

THE MOST IMPORTANT NUMBER IN THE WORLD

7TH ANNUAL NORMAN WILLIAMS LECTURE
IN LAND USE PLANNING AND THE LAW
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Thank you all so much for those over-kind introductions, and thank you all for coming, and for coming inside on this beautiful day. I confess that as a die-hard cross-country skier, these are the sorts of days that depress the hell out of me—all that nice snow beginning to disappear. Still it was kind of nice out there, and it makes me feel even guiltier than usual for having sort of lured you in. You know, my basic work in the world is to be a professional bumper-outer of people and I am afraid there will be a little bit of that today before we hopefully end in a better place.

I love coming to [Vermont Law School (VLS)]. This is a magnificent place. And of course I was a little reluctant when they told me about this important annual lecture, because, frankly, I know essentially nothing about land use at all—there are a lot of things about which I know essentially nothing—until it did occur to me that in fact the changes that we are undertaking now as a planet are already doing more to change the topography, to change the hydrology, to change just about every physical feature around us more than anything else we have done over our long earth-moving career as a species. So maybe it is appropriate that I talk to you a little bit. I know that you all already know about climate change and everything there is to know about it, but you will indulge me for a minute just to sort of make sure we are all on *exactly* the same page.

I wrote the first book about all this twenty-two years ago, i.e., right about when you guys were born. So I have had a long time to follow this story. We knew most of what we needed to know twenty-two years ago, frankly. We knew that when you burn coal and gas and oil, you put CO₂ into the atmosphere, and we knew that the molecular structure of CO₂ trapped heat that would otherwise radiate back out to space. We knew that

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we were in for big trouble. Really the only thing we did not know twenty years ago was how fast the big trouble would come. And, being human, we hoped it would take a while so it would be somebody else's problem to deal with—not ours. The passage of the last twenty years has mostly been about finding out that it is coming faster and on a larger scale than we would have guessed twenty years ago, and I could talk about that for a very long time. That is what the first couple of chapters of this last book were sort of about—trying to demonstrate that we already made truly enormous changes to the planet on which we live.

But, let us just talk about what the last year showed us—what 2010 was like—because in many ways it was the first planet-scale taste of what global warming feels like in its early stages. And 2010 was a pretty remarkable year. Nineteen nations set new all-time high temperature records—itsself, a record by a large margin. Some of those records were really pretty incredible. I remember some of our crew being on the phone in early June with our 350.org crew in Pakistan. They were talking about plans for the year. But one of them mentioned that it was very hot that day in Pakistan, which surprised everyone to hear him say because in the summer it is normally hot in Pakistan and no one would say anything about it. He said, “No. It is really hot here today. We just set the new all time Asia temperature record at 129 degrees.” Well, that is reasonably hot, I must say. I do not think it reached 100 degrees in Ripton where I lived this summer. And, if it had gotten anywhere close, we would all have been bitching and moaning at great lengths. Add thirty degrees to that. And then, for ninety-eight percent of Pakistanis subtract any air conditioning, and you get some sense of what is going on.

When you have heat like that, it has every kind of effect. The biggest land use change now underway in this world is what is going on across the Arctic, where ice that has been in place for millennia is no longer there. As we speak today, there is a record-low volume of sea ice for this date. Last summer, both the Northwest and Northeast Passages were opened at the same time. There was a yacht race through territory that even ten years ago people thought no human would ever navigate. You watched pictures of what happened in Russia last summer. They had a heat wave like nothing they have ever had. They have been keeping records in Moscow for over 250 years, and it had never even really gotten close to 100 degrees there. It topped 100 degrees for eight days in the beginning of August. The fires that resulted shrouded the city in smoke so thick that you really could not go out. More to the point, the drought that went with all that so spooked the Kremlin that they suspended all grain exports for last year and maybe this year, too. They are the third largest grain exporter in the world. The price of

wheat went up seventy percent more or less immediately and has continued to go up since.

