



# In Search of a Happy Ending

IN HIS NEW DOCUMENTARY, *THE 11TH HOUR*, **LEONARDO DICAPRIO** INVITES A GROUP OF EXPERTS TO DISCUSS THE PRECARIOUS STATE OF THE EARTH. WE ASKED A FEW OF THEM TO SIT DOWN WITH ELIZABETH KOLBERT AND OFFER SOLUTIONS.



Inspired by *The 11th Hour*, we brought a panel of leading scientists and activists to New York City to tell us how we might heal the planet. The participants were urged to move beyond bleak diagnoses, to offer concrete proposals for a sustainable future. The conversation—often spirited—ranged from how to impose a tax on carbon to the design of walkable, bikeable communities to the challenges of motivating political leaders and the public to act.

**KOLBERT:** What would a sustainable world look like?

**SCHMIDT:** It's going to take a 60 to 70 percent cut in carbon emissions—that's a huge number. It's a number that doesn't take into consideration the increase in emissions resulting from industrialization in China and India and the rest of the world, so these are really, really challenging numbers. It doesn't all have to be done tomorrow. But to keep carbon dioxide at a level that, we hope, won't be too detrimental to the climate system, the necessary changes have to be in place relatively soon, functional by, say, 2050 or 2060, but certainly by the end of the century. After that we're going to need to bring the numbers down even further.

**GELOBTER:** I can't stand it when we say how hard it's going to be, because it takes such a lot of work—and money—to put that much crap up there. We're waging a \$2 trillion war in Iraq. At least a third of that war is about oil, if not more. With that money alone we could probably cut emissions

worldwide by 30 or 40 percent. So I think it takes a lot of bad stuff to put all that bad stuff up there.

**SCHMIDT:** The problem is, a lot of good stuff is also creating this problem: the energy we're using in this studio to record this conversation, the energy that powers the subway system. We have power stations all over the world that are a third of the problem.

**GELOBTER:** But we can get energy in much healthier ways.

**ORR:** To make the transition to healthier ways, to renewable energy and efficiency, will mean reconfiguring a lot of things—that's a world of front porches, bike trails, local farms, a very different kind of world. It's probably not a world of big box stores.

**SCHMIDT:** We started off talking about sustainability and climate change, and now Michel has brought up the war, you're bringing up big box retailing—these are frankly kind of external issues, which, I agree, are connected in some profound way, but mingling them all up doesn't take us any closer to finding a solution. It

becomes one vast problem and you think you have to solve everything to make any progress.

**ORR:** Gavin's point is exactly right. If we try to take on the whole thing, it's too daunting and we just paralyze ourselves. One question is, how do we motivate the public? How do we help them feel that it isn't all just insurmountable? I think the environmental movement has to do a better job of portraying a world that it's possible to build, a world that is different and captures the public imagination. At the same time we need to watch what some people in the environmental movement call happy talk—it's all going to be easy, just screw in better light bulbs and buy a Prius. The fact is that sacrifice is part of where we're headed. When Winston Churchill said in 1940, "I have nothing to offer you but blood, toil, tears, and sweat," he was being straight with people. That will work for us, too, if we have the courage to deliver the news.

**GELOBTER:** We have to show people what the carbon-light life-

style is. It's one where you live near your school, you live near your job, you go see your kid at lunch sometimes, and you pick up your wife on your way home from work. That's a life we all want. It's a life we can have, and it's a life the fossil fuel system is actually keeping us from having.

**KOLBERT:** How do we make the changes you're talking about?

**GELOBTER:** Pay the costs of climate change in the fuels we buy.

**KOLBERT:** How?

**GELOBTER:** A carbon charge, a fee for use of the atmosphere, an auction of carbon permits.

**KOLBERT:** Federally imposed?

**GELOBTER:** We could start with the states. It's going to be hard to get to the optimal solution quickly in Washington. When you look at the Clean Air Act, it took a lot of states nipping at the heels of dirty polluters for 30 years. Some states are already adopting very aggressive standards that will start industries thinking twice about how they operate.

