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NEWS & ANALYSIS

Law and Climate Change: Government's Atmospheric Trust Responsibility

by Mary Christina Wood

Editors' Summary: Mary Christina Wood delivered this presentation on February 19, 2008, as part of the University of Montana Wilderness Institute Lecture Series: Climate Change: Moving From Science to Solutions. She begins by describing the urgency of climate change and government's failure to address the problem. She then explains a legal principle that she hopes can catalyze the kind of paradigm shift needed to confront the crisis. Finally, she concludes with a call to citizenship that she hopes her audience will deliver to families, workplaces, churches, and schools.

I feel very privileged to address all of you this evening. Though we are separated by 657 miles, I can think of two things we all have in common: First, we like the planet we live on, and second, not one of us is very well prepared to live on a different planet. Yet that is how scientists describe earth—as a different planet¹—if we don't begin slashing carbon [emissions] very soon. Mark Lynas put it bluntly in an article he wrote a few years ago: "If we go on emitting greenhouse gases at anything like the current rate, most of the surface of the globe will be rendered uninhabitable within the lifetimes of most readers of this article."²

Eight days ago, the mayor of New York City addressed a U.N. [United Nations] climate conference and said that curbing global warming is just as important as stopping nuclear proliferation and terrorism. As Mayor Michael Bloomberg put it: "Terrorists kill people, weapons of mass destruction have the potential to kill enormous numbers of people. Global warming, long-term, has the potential to kill everybody."³

The fact we must face is that no one on this planet is going to be unaffected by climate change as time goes on. Our collective future hinges on our response today. As individuals, we can choose one of two paths. We can either put our heads in the sand and pretend nothing is happening, or we can each find our own role in this crisis. Unfortunately, the sheer scope

and horror of global warming causes most people to choose the former path, living life day to day as if nothing is looming in their future. The purpose of my talk this evening is to bring climate crisis to a conceptual level that ordinary citizens can act on. It is often said that throughout history "ordinary people have considered it their responsibility to do something extraordinary." This time we live in calls us all to do something extraordinary: mobilize a country to save a planet.

I. The Precipice

Let's start with a global view of the problem. I present this picture even though many of you are well informed about global warming. However, even many people who do recognize the problem have not internalized the urgency we face at this point. It is an urgency that puts a premium on every single day that passes.

Carbon levels in the atmosphere are now higher than they have been for the last 650,000 years. Every day, humans release another 70 million tons of carbon into the atmosphere.⁴ The world's carbon emissions are rising nearly three times faster than they did in the 1990s, increasing by about 3% every year.⁵ Once in the atmosphere, carbon persists for up to several centuries.⁶ This means generations to come will be trapped under the greenhouse roof of our making.

Six months ago, leading climate scientists issued a report concluding that earth is in "imminent peril."⁷ Scientists

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1. James Hansen et al., *Climate Change and Trace Gases*, 365 PHILOSOPHICAL TRANSACTIONS ROYAL SOC'Y A 1925, 1939 (2007), available at <http://www.planetwork.net/climate/Hansen2007.pdf> [hereinafter *Climate Change and Trace Gases*].
2. Mark Lynas, *Why We Must Ration the Future*, NEW STATESMAN, Oct. 23, 2006, available at <http://www.newstatesman.com/200610230015>.
3. Benny Avni, *Mayor Compares Threat of Global Warming to Terrorism*, N.Y. SUN, Feb. 12, 2008, <http://www.nysun.com/article/71103>.

4. Al Gore, *Moving Beyond Kyoto*, N.Y. TIMES, July 1, 2007, available at <http://www.nytimes.com/2007/07/01/opinion/01gore.html>.
5. Peter N. Spotts, *Global Carbon Emissions in Overdrive*, CHRISTIAN SCI. MONITOR, May 22, 2007, <http://www.csmonitor.com/2007/0522/p01s03-wogi.html>.
6. JAMES HANSEN ET AL., TARGET ATMOSPHERIC CO₂: WHERE SHOULD HUMANITY AIM? 11 (2008), available at http://www.columbia.edu/~jeh1/2008/TargetCO2_20080407.pdf [hereinafter *WHERE SHOULD HUMANITY AIM?*].
7. *Climate Change and Trace Gases*, supra note 1, at 1949.

have said that if we don't curb carbon now, future humanity will be living on a "transformed planet."⁸ Global heating threatens to destroy major planetary fixtures, including the polar ice sheets, Greenland, the coral reefs, and the Amazon forest. As the *Washington Post* wrote: "For scientists, global warming is a disaster movie, its opening scenes set at the poles of Earth. The epic already has started. And it's not fiction."⁹

The earth has already heated nearly 1 °C [degrees Celsius] (1.8 °F [degrees Fahrenheit]) from pre-industrial average temperatures.¹⁰ And because of the carbon already in the atmosphere, a total 2 °C (3.6 °F) rise is now inevitable.¹¹ That 2 °C rise is what scientists consider to be the threshold of catastrophic, runaway heating.¹² Exceeding this would make it warmer on earth than it has been for half a million years, and, to quote one leading scientist: "Many things could become unstoppable."¹³

The United Nations projects that the irrevocable temperature rise will put up to 30% of plant and animal species at risk of extinction.¹⁴ Species of all sorts are already migrating toward higher latitudes in search of cooler temperatures. Coral reefs worldwide are bleaching and dying.¹⁵ Climate heating is driving relentless drought in Australia and the Southwest. It's shrinking the Great Lakes, reservoirs in the West,¹⁶ and Lake Chad in Africa. It's causing severe water shortages in Tibet and Tennessee, floods in Texas and Jakarta, mega-fires in California, Greece, and Idaho, and killer hurricanes in New Orleans and Honduras. Mosquito-borne illness is sickening people in high elevation places that have never seen tropical disease before. In the forests of British Columbia, beetle infestations have killed millions of acres of trees,¹⁷ and U.S. foresters now predict that every large, mature lodge-pole pine forest in Colorado and southern Wyoming will be dead within five years.¹⁸ Climate change is

delivering heat waves that killed 35,000 people in Europe in 2003, and sent thousands of Americans to cooling centers in 2006 and 2007. It's spiking summer temperatures in Death Valley to 125 °F¹⁹ and warming New York City to 72 °F in the middle of winter.²⁰ As one U.N. scientist put it: "Ten years ago we were talking about these impacts affecting our children and our grandchildren. Now it is happening to us."²¹

Sea levels are rising. The United Nations has warned nations to prepare for up to a two-foot rise by century's end.²² But more recently assembled data shows accelerated loss of ice far outpacing even the most pessimistic U.N. projections. A year ago scientists made a stunning prediction that the Arctic might be free of summer ice by 2040.²³ More recently some have revised that date to 2012.²⁴ Last month, the head of the U.N. [Intergovernmental Panel on Climate Change (IPCC)] asked scientists to look at what he called the "frightening" possibility that ice sheets in Greenland and Antarctica could melt rapidly at the same time.²⁵ Melting of the West Antarctic and Greenland ice sheets would add up to a sea-level rise of 10 or more meters.²⁶ A 10-meter rise would flood about 25% of the U.S. popula-

Jan. 15, 2008, <http://www.rockymountainnews.com/news/2008/jan/15/beetle-infestation-get-much-worse/>.