Maybe the most dramatic thing that happened last year was the sort of evidence of what is going on with the Earth's hydrological cycles—with the way that water moves around this planet. If there is one physical fact that is probably going to be pretty important in the twenty-first century, it is simply that warm air holds more water vapor than cold. As a result, the atmosphere is about four percent wetter globally than it was forty years ago. Now, that is an astonishingly large change in a basic physical parameter. And what it does is load the dice for more deluge and downpour and flooding. And that is exactly what we are seeing. There were two papers published today, one in *Science* and one in *Geophysical Research Letters* I think, demonstrating that the level of extreme rainfall all over the world is statistically up . . . way, way, way up. If you do not believe the scientists, talk to the people at the insurance companies. Munich Re, the biggest insurer in the world, put out a statement at the end of the year saying that 2010 provided dramatic evidence of the advance of climate change—they could see it in their payouts all over the world.

But, if you really want to understand it, talk to people in places like Pakistan. At the end of July, up in the Khyber Pass Region, in places that normally get about three feet of rain a year, the monsoon stalled, and they had about twelve feet of rain in a week. Now the British, who are good at measuring things, had put stream gauges up in these streams 75 and 100 years ago. The Kabul River up there, at the highest it had ever been before, was about 250,000 cubic feet per second back in the '20s some time. This time, it got to 400,000 cubic feet per second and then the stream gauge washed away. That is why the Indus, the main river down through the center of Pakistan, swelled so much that about a quarter of the country was eventually submerged. As of today, according to the [American] Red Cross, there are still four million people homeless from that flooding in Pakistan (i.e., seven times the population of Vermont) with no place to live because it washed away.

And that same type of mega-flood event is going on now some place around the world almost constantly. The last two months we have had six of these events. One of them happened in a place with affluent white people, so it appeared on television—that was Queensland in Australia. The others were in Sri Lanka, in parts of the Philippines, in parts of Vietnam, in the area sort of north of Rio de Janeiro. Each of these created dozens to hundreds of casualties and caused incredible economic damage, and it just goes on and on and on. The point is, it is a different world, and it is not confined to places far away.

Some of you have come through Middlebury Gap and my town, Ripton, on your way west. Two summers ago, we had the two biggest rainstorms ever recorded in Ripton about six weeks apart—they dropped a lot of rain. But if there is any town in all of Vermont that should be able to handle it, it is Ripton. It is almost all National Forest or college land, and it is intact canopy forest. That rain was falling on a different planet than that forest grew up on. There was more rain than should ever have been there, and our town damn near washed away. The Governor had to come visit in a helicopter—not that it did us a tremendous amount of good—but there he was. So it is only now with the large amount of federal stimulus money that we have managed to get Route 125 sort of back in working order and things connected to the rest of the world.

But at least we could say in Ripton that we had done our part to cause this problem—we use as much fuel as any of you. If you are a peasant farmer in Pakistan, you have not done a damn thing to make this happen—you do not burn enough fossil fuel to show up. And that is part of the incredible ethical component of this strange world we are wandering into. There is almost a perfect inverse linear relationship between how much of this problem you have caused and how quickly you are getting battered by it.

All that I have described has happened with a one-degree increase in the global average temperature. Does not sound like much—it really is not much. Twenty years ago we would not have thought it was enough to really do very much. It is only about three-quarters of a watt per square meter of the earth's surface extra energy. But it turned out the earth is very finely balanced, more than we had realized, and that was enough to cause big changes.

We have another degree in the pipeline from carbon we have already emitted, and we are probably not going to be able to stop much short of that. But the climatologists make it very clear, their consensus is quite robust, that if we do not change our ways *immediately*, if we do not get off fossil fuel *right now*—much, much, much faster than our governments or economic systems are currently contemplating doing it—that we are looking at four or five degrees as this century wears on.

So if one degree melts the Arctic, we really, really do not want to find out what four or five degrees looks like, because everything that we can predict about them is not just grim, but really on a scale as to provide the first real challenge to the abilities of our civilizations to continue. That kind of change is so chaotic, so powerful, so overwhelming. There was recent data indicating that just that rise in temperature, never mind what it was doing to hydrology or anything else, would be enough to cut grain yields

between thirty and fifty percent because you go outside the range at which corn and wheat and rice are capable of flourishing—they are as adapted to this planet as we are, or even more so because they have roots.

So the forces that we are messing with now? This is by far the biggest thing that human beings have ever done—by far. Already you can look at those pictures from Apollo 8 or whatever it was that they sent back to the earth and they are as out-of-date as my high school yearbook picture. It does not look like that anymore. They are sort of the opposite of my picture—there is a lot less white up top than there used to be.

