

# Warrior Writers

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**Greg Dalton:** Welcome to Climate One, a conversation about America's energy, economy, and environment. To understand any of them, you have to understand them all. I'm Greg Dalton.

Today, we're talking with writers and advocates, Bill McKibben and Antonia Juhasz, about the nexus between journalism and advocacy in the age of climate disruption. Moving the global economy away from fossil fuels is the biggest undertaking in human history. The urgency and scale of that imperative has compelled Bill McKibben and other writers to cross the line into direct political action. It has also compelled Antonia Juhasz and others to step out of policy roles into writing and advocacy.

Over the next hour, we'll talk with Bill McKibben and Antonia Juhasz about the role of writers and advocates, and issues such as fossil fuels, divestiture, renewable energy, climate chaos, and a lot more. Along the way, we'll include questions from our live audience at the Commonwealth Club in San Francisco.

Bill McKibben is author of *Eaarth: Making a Life on a Tough New Planet*, and co-founder of 350.org, which advocates for a clean energy future. Antonia Juhasz is Director of the Energy Program at Global Exchange, a human rights organization. Her most recent book is *Black Tide: the Devastating Impact of the Gulf Oil Spill*. Please welcome them to Climate One.

[Applause]

**Greg Dalton:** Thank you both. So, Antonia, let's begin with you. You were a staffer in Congress and then you left there because you thought you'd have more impact writing and doing other things. So tell us about that path.

**Antonia Juhasz:** Sure. So, I have both an undergraduate and a graduate degree in Public Policy and went to work on Capitol Hill for some pretty amazing members of Congress and went there to try and impact public policy. And like I said, I worked for great members, there was amazing staff, amazing other members of Congress, lots of people there to do the right thing. But I was increasingly confronted with the fact that we really were not able to do what we went there to do on behalf of our constituents. And the more that I struggled with this problem, the more that it came to me that the primary obstacle I felt was the role of major corporations dominating our political system.

And the more I look at major corporations, the more I went to the top, which was the largest of those corporations and most profitable, the oil industry. And decided that the way I could be most effective on trying to get policies implemented that I thought were important and meaningful would be to leave Capitol Hill, and to work on research and writing and advocacy, specifically addressing the operations of the oil industry, its activities, its impacts, and its impact on the activities of the federal government.

And just to update my bio a bit, I've actually -- I'm no longer with Global Exchange. I have a fellowship with the Investigative Reporting Program --

**Greg Dalton:** Right.

**Antonia Juhasz:** -- at the UC Berkeley Graduate School of Journalism, focusing on investigative journalism and research into the oil industry in particular, its relationship, oil and natural gas, and their relationship to the war in Afghanistan.

**Greg Dalton:** Thanks for that. You know, I got that from your book which you write, it's updated. So Bill McKibben, you wrote one of the first books on climate change, *End of Nature*, in 1989 and what prompted you to go from writing into action and advocacy?

**Bill McKibben:** Well, I'm a much slower learner than Antonia.

[Laughter]

**Bill McKibben:** I mean, I was a journalist straight ahead, you know. It's what I did growing up and then in college, and then I went to work at *The New Yorker* afterwards. And that was the first five years of my life out of college.

And then I wrote *The End of Nature*. I, at some level, knew as I was writing it, that I was not objective, in that I did not wish the planet to burn up and, you know, blow away. I mean, I was like, not even but it didn't occur to me that my job was to do more than write about it, in a sense. I mean I was 27, I guess, when I was writing *The End of Nature* and, my theory of change was, people will read my book and then they will change.

And they did actually read the book, I mean, it was a bestseller, it was in 24 languages, I mean like, that's just -- but that's actually not it turns out how it works. But as I say, slow learner, I spent much of the next 15 years just sort of writing, continuing to write about all this, and expecting at some point, that reason would prevail. The worst thing in the world was happening, scientists were explaining to us what was going on, sooner or later something would happen. And finally, it just, you know, empiricism had its way with me and it was clearly weren't getting anywhere. And that's when we started trying to organize.

And, you know, we formed 350.org and its grown into this big, global grassroots campaign and it's all, you know, it's only now, sort of all these years later, that I'm figuring out what Antonia figured out in the course of months, which is that, the reason we get no change is because of the incredible power of the fossil fuel industry. And unless we can change that balance of power some, unless we can weaken them some and build a movement strong enough to take them on, we never will get change. And so that's why we sort of try to do what we do. I'm still, you know, thinking of myself as a writer and a journalist, you know, above all else, though you wouldn't know it from sort of what I spend most of my hours doing anymore, I guess.

But, and I continue to think that reason is a very useful thing. At this point though, you know, reason is what we use to try and rouse the movement that might then go and beat the completely unreasonable force of the fossil fuel industry.

**Greg Dalton:** And we'll get to that. But let's stick on reason. We've had a number of discussions here that facts don't compel people to change. There's enough facts out there, if we were logical and we saw the abundance of scientific evidence and things, wouldn't change have happened by now?

