the entire vast bureaucracy that we have created on the federal, state, and local level -- convening task forces and meeting daily and working late to address this problem?

No. In fact, aside from a small handful of leaders (most notably Governor Schwarzenegger), our government is *driving* this country towards runaway greenhouse gas emissions. County commissioners are approving trophy home subdivisions and destination resorts. State environmental agencies are approving air permits. The Forest Service is approving timber sales. And the U.S. Environmental Protection Agency just approved another coal-fired plant and issued rules to expand mountaintop coal mining. Life in America is beginning to have the feel of a lemming colony. Some of our governmental officials say that the science is still out on global warming. These leaders of the lemmings would call for studies on the scientific uncertainty of cliffs.

The heart of the problem is this: Americans have lost their sense of government obligation. Without this sense of obligation, there is no way to impel government to act in

the short window of time remaining. I hope to provide a simple framework of obligation that is designed to hold government accountable. There are four principles to this framework.

II. THE SCIENTIFIC IMPERATIVE: CARBON MATH

The first is that the laws of Nature, not politics, must guide government action. One of those laws is the tipping point. The massive pollution we have already pumped into our atmosphere has caused heating that is triggering what scientists call “feedbacks” in Nature. As just one example, the heating we have caused so far is melting the polar ice caps. When ice melts, it creates a dynamic that causes further heating, because water absorbs heat and ice deflects heat. So, melting begets more melting. This and many other feedbacks are capable of unraveling the planet’s climate system despite any subsequent carbon reductions achieved by Humanity. A recent leading scientific report states, “Earth [is] perilously close to dramatic climate change that could run out of our control. . . .”³ Even three months ago it was thought that we might have 8-10 years before the tipping point, but more recent extrapolation of the data shows we are on its doorstep now. The insidious thing about a tipping point is that we may pass it without even realizing it, but it locks in future climate heating that is out of our control.

Scientists have used climate modeling to present us with a path that they believe

³ *Climate Change and Trace Gases*, *supra* note 1, at 1925.

can stave off the worst of climate change. We have to cap further temperature increases at one degree Celsius more (or 2 degrees Celsius above pre-Industrial average). Exceeding one degree more would make it warmer on Earth than it has been for half a million years, and, in the words of NASA's leading climate scientist, Jim Hansen, "many things could become unstoppable."⁴ So we can think of this as the "climate imperative" – to not go beyond 1 degree Celsius more. To do that, we have to keep the atmospheric concentration of carbon dioxide below 450 parts per million (ppm).⁵

While climate crisis is often presented as a political issue, we must realize that the laws of Nature are formulated in the courts of physics, chemistry, and biology, rather than any political process. The climate scientists are merely the court reporters for these laws. They are not out there lobbying Nature for any compromise. The climate imperative is really a matter of carbon math. There is an old Italian saying, "arithmetic is not opinion."

Various states have proposed or enacted measures to reduce carbon. This is very important, because it starts us down a different path. But we also must keep at the forefront of our minds the fact that, if these measures do not add up to the required carbon math in time, they will be futile. Thus, the first principle for climate crisis is that political

⁴ Jim Hansen, *Climate Change: On the Edge*, THE INDEPENDENT, Feb. 17, 2006, available at <http://environment.independent.co.uk/article345926.ece>.

⁵ *Climate Change and Trace Gases*, *supra* note 1, at 1937 ("This 1 C limit requires that CO₂ should not exceed 450-475 ppm, the exact CO₂ limit depending on the level of non-CO₂ forcings."); *id.* at 1950 (noting evidence "that the dangerous level of CO₂ can be no more than approximately 450 ppm [and the presence of feedbacks] make it probable that the dangerous level is even lower.").

solutions must be measured against Nature’s climate imperative, which is, for all practical purposes, the supreme law of this land – and indeed, of this planet. Ignoring this law subjects Humanity to climate punishment for untold generations to come.