Enough trauma. Let us talk about what we are going to do about it. The scientific method worked. Scientists have done what they are supposed to do. They have provided us with a completely useful understanding of what the problem is, how big it is, how quickly we need to act—which is very quickly. The engineers have basically done most of their job, or a lot of it. They have given us an immense number of new and interesting technologies that work. Twenty years ago when we talked about solar power and things, we sort of did it with our fingers crossed. It was basically still for aging hippies down in the basement fussing over their array of lead-acid batteries. It was good, these guys were the pioneers, but it was not quite ready for prime time. Now, my house in Ripton at 1,500 feet in Vermont works just fine off the sun. The engineers have done much of what they need to do.

The part that has not worked is the political method. It has failed and failed pretty completely so far in providing the set of conditions that would allow us to take those technologies and put them to work in a timeframe that matters. Because what matters is not getting a little bit here and there. What matters is making that wholesale transition off fossil fuel as fast as ever we can.

The failure of that political method has been complete. At a national level we have had a twenty-year bipartisan effort to accomplish nothing, and it has worked signally. It reached its climax last summer when the U.S. Senate, still firmly in the hands of the Democratic Party, refused even to take a vote on the most modest, moderate, tepid, corporate-friendly climate change bill that there could be. They could not even summon their courage to vote on it, and of course the last election makes it completely unlikely—impossible—that anything will happen in the next two years—not just because of the Tea Party, but because of the Democrats as well. The guy who won the Senate seat from West Virginia—a Democrat named Joe Manchin—his campaign commercial showed him shooting a copy of the climate legislation with his deer rifle.

So what has failed? And this is what I think is important to understand, and I am only beginning to understand it myself. What has failed so far—and I think probably failed completely—is a kind of strategy that we would deal with this on an elite level. That we would manage to persuade the significant elites that they could, that they should, take action on this problem, and that there is action they could take that is non-disruptive and that Goldman Sachs would enjoy, and all would go well, and so on and so forth. And this is what failed, and it failed in part because the legislative attempt to do it was not very good legislation. It was hard to rally people behind. But it failed more powerfully because the fossil fuel industry said, “We do not have to do this. Even this tepid piece of legislation we can squash and we will. We have enough political power to make that happen.”

They won, so far, this fight. There have been a lot of good things that have gone on locally, around the country, and around the world. And in Vermont, thanks to VLS, we have seen a lot of them—really interesting developments in regulation of utilities and regional approaches. But, taken altogether, the amount of carbon in the atmosphere is going up and at a steeper rate. We are losing this fight.

At some level, some part of me started to realize this a few years ago, because I have been watching this for a long time. I think it was probably kind of a visceral reaction as much as anything else. I have been in Bangladesh, one of the most beautiful places in the world. If you have not been there, and you are in that part of the world, go visit, because it is amazingly beautiful, fertile country. Very crowded—140 million people, half the population of the U.S. in an area about the size of Wisconsin. So, very crowded, but they feed themselves because it is so fertile. It is where the great, sacred rivers of Asia, the Ganges and the Brahmaputra, come flowing down from the Himalayas. They create a fertile delta.

They have lots of long-term problems from climate change. The Bay of Bengal is rising, the glaciers are dwindling. But when I was there, they were having a very acute problem, the first big outbreak of a disease called dengue fever, spreading like wildfire across Asia and South America because the mosquito that carries it—the *aedes aegypti*—is extremely fond of the warm, wet world that we have created on its behalf. Really, if someone was watching our planet from a distance through a telescope and was trying to figure out what the devil was happening, a reasonable hypothesis would be that we were embarking on a planet-scale mosquito-ranching endeavor. You know, that that was our goal.

They were having this first big outbreak of dengue, and it was bad and a lot of people were dying so it was all over the newspapers. And I was spending a lot of time in the slums, and eventually I got bit by the wrong

mosquito and I got sick myself, and I was sick as I have ever been. I recommend not acquiring this if you can help it. But I did not obviously die because I was strong and healthy going in. A lot of people were not quite so strong and healthy, and they were dying. The main thought I was having all of the time as I looked at this was, “God, is this unfair.” When the U.N. tries to measure how much carbon each country emits, you do not even get a number for those 140 million people in Bangladesh. People get around in the bicycle rickshaw. Most people are not connected to the grid. They are a rounding error, literally, in the carbon table, as opposed to the four percent of us who live here who produce something like a quarter of the world’s carbon.