**Bill McKibben:** I actually don't really buy that. I mean, there's been this endless, you know, pursuit of how people should message about climate and stuff, but most of which I paid no attention to. It's always seemed to me that you just should tell people the truth and that will work. And in my experience, it has. You know, I've never had any trouble, as I said, when I wrote *The End of Nature*,

it was very widely read and understood. When we formed 350.org, we took a one key scientific data point, the percentage of carbon that there should -- it was, which was ridiculous knowing we'll ever. Well, nobody had any problem with it, you know?

I wrote a piece last year for *Rolling Stone* called "The Terrifying New Math of Climate Change" that was 6,000 words full of numbers, not at all an easy piece to read. And I think it turned into one of the most widely shared pieces in the magazines' history. So I've never really -- I know that people are forever thinking, "Oh, if we just figure out some new thing to call climate change," or if we, you know, say the magic word about green jobs or something, automatically it'll work. But I have not found that to be truth.

I mean, at this point, 75% of Americans know that climate change is real and want something done about it. The people who don't want anything done about it are the small number of people who are making an enormous amount of money doing what they are doing. And they're quite straightforward about it. I mean, we had a good discussion in this room with the ex-CEO of Shell not long ago, who explained just all that, and he's not alone. The CEO of Exxon went on Charlie Rose a few weeks ago and Charlie Rose in his avuncular way, leaned in and said, "What is your philosophy?" I think he was sort of expecting the guy might come up with some sort of thing about serving the energy needs. "My philosophy is to make money," okay? So you know, high marks for honesty --

[Laughter]

**Antonia Juhasz:** He's always very honest.

**Bill McKibben:** Take them at their word, you know? I mean, there's no -- uninterested in science, uninterested in recent, interested in money, okay?

**Greg Dalton:** And isn't that what shareholders expect in one of them?

**Bill McKibben:** Well, maybe but that's why we're convincing lots and lots of shareholders that they don't want to be their shareholders anymore because, if they are, then they're implicated in what now is a kind of, you know, an almost outlaw industry. A group of people who, as that was the point of that *Rolling Stone* article, have in their reserves five times more carbon than the most conservative government or scientist says would be safe to burn. So if you're willing to profit from that then, you know, your, by definition, part of the problem here.

**Greg Dalton:** Antonia Juhasz?

**Antonia Juhasz:** Yeah, I think shareholders want to make a profit, but they also, I think, assume that there are limits being placed on the companies, which there aren't. That there is, in fact, some sort of social environmental system, which used to, back in the day, be known as regulation that used to be imposed by governments that actually put some set of normalized restrictions on those activities, even of oil companies.

And what I have learned is actually that many people are actually shocked to know that they're basically, at this point, particularly thanks to the Bush administration, we've given this industry a free hand in where it will operate, under what basically with, almost without restriction, almost without limitation. So that the idea that there is actually some sort of push-back on where you can operate, under what conditions, the impacts on whom, how they happen. That push-back doesn't exist anymore and that was by design.

And also, you know, I think facts are very important. I think people care about facts and then there's two other pieces to that. One is facts that are linked to a sense that there's something you can do

about them as the person reading them. So often, facts can be disempowering if it feels that they're being presented in such a way that this horrible string of information is coming at you and there's nothing that you can do to change that string of information. It's one of the main problems with our modern news media right now is that we get these very snippets of information that aren't contextualized, that aren't told in a full story, that certainly aren't told in a way that's meant to include a sense of activism or people who are doing something about that problem, and all you are hit with, as a consumer of the media, is really sort of a bludgeoning of catastrophe after catastrophe.

But then, there also is the human side that is also missing, which is the story that I work very hard to tell on impacts of climate and impacts of the industry, which is it's not just this ephemeral idea that at some point, some bad things are going to happen to us, but rather, there are people who live every single day, not just on the front-lines of climate change, but on the front-lines of the operations of the oil industry and the fossil fuel industry, who are facing the true bludgeon, which is the bludgeon of these operations in exploration, in production, in refining, in shipping, in selling, in consuming, and very rarely is there a full voice told.

And I think for the sort of average consumer, understanding the human, direct human impacts happening right now, the real facts, and the sense that you can actually do something about it is the, you know, sort of super circle that gets people into change.

And in the final piece is that the oil industry isn't sitting blithely away and saying, "All we're going to do is make money," of course. Exxon, the Koch Brothers, all the major players are funding those who are trying to deny our facts. And they have, often because of their money, the capacity for a much louder voice, so what you end up with this, you know, the funding of the climate deniers' myth, was that there were -- because there were so much money being spent on promoting the idea that the average person who didn't necessarily know a lot about the facts, said well if the scientists don't agree, who am I to know, right?

And so, part of our challenge was exposing, you know, who was actually creating these myths? Who was supporting the five people who held one idea versus the 500,000 who held the other, so that your average consumer... the information could sift through the facts. And I think we have successfully done that, but it's part of the challenge, as the industry isn't just sitting by, you know, waiting for us to throw up the information, and then change the way they operate.

**Greg Dalton:** And *Merchants of Doubt* is one book that did that. They went back to the '50s and others. But energy suppliers would say, "What about the demand side? It's easy to villainize oil companies, but we also derive benefits and jobs, et cetera from energy."