III. GOVERNMENT’S TRUST OBLIGATION

The second principle is that government is the trustee of our natural assets, including the waters, wildlife, and air. A trust is a fundamental type of ownership whereby one manages property for the benefit of another – similar to someone managing a college account for their niece. We, along with the future generations, are the beneficiaries of this natural endowment. We all hold a common property interest in Nature’s Trust, and we need that trust to be productive in order to sustain human survival and promote human welfare. Our imperiled atmosphere is one of the most crucial assets in our trust.

With every trust, there is a core duty of protection. The trustee must defend the trust against injury. When we call upon government to safeguard our atmosphere, we are invoking principles that are engrained in sovereignty itself. These principles have been said to “exist from the inception of humankind.”⁶ Our government trustees do not have discretion to allow irrevocable damage to the trust. As our Supreme Court said back in 1892: “The state can no more abdicate its trust over property in which the whole people are

⁶ Oposa v. Factoran, G.R. No. 101083 (July 30, 1993) (Phil.), *excerpted in* Jan G. Laitos, Sandra B. Zellmer, Mary C. Wood, & Daniel H. Cole, *Natural Resources Law* ch. 8.II, at 441–44 (2006).

interested . . . than it can abdicate its police powers in the administration of government . . .
..⁷

This trust obligation of government is so basic that it reaches across the economic and moral realms as well. The Nature's Trust principle finds tremendous synergy with "natural capitalism,"⁸ a fundamental rethinking in economics that requires businesses to build profits by using the Earth's interest, not its capital. When we invoke natural capitalism, for the first time ever, we design our economic structure to harmonize with government's timeless duty to protect the assets in our Trust. And in moral terms, Nature's Trust characterizes the natural assets as part of the Endowment that future generations are entitled to inherit just as we inherited them. Failure to protect natural inheritance amounts to generational theft.

But in recent decades, we Americans have lost our focus on government's obligation, as trustee, to protect crucial resources. Ironically, this is largely a failure of environmental law. Our statutes allow government to give out permits to destroy our resources. Because of these permit systems, society has lapsed into assuming that government must have nearly unbridled discretion to allow destruction of our natural assets.

⁷ Ill. Cent. R.R. Co. v. Illinois, 146 U.S. 387, 453 (1892). The Court also said: "Every legislature must, at the time of its existence, exercise the power of the state in the execution of the trust devolved upon it." *Id.* at 460.

⁸ See PAWL HAWKEN, AMORY LOVINS, & L. HUNTER LOVINS, NATURAL CAPITALISM: CREATING THE NEXT INDUSTRIAL REVOLUTION (Little Brown 1999); PETER BARNES, CAPITALISM 3.0 (Barrett-Koehler 2006).

The federal government uses this discretion to justify complete inaction in the face of climate crisis. Protecting our atmosphere is characterized as a political choice. EPA claims *discretion* to permit pollution by the oil, gas, coal, and automobile industries—no matter that this legalized pollution will destroy the climate stability that has supported human civilization for 12,000 years. It is as if our home is on fire, there are twenty fire trucks in the driveway with hoses drawn, and the fire chief claims discretion to sit idle and watch our house burn down.

This discretion obviously invites undue political influence. Government discretion is to industry, what honey is to bears. Do we really believe, for example, that the former chief of staff of the White House Council on Environmental Quality, who was a former climate lobbyist with the American Petroleum Institute – do we really believe he was neutral when he edited government climate reports to emphasize doubts about climate change? He is now with Exxon.

The danger is this: we have relegated climate to the political playing field. There is no umpire on this field. There's just discretion. Citizens have to lobby government for their own survival! But when we portray Nature as a trust rather than an ill-defined commons, we vest citizens with expectations of enduring property rights to a defined, bounded asset. We start thinking, "Hey, that's my air, even if I share it with

others.” Pollution of that air becomes an infringement on American property. So, this second principle is that government is obligated to defend our trust property. The failure to mount a national climate defense is as absurd a proposition as the idea of government sitting idle during an attack on American soil. Only by looking at government’s obligation in this way can we hope to engage all levels of government in climate defense as the supreme national priority.