**SCHMIDT:** I think this combination could work: a carbon charge

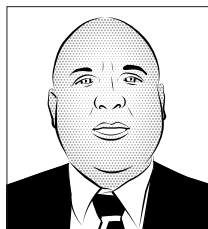
## The Speakers



**ELIZABETH KOLBERT,** who moderated the panel, is a staff writer for the *New Yorker* and the author of *Field Notes From a Catastrophe: Man, Nature, and Climate Change* (Bloomsbury).



**GLORIA FLORA,** after 22 years with the U.S. Forest Service, founded Sustainable Obtainable Solutions to protect our public lands, especially in the northern Rockies.



**MICHEL GELOBTER** is the president of Redefining Progress, a policy institute that works for environmental protection, economic growth, and social justice.



**DAVID ORR** is the Paul Sears Distinguished Professor of Environmental Studies and Politics at Oberlin College and a trustee of the Rocky Mountain Institute.



**GAVIN SCHMIDT** is a climate scientist at the NASA Goddard Institute for Space Studies in New York City and a contributing editor to *RealClimate.org* in his spare time.

that taxes things we don't want in connection with subsidies that do the things we want. Right now we subsidize emissions of carbon dioxide, and we penalize people who conserve energy. That's a mistake.

**KOLBERT:** Let's talk political realism for a second. Although Michel carefully avoided using the "t" word, a carbon charge is going to get characterized as a carbon tax, so it faces an uphill slog.

**ORR:** Two things strike me. *Taxes* became a bad word. How did that happen? Oliver Wendell Holmes once said that taxes are the price we pay for civilization! If they're fairly assessed and put to good purposes that otherwise would not happen, taxes are good. Why don't we begin to say that? And Gavin's point about subsidies is important: The auto industry is

dioxide and other greenhouse gases, need to pay for it. The way you win the battle over a carbon charge is to make it possible for people to hold their kids' hands when they're going to school. You take that money and build mass transit systems with it, help Detroit retool, give health care coverage to people. You'll build a much broader coalition.

**KOLBERT:** What role should corporations play? Corporations are arguably the most powerful force in the United States today.

**GELOBTER:** It's not going to be gentle. ExxonMobil is the world's most profitable company—its market valuation is equivalent to the market valuation of the entire world auto industry. Their shareholders should fire them if they try to change their business. It's *our* job to force them to change

density of housing, biofuels, more efficient use of resources.

**SCHMIDT:** Well, here we have a very concrete example of disagreement. Without carbon sequestration I believe we might as well just go home on the climate change issue. If we don't allow for the possibility of carbon sequestration, people will not invest in more efficient IGCC [integrated gasification combined cycle] power plants that have the potential for carbon sequestration. That means they will not have the option in 10 or 20 years' time, when it becomes much more obvious that CO<sub>2</sub> emissions need to be cut, to retrofit those plants to sequester carbon.

**KOLBERT:** Michel's not letting them build these plants, though.

**GELOBTER:** We can't give them 20 years—we've got to drive a stake through their heart today.

**ORR:** No one knows whether carbon sequestration can work—the recent

MIT study had enough caveats in it to choke a horse. That study says it will take at least 10 years to figure out whether you can put carbon underground and hold it there in perpetuity. And it would have to be done at a cost that competes with energy efficiency improvements and renewable energy sources like wind and solar. Last spring the American Solar Energy Society said that you can get most of where you need to go, 90 to 100 percent, through efficiency and renewables. But if you look at the number of dollars spent on research and development, efficiency and renewables are down at the bottom, way behind nuclear power and "clean coal."

**SCHMIDT:** I'm not asking for a special exemption for carbon sequestration—it has to compete on both efficiency and price. But to rule it out for China, which has so much cheap coal, where they're focused on keeping their people

happy, and they need energy? To say, "Starting today, no more coal power plants" is politically unrealistic. Allowing for the possibility of carbon sequestration lets us bring those people on board and have a chance to get to the point where we have zero emissions.

**GELOBTER:** If we give coal a lifeline, we never get wind and solar. If you keep that dynamic in the marketplace, that coal is still cheaper, especially if the right president is in place, you never get the incentive to invest in the good stuff.