8. Jim Hansen, *The Threat to the Planet*, N.Y. REV., July 13, 2006, at 12 (book review) available at <http://www.nybooks.com/articles/19131>. See also *Climate Change and Trace Gases*, *supra* note 1, at 1926 ("[C]ontrol of [GHG] must play a critical role in preserving a planet resembling the one on which civilization developed.").
9. Doug Struck, "Rapid Warming" Spreads Havoc in Canada's Forests, WASH. POST, Mar. 1, 2006, at A01, available at <http://www.Washingtonpost.com/wp-dyn/content/article/2006/02/28/AR2006022801772.html>.
10. U.S. Geological Survey, *Sea Level and Climate*, <http://pubs.usgs.gov/fs/fs2-00/> (last visited June 19, 2008).
11. Cahal Milmo, "Too Late to Avoid Global Warming," *Say Scientists*, INDEPENDENT, Sept. 19 2007, <http://www.independent.co.uk/environment/climate-change/too-late-to-avoid-global-warming-say-scientists-402800.html>.
12. *Id.*
13. Jim Hansen, *Climate Change: On the Edge*, INDEPENDENT, Feb. 17, 2006, <http://environment.independent.co.uk/article345926.ece>.
14. See Milmo, *supra* note 11 (estimate calibrated to stabilization at 1.5 °C to 2.5 °C).
15. Sean Markey, *Global Warming Has Devastating Effect on Coral Reefs, Study Shows*, NAT'L GEO. NEWS, May 16, 2006, <http://news.nationalgeographic.com/news/2006/05/warming-coral.html>.
16. Researchers estimate a 50% chance that Lake Mead, which supplies water to millions of people in the southwestern United States, will be dry by 2021 if climate changes as expected and future water usage is not curtailed. *Lake Mead, Key Water Source for Southwestern US, Could Be Dry by 2010*, SCIENCE DAILY, Feb. 12, 2008, <http://www.sciencedaily.com/releases/2008/02/080212141424.htm>.
17. Struck, *supra* note 9.
18. Todd Hartman, *Deaths of Trees "Catastrophic": Lodgepole Die-Off Imperils Recreation, Supplies of Water*, ROCKY MOUNTAIN NEWS, Jan. 15, 2008, <http://www.rockymountainnews.com/news/2008/jan/15/beetle-infestation-get-much-worse/>.
19. Jennifer Steinhauer, *Nation Sweats as Heat Hits Triple Digits*, N.Y. TIMES, July 8, 2006, available at <http://www.nytimes.com/2006/07/18/us/18sizzle.html>.
20. Manny Fernandez, *72-Degree Day Breaks Record in New York*, N.Y. TIMES, Jan. 7, 2007, available at <http://www.nytimes.com/2007/01/07/nyregion/07heat.html>.
21. Milmo, *supra* note 11.
22. See U.S. EPA, *Coastal Zones and Sea-Level Rise*, <http://www.epa.gov/climatechange/effects/coastal/index.html#ref> (summarizing U.N. IPCC conclusions). See also *Glaciers and Ice Caps to Dominate Sea-Level Rise This Century, Says New Study*, SCIENCE DAILY, July 20, 2007, <http://www.sciencedaily.com/releases/2007/07/070719143502.htm> (noting that 1 foot sea-level rise typically causes retreat of 100 feet or more of shoreline).
23. See Seth Borenstein, *Arctic Sea Ice Gone in Summer Within Five Years?*, NAT'L GEO. NEWS, Dec. 12, 2007, <http://news.nationalgeographic.com/news/2007/12/071212-AP-arctic-melt.html>. See also M.M. Holland et al., *Future Abrupt Reductions in the Summer Arctic Sea Ice*, GEOPHYSICS RESEARCH LETTER 33, L23503, doi:10.1029/2006GL028024 (2006), available at <http://www.agu.org/pubs/crossref/2006/2006GL028024.shtml>; Doug Struck, *At the Poles, Melting Occurring at Alarming Rate*, WASH. POST, Oct. 22, 2007, at A10, available at <http://www.washingtonpost.com/wp-dyn/content/article/2007/10/21/AR2007102100761.html> (the arctic sea ice now reaches only half as far as it did just 50 years ago).
24. Borenstein, *supra* note 23. See also J. Stroeve et al., *Arctic Sea Ice Decline: Faster Than Forecast*, GEOPHYSICS RESEARCH LETTER, 34, L09501, doi:10.1029/2007GL029703 (2007), available at <http://www.agu.org/pubs/crossref/2007/2007GL029703.shtml>. In West Antarctica, ice loss increased by 59% over the past decade. Marc Kaufman, *Escalating Ice Loss Found in Antarctica*, WASH. POST, Jan. 14, 2008, at A01, available at <http://www.washingtonpost.com/wp-dyn/content/article/2008/01/13/AR2008011302753.html>. In Greenland, ice loss doubled over about the same period. *Greenland Ice Melting Faster Than Thought*, PHYSORG, Feb. 17, 2006, <http://www.physorg.com/news10948.html>; *Greenland Melt "Speeding Up"*, BBC NEWS, Aug. 11, 2006, <http://news.bbc.co.uk/2/hi/science/nature/4783199.stm> (discussing period between 1996 and 2005).
25. Kaufman, *supra* note 24. Many scientists are focusing on the West Antarctic ice sheet, which is especially vulnerable, because much of it is grounded below sea level. As the U.S. Geological Survey states: "Small changes in global sea level or a rise in ocean temperatures could cause a breakup of . . . ice shelves. The resulting surge of the West Antarctic ice sheet would lead to a rapid rise in global sea level." *Sea Level and Climate*, *supra* note 10.
26. Kaufman, *supra* note 24.