IV. THE CLIMATE PRESCRIPTION

The third principle builds on the second. Trustees have specific fiduciary obligations that serve as measures of performance. You see, you do not just vest trustees with priceless assets and have no accountability. If you have a million dollars in a retirement account and a bank is your trustee, you wouldn’t just say, “Here’s the account to manage on my behalf. I don’t so much care whether you get 15% or 2% or lose money, or even give it away – do what you want. I’ll just take whatever is left.” And you certainly would not take that approach with a trustee that manages the assets you rely on for survival. The trustee has to measure up to a fiduciary standard of care.

The Union of Concerned Scientists has issued a report⁹ that distills the extensive body of climate science into a clear prescription for avoiding the dangerous level of

⁹ See UNION OF CONCERNED SCIENTISTS, A TARGET FOR U.S. EMISSIONS REDUCTIONS (Sept. 2007), available at http://www.ucsusa.org/global_warming/science/emissionstarget.html.

atmospheric greenhouse gas buildup. This report is a major breakthrough, because now governmental officials can readily translate climate science into terms that they can implement on the ground. By clarifying what we must do as a matter of science, this report paves the way for actually doing it. It becomes the fiduciary standard of care for protecting the atmosphere.

There are three things the U.S. must do: 1) cap our rising emissions by 2010; 2) reduce our greenhouse gas emissions by 4% each year thereafter; and 3) ultimately bring emissions down to 80% below 2000 levels by 2050. This is a clear, quantitative prescription for action to get our planet back on the path to climate equilibrium.

Citizens, the beneficiaries of this atmospheric trust, can now evaluate their government's climate policy in real terms. Carbon accountants can do the carbon math and calculate compliance with these targets on each jurisdictional level. And it is not beyond the imagination to think of citizens enforcing this fiduciary duty in the courts through atmospheric trust litigation.¹⁰ Courts should be engaged to ensure that government does not bankrupt the trust and impair the productivity of the atmosphere so that it can no longer sustain human civilization. There ought to be a remedy to ensure against such extraordinary dereliction of fiduciary duty.

¹⁰ For a description, see Wood, *Atmospheric Trust Litigation*, *supra* note **. **ZW – maybe we should make them all numerals so I can cite back to that.**

V. THE INEXCUSABILITY OF ORPHAN SHARES

The fourth principle is that the sovereign nations of Earth share the atmosphere as their common property. They are sovereign co-tenant trustees of the atmosphere, all bound by the same duties that organize, for example, the relationship of family members who own a cabin together as co-tenants. Property law has always imposed a responsibility on co-tenants to not degrade, or waste, the common asset.

You can apply this mandate to every nation of the world and create a framework for carbon responsibility. If each industrialized nation carries out its fiduciary obligation to meet the carbon prescription set by scientists – that is, each one caps emissions by 2010, reduces 4% a year after that, and gets to 80% below 2000 levels by 2050 -- then the planet as a whole will comply. (That is assuming that developing nations uphold their duty to not waste the asset). You can imagine the industrialized world's planetary carbon load as one big pie. Even though industrialized nations come in different sizes, if each reduces carbon proportionately by the same amount, the carbon pie as a whole will reduce by that amount. But the contrary is also true: if even one major industrialized nation does not accept its share of carbon reduction, does not reduce its slice of the pie, it will sink all other planetary efforts. The carbon pie will not shrink by the amount it needs to.

Let's put this principle into a familiar environmental context. In hazardous waste

cleanups, we talk about orphan shares. If 20 different companies contribute waste to a toxic dump, all 20 are liable for the cleanup costs. If one company has gone bankrupt, it leaves an orphan share that the others must pick up if the site is to be cleaned up.