When I saw that, when I got back home, some part of me was like “I need to do more.” I need to do more than just speak and write because it is clearly not working—we are not getting where we need to go. The rational explanation for this is not sufficient to move those in power. We have got to do something more. But I had no idea. I am a writer, I live in Ripton.

So I called a few of my writer friends on the phone around Vermont, and I said, “Here is the plan: we are going to go to the federal building in Burlington. We will sit-in on the front steps. We will get arrested and there will be a little story in the paper. At least we will have done something.” And these guys were as clueless as I was: “Oh, that’s a very good plan. Let’s do that.” Until happily, one of them called up the police—we did not even call a lawyer. “What will happen if we carry out this intrepid stunt?” “Nothing will happen, stay there as long as you want.”

So we were like, “We better recalibrate.” I sent out emails to people (and some of them I see in this room) and said we are going to go for a walk. We left a couple of weeks later from Robert Frost’s old summer writing cabin up in the Green Mountains—because you know, the whole “road not taken.” Off we walked. And we walked for five days and we slept in farmers’ fields at night. I am a Methodist Sunday-school teacher so I called the Methodist Mafia en route to make sure there would be pot luck suppers and make sure the Methodist sacrament would be available as we walked. We got to Burlington after five days and there were a thousand people walking. You guys are all Vermonters. You know that in most places one thousand people is nothing. But in Vermont, except for UVM [University of Vermont] hockey games, that is about as many people as you get in one place at a time.

It was good. I got everybody running for office that year, 2006, to come down and meet with us at Lake Champlain. Not *just* meet with us—they all signed this piece of cardboard we had been carrying saying that if they were elected they would work to cut carbon emissions by eighty

percent by 2050. Everybody signed, not just Bernie [Sanders]. The woman who was running for Congress—Martha Rainville—she had said two months earlier that she was unsure if global warming was real and more research needed to be done. It turned out that the more research that needed doing was on the topic of “How many people will walk across Vermont and ask me to change my mind.” A thousand empirically was sufficient because she signed. That is good. That is how it is supposed to work. We were pleased.

The only weird part was to open the newspaper, the [Burlington] *Free Press*, the next morning and read this story that said that a thousand people may have been the largest demonstration on climate change that had taken place in the U.S. I read that and thought—it almost sort of finally clicked—“No wonder we are losing!” We have the super structure of the movement: we have Al Gore, the scientists, the engineers, the policy people, a million work plans. The only part of the movement we forgot was the movement part. There is nothing there to give it any heft.

We decided to see if we could do something about this. When I say “we” I mean me and seven undergraduates at Middlebury [College]. I was telling people at the [VLS] Environmental Law Society earlier—we did not have any money or anything, but we just started sending out emails saying “Do something like this in the spring.” We picked a day in April. Sort of, to our surprise, people really responded. That day in April we had fourteen hundred demonstrations across the country, and two days later both Hillary Clinton and Barack Obama, who were running for president, adopt this goal we set of eight percent reduction of carbon emissions by 2050, which at the time was very radical. But they did. We were pleased—the technical word would be smug. We were quite happy with ourselves.

The problem was the summer of 2007. Six weeks later is really when all hell began breaking loose on the planet. The Arctic really started to melt for the first time in the summer of 2007. I spent the whole summer getting phone calls from scientists I had known for a quarter century. They are calling at one in the morning. These guys have always been worried and sober about it, but now they are panicked: “Things are happening way faster than we thought they were going to. How can we get the word out?”

By the time the summer was over, two things were clear. One, what happens in 2050 is not really of that much interest. It is what happens in 2020 that counts, and we have to move really fast. Our old goals are obsolete. The second thing was that we are not going to solve this one light bulb at a time. It turns out we are not going to solve this one country at a time either. We are going to have to try to work globally. And that was a pretty daunting realization because we had no idea how to work globally.

That is why we were pleased in a kind of weird way in January of 2008 when our greatest climatologist, Jim Hansen at NASA, and his team put out this paper¹ that says, “We now know enough about the world to tell us how much carbon is too much.” What they said was: “Any value for carbon in the atmosphere greater than 350 parts per million is not compatible with the planet on which civilization developed into which life on earth is adapted.” Stern language for scientists to use. Sterner still when you know that everywhere around the world, in Royalton and Rio de Janeiro and in Reykjavík and every place else, right now tonight, it is 391 parts per million CO₂ in the atmosphere—i.e., it was the sort of final declaration that this was not a future problem to worry about down the road, that it was a very present emergency. And in many ways it was a horrifying paper that sort of once and for all said, “We are never going to have the earth that we once did. We have made inalterable changes, and on an enormous scale.” But for us as organizers trying to think about how we would organize the globe, it had a use, and that use was that now we had a number.