tion.²⁷ If the entire Antarctic ice sheet and Greenland melt, the world faces a sea-level rise of about 80 meters.²⁸

As climate disaster strikes various areas, people start to move in desperate search of survival resources. The United Nations has alerted nations to prepare for 50 million environmental refugees by 2010.²⁹ A world security report co-authored by a former head of the CIA [Central Intelligence Agency], a former Chief of Staff, a former Deputy Assistant Secretary of Defense and others, describes the scenario of a 2.6 °C average increase in global temperature by 2040. In their words: “Massive nonlinear events in the global environment give rise to massive nonlinear social events. . . . [N]ations around the world will be overwhelmed by the scale of change. . . . The social consequences range from increased religious fervor to outright chaos.”³⁰

The darkest outlook comes from James Lovelock, long thought of as a prophet of climate science, who predicts that by the end of the century, most of earth’s current population of 6.6 billion people will be wiped out, leaving only about 500 million hanging on at the far latitudes of the planet.³¹ We can only hope he is dead wrong.

Many of you might be wondering about the climate skeptics. If you follow their trail, you find most are paid by industry-funded think-tanks to spread confusion.³² The reality is that anyone still in denial wants to be in denial. They are probably just best ignored.

For quite some time the question has not been whether global warming is occurring. The question is whether we will cut our carbon emissions in time to prevent runaway heating. NASA [National Aeronautics and Space Administration] scientist Jim Hansen, widely regarded as the “pre-eminent climate scientist of our time,”³³ says: “[W]e are at the hairy edge.”³⁴

There is no doubt that humanity is in for severe climate punishment. But the consequences will be unthinkably worse if we don’t slash emissions now. If we continue on the present course, the United Nations projects a possible temperature rise of 6.1 °C (that’s about 11 °F) by century’s end.³⁵

We are rapidly slipping toward a climate tripwire—a point of no return that climate scientists call the tipping point.³⁶ At such point, our enormous carbon pollution could kick in positive feedbacks in nature that are capable of unraveling the planet’s climate system, causing runaway heating despite any subsequent carbon reductions achieved by humanity.³⁷ Scientists have identified several dangerous feedbacks. One is the albedo flip. When ice melts and turns to water, it causes further heating, because water absorbs heat and ice reflects heat.³⁸ So, melting begets more melting. Another feedback is the failure of earth’s natural sinks to absorb more carbon to compensate for our pollution.³⁹ The Amazon rainforest is drying and burning, releasing more carbon than its remaining vegetation can absorb.⁴⁰ The oceans are becoming saturated with carbon.⁴¹ In short, these places are on the verge of turning from carbon sink to carbon source. Another feedback results from vast expanses of permafrost melting in Siberia and Alaska, which has the capacity to release enormous amounts of carbon and methane—a scenario described by one science writer as an atmospheric tsunami.⁴²

These feedbacks all lead us closer to a precipice.⁴³ Even two years ago it was thought that we might have 8-10 years left before the climate tipping point, but more recent data shows we are on its doorstep now.⁴⁴ To quote a leading study: “Earth [is] perilously close to dramatic climate change that could run out of our control. . . .”⁴⁵ The head of the [IPCC] recently told the world: “What we do in the next two to three years will determine our future. This is the defining moment.”⁴⁶

Two years. This deadline has not registered with Americans. The United States continues to produce nearly 30% of the world’s greenhouse pollution.⁴⁷ Look around. Our society is nowhere near decarbonizing. Many people seem happily oblivious to this global catastrophe, perhaps because it seems more like science fiction than reality. It seems the

27. *Id.*

28. *Id.*

29. *Millions “Will Flee Degradation,”* BBC NEWS, Oct. 11, 2005, <http://news.bbc.co.uk/2/hi/science/nature/4326666.stm>.

30. CENTER FOR STRATEGIC & INT’L STUDIES, *THE AGE OF CONSEQUENCES: THE FOREIGN POLICY AND NATIONAL SECURITY IMPLICATIONS OF GLOBAL CLIMATE CHANGE* 7 (2007).

31. *Fiddling With Figures While the Earth Burns*, SUNDAY TIMES, May 6, 2007, <http://www.timesonline.co.uk/tol/news/uk/science/article1751509.ece>; Jeff Goodell, *The Prophet of Climate Change: James Lovelock*, ROLLING STONE, Oct. 17, 2007, available at http://www.rollingstone.com/politics/story/16956300/the_prophet_of_climate_change_james_lovelock.

32. See Ross Gelbspan, *Criminals Against Humanity*, in *BOILING POINT* (Basic Books 2004).

33. MARK BOWEN, *CENSORING SCIENCE* 3 (2008).

34. See Bill Blakemore, *Weird Science Getting New Respect, Just in Case*, ABC NEWS, Nov. 16, 2006, available at <http://abcnews.go.com/Technology/GlobalWarming/story?id=2655729&page=1>.

35. U.N. IPCC, *CLIMATE CHANGE 2007: SYNTHESIS REPORT: SUMMARY FOR POLICYMAKERS 4*, available at http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf [hereinafter *SYNTHESIS REPORT*]. The U.N. predicts runaway heating will put 70% of the world’s species into extinction. Arthur Max, *Dire Warming Forecast Issued by U.N. Panel*, NAT’L GEO. NEWS, Nov. 17, 2007, <http://news.nationalgeographic.com/news/2007/11/071119-AP-climate-change.html>.

36. For general explanation, see Leslie McCarthy, *Goddard Institute for Space Studies, Research Finds That Earth’s Climate Is Approaching “Dangerous” Point*, May 30, 2007, http://www.nasa.gov/centers/goddard/news/topstory/2007/danger_point.html. For more in-depth discussion, see FRED PEARCE, *WITH SPEED AND VIOLENCE: WHY SCIENTISTS FEAR TIPPING POINTS IN CLIMATE CHANGE* (Beacon Press 2007); *WHERE SHOULD HUMANITY AIM?*, *supra* note 6, at 10-11.

37. See PEARCE, *supra* note 36.

38. See Steve Connor, *The Earth Today Stands in Imminent Peril*, INDEPENDENT, June 22, 2007, <http://www.independent.co.uk/environment/climate-change/the-earth-today-stands-in-imminent-peril-453708.html>.