The U.S. is responsible for 30% of the greenhouse gas emissions on the planet. We are putting a huge orphan share out there. In the hazardous waste context, orphan shares are not so much of a problem, because the solvent companies can pick them up simply by paying out more money than their share for the cleanup. But this does not work with carbon. No other industrialized nation on earth is positioned, much less obligated, to adopt an orphan share left by a deadbeat sovereign – especially a share as large as ours, 30%. By refusing our planetary share of responsibility, we are consigning ourselves and all other nations on Earth to disaster.

This matter of orphan shares can be illustrated another way, by envisioning a big ship with many different cabins. Imagine that all of the governments of the world are on this ship, and each government occupies one cabin. Every cabin has a sovereignty lock on it, so that no one government can go outside of its cabin to take action to abate harm in other cabins. Imagine now that the ship springs leaks in virtually every cabin – and try not to think of the Titanic. If you are a governmental leader in your cabin, are you going to plug that leak? No one else can do it for you, and the ship will eventually sink if you don't

take action. I think you would take action to plug your leak, and I would bet that every country would do the same, and the ship would stay afloat. Essentially, this is what must happen to bring equilibrium to our atmosphere.

So this fourth principle means that, as co-tenant trustees of the atmosphere, all nations must carry out their share of carbon reduction as set forth in the prescription that scientists have provided. Scaling down to another level, this also means that all states, and all cities and counties within such states, must carry their burden. If San Diego, for example, leaves an orphan share, that will leave California with a partial orphan share. Remember, the carbon math must all add up and it will if each sovereign – whether it is the federal government, states, or cities – carries out its inherent fiduciary duty to implement the carbon prescription for its jurisdiction. Orphan shares must be inexcusable.

To reiterate, here is the framework. First, to achieve climate equilibrium we must follow the scientific imperative limiting further heating to 1 degree Celsius. Second, all governments have a trust obligation to protect the atmosphere on behalf of their citizen beneficiaries, present and future generations. Third, this duty of protection is measured by a standard of prudence for industrialized nations which has now been quantified by climate scientists: 1) cap emissions by 2010; 2) reduce by 4% each year thereafter; and 3) ultimately reduce to 80% below 2000 levels by 2050. Fourth, this fiduciary obligation and

duty not to waste the asset means that every level of government is accountable for its share of greenhouse gas reduction, a necessary result in order to tackle climate crisis, because any significant orphan share will defeat all other collective action.

VI. THE CAP ON EMISSIONS: GETTING THERE IN TWO YEARS

Rarely does action come before vision. We must visualize what it is going to take to achieve the first part of the prescription: a cap on emissions in two years. That is a very short time frame indeed. And yet, the hopeful aspect of a society built upon waste is that we can make some major cuts without compromising our basic needs. We do not have to make steep cuts by 2010; we simply have to cap emissions. But given that our emissions are rising at a rate of 2 percent a year, that is a daunting challenge.

We have the legal tools available to cap emissions. A carbon tax, for example, is a swift, effective way to achieve dramatic emissions reductions, and most commentators agree that it could be made equitable. Government could also use rolling moratoriums to stop many new sources of greenhouse gas emissions. A moratorium is a versatile legal measure, and it buys time. One could envision moratoria against new coal fired plants, certain types of air permits, commercial logging, airport expansions, road expansions, farmland development, and other activities. Nearly all of these types of moratoria have

been used on various scales in various places. Of course, government also has the ability to switch subsidies from fossil fuels and coal to renewable energy, invest in mass transit, use tax incentives to encourage green initiatives, develop cap and trade programs, and undertake a nearly infinite number of other policies. But all of those measures take time to design and implement. We no longer have the luxury of time. Behind almost every moratorium is a story of government neglect. The Kyoto Protocol was adopted by other countries back in 1992. Our government squandered 15 precious years, and the waste of time from here on will certainly not expand our choices. Moratoria and a carbon tax are tools government can use right now to stabilize a situation that otherwise will run out of our control.