The good thing about Arabic numerals is they cross linguist boundaries. You can begin to see how you might be able to do some kind of global-scale organizing, and it was good we had that one advantage because we did not have much else. Well, these seven kids had now graduated from Middlebury, which was good because there were no more papers and stuff getting in the way. As I was telling people earlier, seven was probably the right number because there are seven continents, so each one took one. The guy who got the Antarctic also got the Internet—it is sort of its own land-mass.

So off we set to try to organize, not that we really knew what we were doing. We did not have any money to speak of or anything, but we knew what we wanted to do and we started finding people all over the world who understood what we were talking about. Most of them were not environmentalists—they were people working on public health in their communities, on food, on women’s issues, on peace, and on all the things that no one is working on in Pakistan right now because they are too busy figuring out how they are going to get tarps over people’s heads.

We said to do this—to make this work at the beginning, to try to get this important number out there—we are going to have to kind of have a coming out party and push it under there. So we picked a day in the fall of

1. James Hansen et al., *Target Atmospheric CO₂: Where Should Humanity Aim?* 2 OPEN ATMOSPHERIC SCI. J. 217 (2008), available at http://www.columbia.edu/~jeh1/2008/TargetCO2_20080407.pdf, <http://benthamscience.com/open/openaccess.php?toascj/articles/V002/217TOASCJ.htm>.

2009 and said “Here, this is what we are going to do,” and many of you were involved in this and you will remember it on October 24, 2009.

We had no idea how this would go because, as I said, we had no real idea what we were doing at all—which may have been, in retrospect, our greatest advantage in certain ways. Somebody let us borrow a kind of dingy office in lower Manhattan for the week before, and we were doing all the things you would normally do—put out press releases and things—but basically we were just waiting for the returns to come in, as it were, because we told everybody that we wanted to upload pictures as soon as they did something on this day.

We got a little sense that it might work two days earlier on October 22. We had done these training camps for young people—one in Turkey for Central Asia, one in the Caribbean, we had done one in Africa in Johannesburg. We brought a couple of young people from every country in Africa. Most had never left their country. Most had never been on an airplane. But they were great organizers, they understood what we were talking about, and they fanned back out across Africa. And then we did not hear much from them because in Africa the Internet is still mostly notional—you cannot just Skype people constantly or whatever—but we knew they were working.

So two days earlier, we get this call. The phone rings and it is a phone call from Addis Ababa. This eighteen-year-old girl, Lily, who we had worked with, she and her seventeen-year-old sister were the ones who were organizing in Addis for us. She was almost in tears. “The government has taken away our permit for Saturday . . .” Ethiopia, fairly creepy government. “They are not going to let us do this thing. So we are doing it today so they cannot really stop us from doing it. We are really sorry, we know that we are jumping the gun. We do not want to spoil it for everybody. We have 15,000 people right now out in the street in Addis chanting ‘three fifty.’” And we are like, “Really, do not worry about the date, it is okay.

It was the beginning of a quite awesome kind of forty-eight hours. I mean, these pictures just flowed in from everywhere. The next one actually came completely unexpectedly from U.S. troops in Afghanistan, who made a 350 with sandbags and sent a note saying, “We are parking our HUM-V for the weekend and walking.” Before the weekend was over, there had been 5,100 of these things. CNN said it was the most widespread day of political action in the planet’s history because it had been in 180 countries.

I will just flip through a few of these [pictures] real fast, but here is the main thing I want you to see: they are from everywhere. What I want you to really see is what your colleagues look like around the world; the people

who think and work in the same ways that you are. And you should just take pleasure in seeing them. And if, per chance, someone has told you along the line, as people have told me over the years, that environmentalism is something for rich white people who have taken care of their other problems, then look carefully at these pictures because most of your colleagues, most of the people we work with, are poor, black, brown, Asian, young. Because that's what most of the world is made up of. And what do you know—they are actually just as interested in the future as anybody else.