39. SYNTHESIS REPORT, *supra* note 35, at 7 (“Warming reduces terrestrial and ocean uptake of atmospheric CO₂, increasing the fraction of anthropogenic emissions remaining in the atmosphere.”).

40. PEARCE, *supra* note 36, at 65.

41. *Id.* at 87.

42. *Id.* at 78.

43. *Id.* at xxiv.

44. Milmo, *supra* note 11.

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

46. Elisabeth Rosenthal, *U.N. Chief Seeks More Leadership on Climate Change*, N.Y. TIMES, Nov. 18, 2007.

47. AL GORE, *AN INCONVENIENT TRUTH: THE PLANETARY EMERGENCY OF GLOBAL WARMING AND WHAT WE CAN DO ABOUT IT* 250-51 (2006) (featuring a map depicting contributions across the globe).

more dire the environmental issue, the less likely it is to be taken seriously in the United States.⁴⁸

II. An Idle Government

Let's review the big picture. 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 requires us to overhaul our sectors and lifestyles to solve, 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. Climate thinkers agree: nothing less than a massive, global effort surpassing the scale of World War II will provide hope of stabilizing climate at this point.

But this is no time to get discouraged. We must save despair for better times. We have tremendous ability to mount an atmospheric defense effort. The biggest limiting force is our imagination of what is possible. We must remember the great wartime mobilization of World War II.⁴⁹ When we hear auto companies today complain that they need 12 years just to come out with higher fuel efficiency, remember, the auto industry stopped making cars for nearly three years so that it could make defense vehicles.⁵⁰ All manufacturing was re-gearred to the war effort. A toy company made compasses. A corset manufacturer produced grenade belts.⁵¹ The financial world sold war bonds. States lowered their speed limits to conserve gas. Communities planted victory gardens to grow food locally so that the commercial food supplies could be sent to the troops. Consumers made do with the bare minimum.

Speakers Bureaus formed in cities across the country, drawing 100,000 volunteers. These Victory Speakers, as they were called, were key to mobilizing the nation quickly. They would give five-minute speeches at theatres, clubs, town halls, schools—any forum they could find—to explain the nature of the threat and the need for citizen support. Victory Speakers were not chosen for their outstanding oratory skills, but rather were the trusted and familiar voices in the community: the banker, carpenter, mother, and school teacher.

People did not just sit by. They took initiative. And their leaders inspired urgent action. [President Franklin D.] Roosevelt told America: "Let no man say it cannot be done . . . Speed will save lives; speed will save this Nation which is in peril; speed will save . . . our civilization . . . slowness has never been an American characteristic."⁵²

Generations later, how is this same country responding to the urgency of climate crisis?

The reality today is that most Americans are too busy to make time for global warming. Where are the parents, for example? We are so consumed with taking our children to soccer games and piano lessons that we don't stop to think how our children will fare in 2040 if we leave them a world of runaway heating with relentless natural disasters and scarce supplies of food and water. By living out the American dream today, we are essentially signing our own children up for a draft for their lifetimes in an unending war for survival. But this war will be the scariest, because it has no end, not even for their descendants. Unfortunately, it's no consolation that we may be good, devoted parents who just aren't that interested in global warming. Nature won't recognize our children as conscientious objectors to climate crisis.

To be sure, there are some Americans responding with changes in their lives. They ride the bus more often, they refuse to buy bottled water, they purchase locally grown food, and they turn off the lights. These people are important models, but national defense cannot be put on the backs of a few good soldiers. Most of these concerned citizens are doing nothing to enlist the rest of society in climate defense. There are few Victory Speakers for climate crisis.

Small progress can give us a dangerous sense of security. Climate defense entails carbon math. We lose the world we know if we can't get our total planetary carbon levels down before the tipping point. Each day that passes, our narrow window of opportunity closes that much more.

Here is the hopeful part. We have the human imagination, the resources, the legal tools, and the bureaucracy to cut carbon. We can do so without harming our citizens; in fact, these efforts could vastly improve our quality of life. But this is clearly a task for government. And this is exactly why we have government—to address broad threats to society and organize a response. We have thousands of agencies, more than any other nation in the world. If every one of them made global warming a top priority, we might stand a chance of meeting this crisis head on. But all of our regulatory authority and taxpayer money is locked up in government. We need those resources to be put to use immediately in curbing greenhouse gas emissions.

In World War II, new agencies and commissions sprang up overnight to amass a national defense effort. Looking back, Hurricane Katrina was the Pearl Harbor of climate crisis. Yet, do you see mayors, city councils, state legislatures, Congress, and the president convening task forces and meeting daily and working late to address this problem? No, in fact, our government is *driving* this world toward runaway greenhouse gas emissions. County commissioners are approving trophy home subdivisions and destination resorts. State environmental agencies are approving air permits. The [U.S.] Forest Service is approving huge timber sales.⁵³ And the U.S. Environmental Protection Agency [EPA] is permitting coal-fired plants and expanding mountaintop coal mining.

There presently exists a deep gulf between what we should be doing and what we are doing. We must remember that in a system of democracy, citizens do hold the levers of

48. But as Tony Blair, former Primer Minister of Great Britain, told the world: "This disaster is not set to happen in some science fiction future many years ahead, but in our lifetime. Unless we act now . . . these consequences, disastrous as they are, will be irreversible." Simon Hooper, *Report Sets Climate Change Challenge*, CNN.COM, Oct. 30, 2006, <http://www.cnn.com/2006/WORLD/europe/10/30/climate.costs/index.html>.

49. LESTER BROWN, PLAN B 3.0: MOBILIZING TO SAVE CIVILIZATION 279-80 (2008).

50. *Id.* at 279.

51. *Id.* at 280 (citing DORIS KEARNS GOODWIN, NO ORDINARY TIME (1995)).

52. Franklin D. Roosevelt, State of the Union Address (Jan. 6, 1942), available at <http://janda.org/politxts/state%20of%20union%20addresses/1934-1945%20Roosevelt/FDR42.html>.

53. For discussion of forest harvest impacts on climate, see Union of Concerned Scientists, *Recognizing Forests' Role in Climate Change*, http://www.ucsusa.org/global_warming/solutions/recognizing-forests-role-in-climate-change.html (last visited June 19, 2008).

government. Government will act if citizens demand it. But our leaders will not act if citizens do not demand them to. Abraham Lincoln once said: “Public sentiment is everything. With [it], nothing can fail. Without it, nothing can succeed.”⁵⁴ The heart of the problem is this: Americans seem to have lost their understanding that government is obligated to protect their natural resources. And when the public loses its sense of government responsibility, government officials quickly lose their sense of responsibility toward the public.