**SCHMIDT:** But if it could compete on price—

**GELOBTER:** No, I don't want it to compete on price because I want to kill 'em. Because they're killing us.

**KOLBERT:** Yes, but you haven't addressed Gavin's point that even if you could do that in Washington, you can't do it in Beijing—

**ORR:** All the studies I've seen for 25 years show that saving energy is a lot cheaper than making it. This was Amory Lovins's point back in 1976. We have a whole shelf of studies that say you shouldn't try to increase supply; decrease demand instead. Demand-side management worked in California—

**SCHMIDT:** That's a very good lesson because per capita energy use in California has stayed static over the past 30 years while it's been increasing everywhere else in the country.

**KOLBERT:** We've been talking about a sustainable future. What does an unsustainable future look like?

**SCHMIDT:** Unrestrained emissions of carbon dioxide. If it keeps on, temperatures will rise to levels that haven't been seen for three million years, maybe longer. The stability of things like the Greenland ice sheet and parts of Antarctica are really in question. A sea level rise of one to two meters, given that we have hundreds of millions of people living on land that would be under water—that is an unsustainable future.



## THE REASON I DON'T USE THE WORD TAX IS THAT A CARBON CHARGE IS REALLY A USE FEE, JUST LIKE THOSE FOR CELL PHONES AND BANDWIDTH

subsidized to the tune of something between \$175 billion and \$500 billion per year. Any way you look at it, it's a big number. Tonight I have to go back on an airplane to Cleveland through stormy weather when I would much rather get home on a high-speed train. Why can't taxes be used to fund things that are good? What's the downside of high-speed rail? The Europeans and the Japanese are very good at it—why can't we do that?

**KOLBERT:** How about cap and trade instead of a carbon tax?

**GELOBTER:** I spend a lot of my time working against a cap and trade system. I think it's a shuck 'n' jive for the fossil fuel industry. The reason I don't use the word *tax* is that a carbon charge is really a use fee, just like those for cell phones and bandwidth. Carbon is a commons that we all own. Those who get to use it, namely those who are emitting an unsustainable level of carbon

their business through legal avenues and personal choices.

**SCHMIDT:** But many businesses have a vested interest in sustainable business practices. They employ time scales and planning that go way beyond election cycles. While some corporations think short-term, many have foresight. A lot of people in the business community are part of the solution, not part of the problem, and that needs to be tapped into.

**KOLBERT:** What about technological solutions?

**GELOBTER:** I'm against building more nuclear plants. I'm against carbon sequestration because I don't think it'll be safe to bury millions of tons of carbon deep underground. And I'm against relying on oil. We have to shut refineries down.

**KOLBERT:** But then you've got to tell everyone that they can't drive their cars either.

**GELOBTER:** No, over time you can go to better mass transit, greater

**FLORA:** If we continue on this business-as-usual trajectory, I think we'll see large groups of refugees shifting around because they don't have enough food or

a lot of people will not be able to bear the knowledge of what we've done to the future.

**ORR:** This is a world that spends a trillion dollars a year on some-

walls, and so forth. It isn't just the money spent on militarization; it's the mind-set of fear and defensiveness that this creates, which prevents us from seeing better alternatives.

**KOLBERT:** What's the most hopeful development you've seen in recent years? What gives you reason

to hope that sustainability is something we can actually achieve?

**ORR:** The transition I think we're seeing. Public opinion is at or near, or even just past, a tipping point. What it lacks now is leadership. And instead of leadership in Washington, which has been very slow, or hasn't happened at all—

**FLORA:** Or has gone in the opposite direction.

**ORR:** Yeah, we see grassroots leaders in the student movement, in the climate change movement, in public organizations, in nonprofits. I think we're waiting for a leader in a political party who recognizes this grassroots change is under way. I don't think I would have said that two years ago. It's hard to go anywhere now without seeing signs: the slow food movement, local agriculture, bike co-ops. I think we're in a race between the numbers that the climate scientists put out and public opinion crystallizing into some kind of coherent response to those numbers.

**KOLBERT:** Before I let you go, is there anything anyone would like to ask that I didn't hit on?

**ORR:** I'm interested in what keeps you all going. What is your well-spring of hope and hopefulness?

**FLORA:** Marcus and Faith, my grandchildren. Even in the most trying circumstances, I think, don't I have a little bit more in me to push it a little further for their sake, until they build up the muscles and the knowledge to get in there and start pushing themselves.