So the pictures—I mean, some of them for me were very moving just because of where they were, places that meant a lot for me. Most of them were coming from places I had never even heard of. Three hundred big demonstrations across India—that was good, but some of them we did not even know where they were. Someplace in Buddhist Asia, I just liked the picture. Some of them from places incredibly poor. These guys are someplace on the Congo River above Kinshasa. Those are dug-out canoes. They did not have a digital camera—they developed this in someone's own hobby darkroom. It did not come out very well so they had to write-in what their banner said. But just that somehow the [350] t-shirt had gotten to the middle of the Congo struck us as a good sign.

There were just endless pictures like this from all over the world. There had been huge floods in Istanbul, so we had six big demonstrations there. That is from the Space Needle. Those are the colors of the Venezuelan flag. That is an operating room in Puerto Rico—it is a little dark, hopefully they did not stop for too long.

Just every kind of creative, interesting thing—including for the first time really widespread involvement of religious communities. That is the head of Muslim South Africa, with native kind of indigenous traditions. Behind him Archbishop Tutu's successors. Anglican Archbishop at the head of this big multi-faith march. Lots of that around the world. There is a Pentecostal school in Ghana. This is a very uninteresting picture unless you know that Wheaton College in Illinois is the most evangelical college in the country—a liberal arts school, it is where Billy Graham went school. And even a few years ago there would not have been an environmental demonstration there. And the fact that there was is very good.

I do not know if you can see that. I have been to Bethlehem to do some organizing, not even an easy place really to get to, and everybody wanted to work together because the Dead Sea is shrinking very fast as the temperature rises. But it is hard for people to get across, so the Jordanians said, "We are going to make the big three on our shore," the Palestinians said, "We'll do the five in Palestine," And the Israelis said, "We'll take care

of the zero along our beach.” It was a pretty cool day. And a sort of good example in setting aside other differences to get down to big things.

We did a lot of that kind of global Scrabble. We had a lot of iconic Indian palaces. This was an autumn Saturday in America, so there are the Syracuse cheerleaders helping us out at mid-field in front of 100,000 people.

Egypt has been one of the biggest parts of this thing from the very beginning. We have great organizers there and it has been really fun the last couple of weeks to be on the phone with them because of course, exactly the same people who would do some kind of organizing like this are precisely the same people who have been in Tahrir Square the last three weeks and they are calling all the time with excited updates and how happy they are and it is really fun to see it happen.

But just everywhere, place after place. Soweto—heartland of resistance to apartheid—they did 350 bungie jumps. But the important thing was they hung the bungie line between the cooling towers of a defunct coal-fired power plant. And they said this is the highest and best use for coal-fired power plants going forward. There is my daughter at the Mountain School—with sap buckets out in front.

We had three hundred demonstrations across Beijing—across China. Not an easy place to do this work. I was saying earlier one of them got busted up by the police; the other 290-some went forward. Those are kids from the China Youth Climate Network making a human wind turbine and behind them the edge of the largest turbine field in the world. Just amazing.

This was the smallest demonstration. She started out with a bunch of friends. They had to go through six American military checkpoints. Most of them got scared off; Ola stayed with it to the end, so she could do that. And she has become a great friend and a terrific organizer.

Those are our friends in the Maldives—paradise—a meter and a half above sea level. Probably not going to make it through the century. That is the student government council holding a meeting in the lagoon to demonstrate their coming fate. Just place after place after place.

We took over Times Square, one end, and used those big jumbo-tron signs that are normally doing whiskey ads to put up these pictures, one after another. Thousands of them—partly because we wanted the New York media to see it, but mostly because we wanted to take pictures of those and send them back to people in the Congo and say, “Here is what you look like, fifty-feet tall. You are a big part of some big global thing. Thank you.”

And it worked, to the extent that these things work. It was the top story on GoogleNews for thirty-six hours, which meant there were more stories linking to it than any other thing going on in the world, just because I think

it was so unlikely, and so many people who did not look to us like environmentalists.

There is Yemen—that is one of the most troubled places in the world. All of the “zero” back there are women in full black burqas—very involved. The oil-rich sheikdom of Abu Dhabi. You can make out some oil-rich sheiks down front there. They are determined to remain rich even in the post-oil age, so if you note behind them is the edge of the largest solar array on the planet. There is a lot of stuff going on around the world that is pretty interesting.