There is no better evidence of this than the position taken by [EPA] with respect to climate change. EPA is the only agency charged by Congress to protect the air and atmosphere. Yet the Agency is spending its talent and taxpayer money to *resist* protecting the atmosphere. The Agency even sent its lawyers all the way to the U.S. Supreme Court to argue that EPA did not have to regulate CO₂ [carbon dioxide] pollution.⁵⁵ The lawyers characterized the protection of our atmosphere as a political choice, and claimed that the Agency has discretion to permit pollution by the fossil fuel and automobile industries, no matter that this legalized pollution threatens to destroy the climate stability that has supported human civilization for 12,000 years. EPA lost that case, but it still hasn’t passed rules regulating CO₂, and it’s now doing everything in its power to prevent California from passing standards for new automobiles. It is as if our home is on fire, 20 fire trucks are in the driveway with hoses drawn, and the fire chief claims discretion to sit idle and watch our house burn down.

Unless we Americans quickly gain a fierce national sense that our leaders are responsible for protecting our atmosphere, we won’t force them to take the bold action necessary within that narrow two-year window of time we have left. Our leaders will continue to fiddle in Rome as this country is pulled over the tipping point into a terrifying world of runaway heating.

III. Environmental Law Gone Astray

In order to solve the problem, we must understand its cause. How have Americans lost sight of their government’s basic obligation to protect our crucial natural resources? Ironically, the explanation lies in an unintended consequence of our modern environmental law. In the 1970s, at the height of the environmental movement, Congress passed a set of ambitious environmental statutes, among them the Clean Water Act, the Clean Air Act (CAA), the Endangered Species Act, and many others. These statutes gave us more environmental law than any other country in the world. They provide tremendous authority to federal, state, and local officials to control just about any environmental harm you can think of. The problem is that along with this authority, these laws also gave discretion to agencies to permit the very pollution or land destruction that the statutes were designed to prevent. Of course, the permit systems were never intended to subvert the goals of the environmental statutes. But the majority of agencies now spend nearly all of their resources to permit, rather than prohibit, environmental destruction. They have used their discretion to enshrine a permit system that inevitably sinks the statutory

goals. Whether you are talking about EPA, or the U.S. Fish and Wildlife Service, a state water agency, or a city planning agency, most agencies simply are not saying no.⁵⁶ And now, the overarching mindset of nearly all agencies is that permits are there to be granted.

Because of these permit systems, society has lapsed into assuming that government must have nearly unbridled discretion to destroy our natural assets. And courts aggravate this problem because they fail to examine whether the agency decision is politicized. They operate on the false assumption that all agency decisions are neutral. This neutrality, of course, is often a charade. 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—was neutral when he edited government climate reports to emphasize doubts about climate change? After doing that, he left government to join 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 now find it normal to have to go lobby government for their own survival.

The public has to find a new frame for viewing government’s role toward nature. As author George Lakoff says: “Reframing is changing the way the public sees the world. It is changing what counts as common sense.”⁵⁷ Let’s now look at an ancient yet enduring legal framework designed to hold government accountable.

IV. A New Frame: Government’s Trust Obligation

A. The Bedrock of Environmental Duty

The bedrock principle of this framework is that government is 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. We all hold a common property interest in nature’s trust.⁵⁸

56. The problem is not limited to the United States. As the former Executive Director of the United Nations Environment Programme (UNEP) noted:

The field of law has, in many ways, been the poor relation in the world-wide effort to deliver a cleaner, healthier and ultimately fairer world. We have over 500 international and regional agreements, treaties and deals covering everything from the protection of the ozone layer to the conservation of the oceans and seas. Almost all, if not all, countries have national environmental laws too. But unless these are complied with, unless they are enforced, then they are little more than symbols, tokens, paper tigers. This is an issue affecting billions of people who are effectively being denied their rights and one of not only national but regional and global concern.

UNEP, Press Release: *Senior Judges Adopt Ground-Breaking Action Plan to Strengthen the World’s Environment-Related Laws*, Aug. 27, 2002, available at <http://www.unep.org/Documents.Multilingual/Default.asp?ArticleID=3115&DocumentID=259> (last visited July 12, 2008) (quoting Klaus Topfer on the adoption of the Judges’ Johannesburg Principles on the Role of Law and Sustainable Development).

57. GEORGE LAKOFF: DON’T THINK OF AN ELEPHANT! KNOW YOUR VALUES AND FRAME THE DEBATE xv (2004).

58. *Geer v. Connecticut*, 161 U.S. 519 (1896) (“The power . . . resulting from this common ownership is to be exercised, like all other powers of government, as a trust for the benefit of the people, and not as a prerogative for the benefit of private individuals as distinguished from the public good.”). *Id.* at 529. For discussion of the Nature’s

54. See Brainy Quote.com, Abraham Lincoln Quotes, http://www.brainyquote.com/quotes/authors/a/abraham_lincoln.html.

55. *Massachusetts v. EPA*, 127 U.S. 1438, 1454, 37 ELR 20075 (2007).

We, along with future generations, are the rightful beneficiaries of this natural endowment, and we need our trust to be productive in order to sustain human survival and promote human welfare. Our imperiled atmosphere is the most crucial asset in our trust.

With every trust, there is a core duty of protection. The trustee must defend the trust against injury. 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 interested . . . than it can abdicate its police powers in the administration of government”⁵⁹

This obligation to protect nature’s trust lies at the very heart of government’s purpose. A government that fails to protect its natural resources sentences its people to misery. When we call upon our government to defend our atmosphere, we are invoking principles engrained in sovereignty itself. These trust principles have been said to “exist from the inception of humankind.”⁶⁰

In this country, nature’s trust principles were penned by judges long ago as the first environmental law of this nation.⁶¹ The trust principle underlies all of our modern environmental statutes.⁶² We can take those environmental laws, and without changing a word of them, reframe our government’s role with respect to nature. By reframing, we can turn the government’s claimed discretion to destroy nature into an obligation to protect nature. Looking back in the history of this country, reframing was essential to the civil rights movement, the women’s rights movement, and the New Deal.

When we portray nature as a trust, we vest citizens with expectations of lasting 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. 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. But this principle works in reverse as well. We can pass any new law we want, and no matter what it says, if it is pressed through the discretion frame, the government will continue to impoverish our natural resources until society can no longer sustain itself.