**SCHMIDT:** I used to be a mathematician, and I'd go to parties and people would ask me what I do, and I'd say, "Well, I'm a mathematician." Frankly, that wasn't conducive to my social life.

**KOLBERT:** Going into climate modeling for your social life—that's a new one! [laughter]

**SCHMIDT:** Now I talk to people about climate change, and people are engaged, they're interested, and they have things to add. One of the things you learn as a scientist is that if you're just doing your science and nobody pays any attention, you might as well be banging your head against a brick wall. The fact that what we're doing as climatologists is intellectually interesting and challenging and important, and that people care, that's what keeps me going.

**GELOBTER:** I came to environmental work through the lens of justice, and a well-hidden secret is that climate change is nothing but a justice issue. It's nothing but a set of people who took more than their share of something historically and have to figure out a way to make it right. If we can settle that in a just way, we can solve a lot of other problems too.

**KOLBERT:** David, do you want to answer your own question?

**ORR:** I'm with Gloria. A large part of the voltage in my line is: I've got three grandkids. For me posterity is three kids who don't deserve what could happen to them if we don't do what we need to do. Michel's right; it is a justice issue. For me it comes down to something very personal. I can't put words around it except to say, "This is the right thing for me to do." I am proud to be part of this movement. The people in it are the best people I know. I believe we may be on the verge of an ecological global enlightenment that has the capacity to transform human life on earth. If not now, when? ♣



## THERE'S GOING TO BE SOCIAL TENSION AS WELL AS EMOTIONAL PAIN ONCE WE REALIZE WHAT WE'VE DONE TO OUR GRANDCHILDREN

water. They'll be searching for higher ground and for arable ground that can still grow food, the basic elements of survival. The haves, who suddenly find themselves in the have-less category, will ask: Who's to blame? They won't want to hear about all the science behind climate change and the other complex problems we've been discussing. They'll want a face, a name, to blame. There's going to be social tension as well as emotional pain once we realize what we've done to our grandchildren. I think

thing called security and defense, the biggest chunk of which is American. If we don't bring that figure down dramatically and direct that money to renewable energy, and children, and future generations—that's the mark of unsustainability. America spends more than all the rest of the world put together on weaponry, and it's totally ineffective. The more bad things that happen involving climate change and hunger and ecological refugees, the more the tendency is going to be to say, let's spend more on weapons,

## SO WHAT DOES LEO THINK?

In the week before the release of his documentary, *The 11th Hour*, Leonardo DiCaprio spoke with senior editor Laura Wright from his home in Los Angeles about why he made the film:

**IN THE LATE NINETIES, I STARTED TO LEARN ABOUT GLOBAL warming and it scared the hell out of me. I made a couple of three-minute segments for my Web site. And then I thought, wouldn't it be great to make a feature-length film and let the innovators in the environmental movement—scientists, professors, people who devote their lives to these issues—be the stars of the show. I wanted to give them a chance to speak unedited. Too often on the news shows, they have to waste time debating whether the issue is real or not.**

**Instinctively I felt that I wanted to hear the harsh reality of what's going on. I'd seen some incredible documentaries, but I always got the feeling that they wrapped it up in a sweet little package—as if we had lots of time left [to act]. I wanted to make a film that showed bleak prospects in order to get people emotionally invested so that they felt inspired to act.**

**I didn't want to preach to the choir. I wanted to reach out to people who had not heard the advice of these experts. But I also didn't want viewers to come away thinking I was just pushing them to live an eco lifestyle. It's impossible if you have a family with children, and you need an SUV, and you're thinking how the hell am I going to get solar panels for my house. As important as individual action is, corporations and government, the people who have power, need to implement green technologies. Our country has to pave the way for the rest of the world. If the U.S. doesn't make changes, why should other countries? But if we, the voters, don't speak up, it won't happen.**



**ONEARTH ONLINE** You can view extended video footage of the *11th Hour* panel discussion at [www.onearth.org](http://www.onearth.org).