And there were, I confess, six or seven hundred pictures just labeled “350 adorable” in our file. Really adorable, really sad. Those girls will be refugees by mid-century, if not before. Those guys had all been born on the same day in London, so their parents got them together for a sort of reunion. From the sublime to the ridiculous. Those are electric golf carts some place in Florida. But mostly just poor people everywhere. Really powerful.

That is my crew delivering a bunch of these photos to the U.N. the next day. Now I wish I could tell you that this had solved all the problems. We did okay. We got to Copenhagen six weeks later—we had a lot of momentum. In fact, there was this great church service. In the middle there was a rest day—a Sunday in the middle of this two-week conference—and there was this big church service at the Lutheran Cathedral there, and it was packed. Archbishop Tutu and the Archbishop of Canterbury came and gave the service, and at the end they rang the huge cathedral bell 350 times and then thousands of churches across Christendom did the same thing.

We managed to get 117 nations to sign on to this 350 target—that was good. They were the wrong 117 nations. They were all the poorest nations that are getting hurt the worst. They were not the richest nations that are doing the hurting. Led by our own, we are unwilling to bite the bullet and come to terms in any significant way.

So, we kept going. And many of you helped this past year with another of these big global mobilizations. This one was not a political rally, but a work party. I was worried it would be a complete failure—Copenhagen had failed, the U.S. Senate had done nothing. We had, this time, 7,400 of these work parties in 188 countries—every place but North Korea was involved. The same kind of beautiful, powerful images came in from all over the world. People were building community gardens, laying out bike paths, and putting up solar panels. At the end of the day we told everybody, “Put down the shovel, pick up the cell phone and call whatever leader you have got—prime minister, politburo, whatever you have got—and tell them ‘We are getting to work, what about you?’” to start to put a little political heat on. It

was beautiful and powerful, and in Iraq their numbers had quintupled over the course of the year. Actually, there was a lot of stuff that went on in Iraq that day, just amazing things.

But the truth is that we are losing, and really more all the time. So as we go forward, it is pretty clear that it is not enough to just keep raising consciousness. We have got to figure out some ways to deeply impact this political system, and we have got to figure out how to do it fast, and we are going to need your help to make that happen.

What we are doing this year is we are going to do another of these big global mobilizations, because we need to keep spreading the word, and there are lots of people who do not get it yet, and we need to keep showing our strength. So, it is not quite official yet, but circle September 24 on your calendar, and grease your bike chain. Those are the two hints I will give you about what it might look like this year. But, we are doing some other stuff too, and I was talking about this earlier with the [VLS] Environmental Law Society. We will officially launch it next week, but I will tell you about it.

The reason we are losing is not because we are losing the argument. We have long since won the intellectual argument. The reason we are losing is because there is too much power on the other side, and most of that power is financial and there is no mystery about where it is coming from. The fossil fuel industry is the most profitable enterprise that human beings have ever conducted. Eight of the ten largest companies in the world are in that business. Exxon Mobil made more money last year than any company in the history of money. And in our political system, it takes only the slightest fraction of that money to whip and corrupt that political system to the point where you do not get good or fair results out of it. For example, the Koch brothers, the third and fourth richest men in America, made their money on oil and gas, and they were one of the biggest funders of last fall's election campaign. Of the twenty-six new Republican members of the House Energy Committee, twenty-two took money from these guys, and for many of them it was their biggest contributor.

The pathetic thing is that all it costs, as it turns out, to buy a Congressman is like twenty or twenty-five thousand dollars. It is not like they have to give them a billion dollars or anything, and it explains why the House Energy Committee, reconstituted in its first set of hearings this week, thought that the number one priority for dealing with our climate problems is to end all the funding for climate research at NASA, and that that would be the best thing we could do. Then the next thing after that would be to cut off any international aid to anybody for dealing with climate change.

Our target for this year is going to be the only people who spend more money on this stuff, and more effectively, than the Koch brothers, which is the U.S. Chamber of Commerce. They spend more on lobbying than any group in Washington and they spend more money on election expenditures than any group in Washington. Now, it is an interesting outfit, because when I say “Chamber of Commerce,” what most of us think of is the county Chamber of Commerce. There is one in Addison County, over in our part of the state. You know, it is the florist and the baker and the insurance guy, and whoever, and they get together and they do things in town and they help improve the business environment, and it is all quite fine and good. The U.S. Chamber of Commerce sort of pretends that is what it is. On its webpage it says that it represents the interests of three million American businesses. But in fact, it is a front for this kind of aggressive ideological lobbying.