Trust paradigm as it applies to environmental law, see Mary Christina Wood, *Nature’s Trust: Reclaiming an Environmental Discourse*, 25 VA. ENVTL. L.J. 243 (2007).

59. *Illinois 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.
60. *Oposa v. Factoran*, G.R. No. 101083 (July 30, 1993) (S. Ct. Phil.), excerpted in JAN G. LAITOS ET AL., *NATURAL RESOURCES LAW* 441–44 (West Publishing 2006).
61. See *Illinois Cent. R.R. Co.*, 146 U.S. at 393. The body of law known as the “public trust doctrine” is compiled and analyzed in LAITOS ET AL., *supra* note 60, ch. 8.II.
62. In the opening provision of the National Environmental Policy Act (NEPA) of 1969, Congress declared a national duty to “fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.” 42 U.S.C. §§4321–4370d, 4331(b)(1), ELR STAT. NEPA §§2-209, 101(b)(1). Federal pollution laws also designate sovereigns (federal, tribal, and state governments) as trustees of natural resources for purposes of collecting natural resource damages. See generally Charles B. Anderson, *Damage to Natural Resources and the Costs of Restoration*, 72 TUL. L. REV. 417 (1997).

B. *The Economic and Moral Realms*

Let’s look at how the trust principle finds reinforcement in the economic and moral realms, because a true societal paradigm shift must reach well beyond the law. In economic terms, the nature’s trust principle finds profound synergy with “natural capitalism,”⁶³ which is a fundamental rethinking in economics that requires businesses to build profits by using the earth’s interest, not its capital. When you read about wind power increasing 25% in one year alone, that represents a piece of industrial capitalism converting to natural capitalism. Of course if wind, tidal, geothermal, and solar energy continue to grow, these green industries will snuff out a major part of the fossil fuel industry. As well they should. After all, the heart of American capitalism is innovation. Economic dinosaurs and dirty industries should perish and make way for cleaner industries that won’t damage or drain the natural capital that we all rely on. Climate scientists have made clear that humanity cannot release to the atmosphere all, or even most, of the remaining fossil fuel CO₂. In their words: “To do so would guarantee dramatic climate change, yielding a different planet than the one on which civilization developed. . . .”⁶⁴ 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.

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. The duty toward future generations is a moral imperative that speaks universally to all cultures, all ages, and all classes. This obligation springs from the heart of all humanity. It is *this* law, not some arcane provision of the [CAA], which carries hope of bringing citizens of the world together to mount a global atmospheric defense effort.

V. Three Principles Governing Atmospheric Trust Protection

Within this trust framework, I would now like to offer three concrete principles to direct government’s climate response.

A. *The Scientific Imperative: Carbon Math*

The first principle is that the laws of nature, not politics, must define the necessary action. Scientists have used climate modeling to present us with a path that they believe will keep us on the safe side of the tipping point. To achieve this 2 °C limit, we have to keep atmospheric concentrations of CO₂ down to 350 parts per million (ppm).⁶⁵ We can think

63. See PAWL HAWKEN ET AL., *NATURAL CAPITALISM: CREATING THE NEXT INDUSTRIAL REVOLUTION* (1999); PETER BARNES, *CAPITALISM 3.0* (2006).

64. See *Climate Change and Trace Gases*, *supra* note 1, at 1939.

65. While scientists had thought that the tipping point was around 450 ppm, *Climate Change and Trace Gases*, *supra* note 1, at 1937, accelerated melting in the polar regions combined with other recent data has caused some scientists, including the world’s most prominent climate scientist, Hansen, to mark the threshold point at 350 ppm. See Bill McKibben, *Civilization’s Last Chance: The Planet Is Nearing a Tipping Point on Climate Change, and It Gets Much Worse Fast*, L.A. TIMES, May 11, 2008, available at http://www.latimes.com/news/opinion/laopmckibben11-2008may11_0,7434369.story. For a scientific paper setting forth this target, see *Where Should Hu-*

of this as the climate imperative. We are presently above 385 [ppm], and we dare not linger there long.⁶⁶ You see that this is really a matter of carbon math. We must realize that if various political measures do not add up to the required carbon math in time, they will be futile. A rescue rope that is too short is no good at all.

B. *The Climate Prescription*

The second principle builds on the first. Trustees have specific fiduciary duties that serve as standards of performance. We don't 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 a 15% yield or 2%, or even give it away, I'll just take whatever is left." 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.

So what is the fiduciary standard of care for protecting the atmosphere? In September 2007, the Union of Concerned Scientists issued an emissions target for stabilizing the climate.⁶⁷ This is a clear, quantitative prescription for action to get our planet back on the path to climate equilibrium,⁶⁸ and it is therefore a yardstick for government's fiduciary obligation. There are three things the United States must do: (1) arrest the growth of emissions by 2010; (2) reduce greenhouse gas emissions by 4% each year thereafter; and (3) ultimately bring emissions down to 80% below 2000 levels by 2050.⁶⁹ The deadline to arrest the growth of emissions by 2010 is directly in line with a call by the United Nations to halt world-wide emissions growth by 2015.⁷⁰ The world-wide date is set out five years farther than the U.S. date because the developing nations like China and India are going to take more time to arrest emissions.

C. *The Inexcusability of Orphan Shares*

The third principle has to do with the responsibility of each nation, and each state within each nation, to reduce carbon. 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, their common asset.

You can apply this mandate to every nation of the world and create a framework for carbon responsibility. You can imagine the industrialized world's planetary carbon load as one big pie. You have heard of pie in the sky. 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 leave an orphan share that will sink all other planetary efforts. The carbon pie will not shrink by the amount it needs to. The United States is responsible for 30% of the greenhouse gas emissions on the planet. No other 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.

So this third principle means that as co-tenant trustees of the atmosphere, all industrial 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 states, must carry their burden. It is their fiduciary obligation as trustee. In order to save this planet, we must not excuse any orphan shares.

I recently gave a talk to a class of high school students in McCall, Idaho, and I told them that the fate of the entire planet rests on McCall, Idaho, because if you don't take your share of carbon reduction, who will? Do you expect those of us in Eugene, Oregon, to take it? We have enough of a challenge with our own share. And unless every share is accounted for, we're not going to decrease the carbon pie enough in the time we have left. That point hit home with those students. There was a sober moment when they realized that their future depends on *their* town accepting carbon responsibility—and on everyone else in the world thinking the same way.