Some elected officials oppose such climate initiatives out of fear that their constituents will resent measures that cut into their lifestyle or make that lifestyle more expensive to maintain. This is exactly backwards. We have to take action now to preserve any semblance of the security and predictability in life that we now take for granted. The choice for government is disaster prevention or disaster relief. I think most rational people would choose prevention. This is a chance for politicians to become true leaders, to explain clearly the nature of the threat, and to connect in Americans' minds the need for short-term investment and regulation in order to avoid long-term calamity.

We must make the point to Americans that today's life of convenience will lock us into a future where there is little or no convenience. Where is the convenience in a family huddled on their rooftop praying that a helicopter will lift them from the floodwaters of Hurricane Katrina? Where is the convenience in half a million Californians evacuating to escape mega-fires racing towards their homes? Do we find convenience in the emergency cooling centers of Missouri and Tennessee, where masses congregated last summer to take respite from searing temperatures? Show me the convenience of the 13 year-old boy who died after being washed down a flooded creek during the torrential rains in Texas last month.

And as for cost, where is the business sense of letting this problem get so bad that we will be spending much more money responding to disasters and crop failures than we will spend in taking preventative action now? The British Government's Stern Review estimates that climate disaster will cost up to 20 percent of our GNP, yet actions to reduce greenhouse gas emissions would cost only 1% of our GNP.¹¹ If leaders are worried about the voters' reaction to carbon measures, they should expose the sheer folly of delay in terms the voters can understand. They need to start speaking truth to the circumstances we face. True leaders know how to do that.

¹¹ STERN REVIEW, THE ECONOMICS OF CLIMATE CHANGE, SUMMARY OF CONCLUSIONS, vi (Cambridge University 2006), available at http://www.hm-treasury.gov.uk/media/3/2/Summary_of_Conclusions.pdf.

Those leaders are coming forth. For example, the Kansas Department of Health and Environment recently denied an air permit for a proposed coal fired plant on the basis of greenhouse gas emissions. The head of that agency said, "It would be irresponsible to ignore . . . the contribution of . . . greenhouse gases to climate change and the potential harm to our environment and health if we do nothing." ¹²

VII. THE CRISIS OF DISTRACTION

To close, the question should not be *whether* we can transform society in time to thwart global catastrophe. The question is *how* we can immediately convince our government to do so – how can we bring forth courageous leaders, because there have been pitifully few so far.

Our greatest enemy is distraction. Though every day of carbon pollution brings increased probability of harm, the attention of the vast majority of leaders and agency officials is still focused on other issues. Jerome Ringo, President of the Apollo Alliance, and an evacuee of Hurricane Rita, says, “We have to put an end to the Category 5 denial of global warming. . . .”¹³

¹² See Steve Mufson, *Power Plant Rejected Over Carbon Dioxide for First Time*, THE WASHINGTON POST (Oct. 19, 2007).

¹³Statement of Jerome Ringo, available at http://www.stopglobalwarming.org/sgw_marcher.asp?449754.

The climate movement is now gaining unstoppable momentum as Americans turn from “paper democracy” to “street democracy.” One thing is clear: Americans will stand together during this crisis. The choice is whether to stand together in the streets today holding up signs for political action, or to stand together tomorrow on rooftops holding up signs for help. The moral high ground is here, and it is now.

VIII. THE DAWN OF PLANETARY PATRIOTISM

When the leaders of this country do get jolted out of denial and wake up to climate emergency, when they actually take the time to read the UN reports and the mound of scientific findings, they will suddenly realize – and will know in their hearts from that moment forward -- that they face a higher calling than any other generation of leaders in our history. For they hold office during a planetary emergency. Their decisions will reverberate through all of Humanity on Earth from this time on. Their constituents are as much the unborn as the already born.

As soon as we Americans define our government’s basic obligation to protect the atmosphere that our children need for their survival, security, and prosperity, we may soon find every other nation in the world engaged with us, not against us, in a massive, urgent

defense effort to secure the systems of life on Earth for all generations to come. That shall be the dawn of planetary patriotism.