Last year they took in fifty-five percent of their revenues from sixteen companies. They do not have to tell anybody who those companies are—that is allowed to remain a secret now thanks to the U.S. Supreme Court. But, it is not very hard to figure out who they are if you look at what they spend their time and money doing. They spend their time and money opposing anything that might help in any way to ameliorate this problem. I was telling people this earlier but it almost boggles belief—they filed a series of briefs with the EPA telling the EPA not to do anything about climate on the grounds that if the climate warmed, human beings would be able to adapt, be able to change their behavior, psychology, and physiology to adapt to the problem. And if you think about the craziness of that, that faced with the biggest problem we have ever faced, that instead of having sixteen companies adapt their business model to a new reality where you cannot just keep pouring carbon in the atmosphere, that instead humans beings, all human beings for all time and every other creature too, should concentrate on adapting their physiology and their psychology and their behavior. I mean, it is almost insane, but it is carrying the day.

We cannot cut off their money—that is their now Constitutional right to do whatever they want with their money. But we can cut off some of their respectability. We can make it very clear that they do not represent three million American businesses, that there are hundreds of thousands of business people all over America who are quite capable of adapting nimbly and creatively to a new world—that is what business is supposed to be good at and most people are. So one of the campaigns we are going to be running this year is just to fan out around the state and the country and get as many businesses as we can, small businesses of every kind, to just say, “Look, the U.S. Chamber does not speak for me,” and to sign something that says that,

or take their cell phone and hold it up in front of them and get a little piece of video saying that. If we can get a few hundred thousand of those then we will have begun to rub the patina off the U.S. Chamber a little bit and soften them up some for the fights that are ahead, which are political, and which are going to be won or lost in Washington, and which we need to become more aggressive about than we have in the past.

Now, it is pretty clear that this will not be an easy fight. In fact last week, thanks to some anonymous leaker, it became clear that the law firm for the U.S. Chamber of Commerce had been negotiating for months with what they called security firms for a package of work that involved finding out everything they could about their various adversaries. When this leaked out they finally decided not to do it, but not before they had gotten lots of samples of information—things like pictures of the children of people who were helping the opposition, or pinpointing the ‘Jewish church’ that one of their opponents, a union guy who was running a website, attended. For my \$200,000 a month I would like someone who knew the word synagogue, but it was a sign of just how rough this is. I just wrote an op-ed piece saying “You will find me at the Methodist church in Middlebury and stay well-clear of my daughter, thank you.”

This is a serious fight. It is a really serious fight, with stakes that are almost indescribable, and the honest truth is I have no idea whether we are going to win or not. If you were a betting person, you would bet that we are not going to win. We are losing. The time is extremely short. We are not dancing to any other tune than the one set by physics and chemistry, and physics and chemistry are not going to negotiate. They are not going to give us wiggle room. They have put out their bottom line. They want a world like the one you are used to—three hundred and fifty parts per million. Take it or leave it, we are walking away from your negotiating table.

If you were a betting person, you might bet that we are going to lose, but you are not allowed to make that bet. The price of being a morally awake person when the worst thing that has ever happened in the world is busy happening—the price of that is knowing that you have to do what you can to change those odds, without any guarantee of victory. As brave as the people in, say, the civil rights movement were—and so far the climate change fights are getting a little ugly, but they are not shooting people, or bombing them or whatever for working on climate change—those guys had to be really brave, but they knew they were going to win.

What did Dr. King always say at the end? “The arc of the moral universe is long, but it bends toward justice.” “We’re going to win in the end.” They knew that. The arc of the physical universe is short and it bends toward heat, and, if we do not win soon, we do not win. I do not know if we

are going to win, but I am entirely confident, from spending the last few years out around the world with the people—some of whom you have seen today—that there are lots and lots of people, including many, many in places who did nothing to cause this problem, who will fight until the very last minute. And fight creatively, and beautifully, and passionately, with all the resources at their command. And it is always a great honor for me to get to be among them. And it is a great honor to get to be among you, and just to say that I look forward enormously to fighting side-by-side in the years ahead. Thank you very, very much.