VI. Arresting the Growth of Emissions: Getting There in Two Years

We must look reality in the face and ask what it will take to arrest the growth of carbon emissions within two years. That is a very short time frame. 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 have the legal tools available to arrest the growth of emissions. A carbon tax, for example, is a swift, effective way to achieve dramatic emissions reductions. Government should also use moratoria to stop new sources of greenhouse gas emissions. The most urgent moratorium is one against new coal-fired plants. Hansen recently gave testimony in an Iowa coal plant proceeding and warned that even one more coal plant with emissions of nearly 6 million tons of CO₂ per year over 50 years could be the "straw that breaks the camel's back."⁷¹ We are that close.

manity Aim, *supra* note 6, available at http://www.columbia.edu/~jeh1/2008/TargetCO2_20080407.pdf ("If humanity wishes to preserve a planet similar to that on which civilization developed, paleoclimate evidence and ongoing climate change suggest that CO₂ will need to be reduced from its current 385 ppm to at most 350 ppm."). [Editors' note: The text of the speech was changed from its original form (which referred to 450 ppm) to reflect the recent science.]

66. See *id.* at 1, 10 ("If the present overshoot of this target CO₂ is not brief, there is a possibility of seeding irreversible catastrophic effects. . . . A point of no return can be avoided, even if the tipping level is temporarily.")

67. See Union of Concerned Scientists, *A Target for U.S. Emissions Reductions*, http://www.ucsusa.org/global_warming/science/emissions_target.html.

68. Because the prescription is calibrated to the 450 ppm threshold, which recent data suggest may be too high to achieve climate stability, even this prescription may be too little too late. One leading climate policy thinker asserts that the United States needs to cut carbon 80% by 2020 and sets forth a plan to achieve this goal without additional reliance on nuclear energy. BROWN, *supra* note 49.

69. Union of Concerned Scientists, *supra* note 67.

70. Milmo, *supra* note 11.

71. James E. Hansen, Testimony Before the Iowa Utilities Board 7, available at [http://plainsjustice.org/files/GCU-07-1_Sutherland_Filing/Hansen%20Direct%20Testimony%20\(Public\).pdf](http://plainsjustice.org/files/GCU-07-1_Sutherland_Filing/Hansen%20Direct%20Testimony%20(Public).pdf) (2007).

In addition to curbing emissions, it is imperative to protect the natural resources we still have. We must safeguard any remaining carbon sinks that have capacity to cleanse the atmosphere of carbon. That means a halt to extractive forestry, wetland destruction, and industrial farming that damages soils. Moreover, we have to look at all of our natural resources in a different light, because they are now much more valuable functioning in their natural way than being destroyed to profit singular interests. Due to the heating already in the pipeline, society is not going to have all of the forests, the water, the species, and the productive soils that we inherited from past generations. In the new world of climate heating, all remaining natural resources carry a premium. Society must now treat nature as if it were more essential to our survival than our pocketbooks. If we can't quickly learn to do that, we have very little hope for our future.

And we must start thinking and acting like beneficiaries in order to hold our government trustees accountable. We must demand government trustees to undertake and make public carbon accountings that disclose the results of these climate initiatives. Carbon accountants are now able to measure the carbon emissions of any jurisdiction, which means they can track progress in reducing emissions by 4% a year as called for by the Union of Concerned Scientists. Without such a carbon accounting, we would have to simply assume our trustee is doing its job, and no smart beneficiary would do that. As citizens, we are as entitled to an accounting of our atmospheric assets just as we are entitled to a quarterly statement of our financial assets from the bank.

Nevertheless, I'll bet many of you are thinking, it's not politically feasible to stop timber sales, sprawling development, and cut back on motorized recreation or pleasure driving to achieve these carbon targets. And you are quite right. The only politically feasible course of action is to send this world into disaster. Now go look your children in the eye and tell them that. That is why we need courageous leaders to voice a new political paradigm, one that offers hope for the next generation.

But many elected officials make policy out of fear rather than courage. They fear that their constituents will resent measures that cut into their lifestyle. This is exactly backwards. Today's life of convenience will lock us into a future where there is no convenience. Where is the convenience in a family huddled on a rooftop praying that a helicopter will lift them from the floodwaters of Hurricane Katrina? Where is the convenience in half a million Californians evacuating their homes to escape wildfires racing towards them? Who finds convenience in the 13-year-old boy washed down a flooded creek to his death during the torrential rains in Texas? It is time to face the fact that we live in a different world than we did just a few years ago. We have to take action now to preserve any semblance of the security and predictability in life that we now take for granted. And those concerned about the impact on private property rights have to confront the reality that all private property depends on natural infrastructure. When that infrastructure collapses, it causes natural disasters that make property boundaries irrelevant. Remember, private property deeds didn't account for

anything in the aftermath of Hurricane Katrina. And they won't account for anything along coastlines inundated by rising sea levels.

The choice for government is now disaster prevention or disaster relief. 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. True leaders know how to do that. All other leaders must quickly learn how.

VII. A Changed Moral Structure

But we can't walk bravely into this new world without a moral compass to guide our decisions. In World War II, there was a high community moral standard backing all of the individual sacrifices. You surely wouldn't have seen SUVs [sport utility vehicles] roaring down the streets of America when people were trying to conserve gas for the troops. Any waste on the home front was a direct affront to the families that had sent their sons into war. Americans understood the connection between the need to conserve and the welfare of their children whose lives were on the line in defense of our nation.

Today, we need to recognize that same connection between our waste and the welfare of our sons and daughters. We must realign our consumption choices into needs versus wants, simplicity versus extravagance. The time has come to ask whether bottled water is more useful for high school vending machines than for disaster relief packages. And whether hummers [GMC Hummers] are needed for office commuters. Given what the scientists say, the real hidden subsidy of today's consumptive lifestyle is human death and suffering tomorrow.⁷² We are freewheeling over future graves.

Barbara Kingsolver speaks of "the anguish of standing behind a child, looking with her at the road ahead. . . ."⁷³ She writes: "The truth is so horrific: we are marching ourselves to the maw of our own extinction."⁷⁴ In the end, the destiny of our children comes down to actions taken by each one of us individually, and all of us collectively. Yes, the problem is big, and yes it seems insurmountable, but is it too big for you? Should you just turn away from it? Kingsolver says:

I do know the answer to that one: that's called child abuse. When my teenager worries that her generation won't be able to fix this problem, I have to admit to her that it won't be up to her generation. It's up to mine. This is a now-or-never kind of project.⁷⁵

72. Many writers on the subject of global warming clearly link present fossil fuel activities to the jeopardy of future human survival. See, e.g., PEARCE, *supra* note 36, at xxiii ("We are interfering with the fundamental processes that make Earth habitable. It is our own survival that is now at stake, not that of a cuddly animal or a natural habitat."); JAMES GUSTAVE SPETH, *THE BRIDGE AT THE EDGE OF THE WORLD* (Yale Univ. Press 2008); Lynas, *supra* note 2 and accompanying text. What is missing in the American mindset, however, is the uncomfortable link between present actions and future death. The rhetoric of the day still avoids the term "death," instead discussing the consequences in less distressing terms such as impaired survival, or loss of habitability.

73. BARBARA KINGSOLVER, *ANIMAL, VEGETABLE, MIRACLE* 346 (2007).

74. *Id.* at 345.

75. *Id.*

He added: "If we cannot stop the building of more coal-fired power plants, those coal trains will be death trains—no less gruesome than if they were boxcars headed to crematoria, loaded with uncountable irreplaceable species. . . ." *Id.* at 8.

She's right. In fact, it's now-or-never collapsed into two years at most to arrest the growth of carbon emissions. Americans must wake up to this reality and hold government responsible for protecting our future. Democracy simply doesn't work without active citizenship. There are many people in this country—perhaps the majority—who are concerned about global warming but are taking no action at all to hold their leaders accountable. They are not deniers. They are simply distracted. When these citizens are confronted with the truth of what is happening, they will feel a moral imperative to act, and they will force their leaders to act. This is a psychological leap forward happening all over the world at once. But it doesn't happen without catalysts.

VIII. The Victory Speakers

Let me tell you about one young catalyst. I mentioned speaking to schools in McCall, Idaho, in January. McCall is a small mountain town of about 3,000 people supported by a tourist economy and a ranching, logging, and mining base. Until recently it was a town that seemed to have no concern for global warming, even though it's been suffering from unusual snow melt at times in the winter, raging wildfires in the summer, and a dose of West Nile virus.

After I spoke to the McCall high school and elementary school classes, a 10-year-old girl I know named Claire approached me with a letter she had written. It was addressed to the people of McCall. She wrote it after she and her family watched *Planet in Peril*, a movie that documents the collapse of ecosystems worldwide. The movie had left her so disturbed and worried about her future that she was moved to write a letter. If I had left town without doing anything, that letter would have haunted me. So I told Claire we would get together a group to have pizza and talk about these issues. I invited 20 people in the community, about half of whom I didn't even know, and two students, Peter and Sam, from that high school class I had spoken to.

After everyone arrived and filled their plates, Claire got up in front of the group and read her letter.

Dear People of McCall,

I'm really disappointed not only in what America is doing but . . . what the whole world is doing. Coral reefs are dying, forests are becoming farms, ice bergs are melting into the ocean. That is only the start. . . . All the world is getting in trouble. . . . We can make a difference though. We can all make a difference if we just spend time with family and friends talking over what we can do and proceed to do what we talk about doing.

Three weeks after that letter was read, Peter and Sam, along with their high school class and with help from the adults at that pizza gathering, packed the high school gymnasium with hundreds of townspeople to give a presentation on global warming and how it would affect their future. There were city officials, school officials, parents and grandparents, coaches, nurses, doctors, accountants, architects; the town turned out in mass. The event began with Claire reading her letter. And there were tears. The citizens realized this is real. But now there's no stopping that town and the changes they will make. These kids, with their parents and teachers and community people behind them, have placed responsibility for carbon pollution squarely on Mc-

Call, Idaho. And they are taking a leap of faith that towns across the world will step up in just the same way.

Ten-year-old Claire is a Victory Speaker. In World War II, it took 100,000 Victory Speakers to mobilize the nation in a very short time. We need Victory Speakers for climate crisis—ordinary people who can talk about the urgency of carbon reduction and inspire extraordinary action.

Climate Victory Speakers are emerging from all walks of life. A young Harvard student named Allison Rogers entered the Miss America pageant and put on a swimsuit to bring attention to global warming. A lawyer from England also put on a swimsuit for global warming, but he dove into waters at the North Pole, waters that on that day 30 years ago, consisted of ice 11 feet thick. Author Bill McKibben organized a day of Step It Up rallies across the nation. Laurie David wrote a book. Sheryl Crow did a college tour. Eban Goodstein organized the Focus the Nation Event. University of Montana's Nicky Phear bicycled 1,000 miles as part of a Ride for Climate to educate people about climate change. A huge number of nurses are fighting new coal fired plants down in Nevada. A nine-year-old boy and his seven-year-old brother here in Eugene, Oregon, planted a victory garden with free, local vegetables for their neighborhood. And a nine-year-old Australian boy called Jack Simmons campaigned on YouTube with a stump speech that goes: "So this election remember, it's your vote, but our future."

This world today needs such can-do people, millions of them, to activate government. We have too many can't-do people: passive bystanders to climate crisis. When their grandchildren demand to know why they did so little at this crucial time, the can't-do people will say: "I didn't know, I didn't have the time, we couldn't control China's emissions, I had too much going on, no one else did anything, I couldn't have made a difference, it was everyone else's fault." These responses will be ashes in the wind. The can-do people will save this planet, and they will tell their grandchildren how they answered the call of a generational mission. There are can-do people in every corner of the globe.

IX. The Dawn of Planetary Patriotism

Whatever your position is in life, this is the time to do something, anything. Teachers, bring global warming to the classroom. Parents, bring it to the PTA [Parent-Teachers Association]. Lawyers, bring global warming to court. Business people, bring it to the bank.

Somehow fate has delivered all of us into this pivotal moment on earth. We did not live 100 years ago, when it was too early to even imagine the collapse upon us, and we will not be here 100 years from now when it will be too late to save what we still can. We can only claim our moment.

But if we Americans take the lead through all walks of life, we can reframe what is currently government's discretion to destroy our atmosphere into an obligation to defend our atmosphere, as a commonly held asset in the endowment we must hand down to our children, for their survival. If we succeed in defining that one obligation on the part of our government, 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. When that dawn unfolds, Victory Speakers around the world will know this: during our moment on earth, we ignited planetary patriotism.