In fact, we had a person here on this stage a couple of days ago, Sam Avery, who wrote a book called *The Pipeline and the Paradigm*. He went down the whole route of the Keystone Pipeline and talked to people. And he said, "Look, people in energy companies are not evil. They're working within a system. They're responding to incentives and structures," and he was actually interesting. He said he didn't villainize people working in oil companies. But I wanted to have your thought on that?

**Antonia Juhasz:** I think the most important thing is, you know, what are the oil companies doing and fossil fuel industry to limit our choices to make it more possible for us to get off of oil and other fossil fuels. So all of the work that's done to maintain the billions upon billions upon billions of subsidies and tax breaks that go to the fossil fuel industry that are absolutely not equaled by, but I would argue most importantly, the public transportation sector, which I feel is far more important than any other alternative that we can come up with. Money that go to the public transit system, which gives more people the opportunity to make the other choice, but obviously also funding for alternative energy and, you know, all the plethora of ways that we can commute in other manners.

If the industry wasn't working so hard to make it harder for us to support the alternatives, we would have a much easier time to get off of fossil fuel together.

**Greg Dalton:** Suppressing competition, sure. Bill?

**Bill McKibben:** Well, I mean, yes, Antonia is exactly right. You know, Sam said... responding to their... responding to incentives and structures of the oil company. I mean, the oil companies create the set of incentives and structures to which they then respond. Go look at, for instance, in the Keystone Pipeline, you know, the amount of money spent lobbying and basically corrupting the system. Look in a larger sense at what the oil industry has been willing to do to maintain the greatest single, special break that any industry's ever had.

This is the only industry on earth that's allowed to throw out its wastes for free. They get to pollute and that's why they're the richest industry on earth. If they were forced to account, as every economist that I know of by now has said they should be forced to account for the economists would call their externalities, they wouldn't be making that kind of money. In order to protect that, they spend more than anybody in D.C. and a lot of other capitals.

I mean, you know, think about your hometown friends here, Chevron. Two weeks before the last election, they gave the largest corporate campaign donation of the post-Citizens United era. It was designed to make sure that the House stayed in the hands of people who would do nothing to them. It was successful. Nothing will happen for the next couple of years. Until we face up to that, the incentives and structures will remain the same, and so will the outcome. It's not that anyone's forcing them to play, you know, by a particular set of rules. They write the rules and then they play the game.

**Greg Dalton:** And let's talk about divestiture. San Francisco voted recently to divest, a number of good college campuses around. What's your hope for that? Obviously, following the example of South Africa and --

**Bill McKibben:** Yeah. Look, we're not going to bankrupt Exxon by doing it, but we are going to start morally bankrupting them. We're going to start taking away their social license. We already are. On 340-some college campuses at the moment, there are dedicated groups of students making the case that good people should not be in bed with bad companies, that their future should not, you know, their education can't be paid for by investing in companies whose business plan guarantees there will be no planet to carry that education out on. And they're doing it in beautiful solidarity with people all over the world.

Earlier today, at Bowdoin College and last night at Bowdoin College in Maine, students erected what they called a climate justice camp on the quad and spent the night, and I think they're going to spend a lot of nights there. They're saying, "If our college thinks it's okay to make its money investing in companies who are creating climate refugees the world over, then we're going to live like climate refugees," because I guess that's, you know, good enough for Bowdoin. That's powerful statement.

And late this afternoon, I sort of sent out a little note about that, and late this afternoon, got a message from one of our leaders on a small atoll in the Pacific saying, "We are so grateful to young people in the United States for doing this, and we're so hopeful that their elders will pay some attention to them." I thought that was a powerful moment and I think there's going to be a lot of powerful moments.

**Antonia Juhasz:** Yeah.

**Greg Dalton:** And I heard, Bill McKibben, I heard you say that when Nelson Mandela left South Africa for one of the first times, he went to UC Berkeley.

**Bill McKibben:** He went straight to the Bay Area. He didn't go straight to the White House. He went straight to the Bay Area and he said, "Thank you students for forcing the divestiture of \$3 billion worth of apartheid-tainted stock, you know. We fought for our own liberation, but we also needed your help doing this." That's why when we started this divestment campaign, one of the first people we called was our old friend who's been a help at 350 from the beginning, Desmond Tutu, and he made a little video for us.

And he said, "If you could see what climate change is doing to Africa, if you could see the famine and the drought, then you'd know why I'm asking you to take up the same tool again that you used a quarter century ago and stand up to the -- " because there's different kinds of oppression, you know? There's the very obvious kind, where someone gives you a pass and makes you live in a particular place and, you know, and then there's the kind where you can no longer feed your family, because people at a great distance have changed the weather so that you can't grow food where, you know, twenty generations of people were able to grow food.

And we got to stand up to both those kinds of oppression. They're very closely linked. And, it's a moment. I mean, if one wants to say one good thing about climate change, about global warming, it's that it's a moment when we'll find out if we really can conceive of ourselves as a globe or not. If we can achieve that kind of solidarity, and if we do, it's largely going to be by rising up against the 1% of the 1%, who are the people in charge of this industry.

**Greg Dalton:** Though Antonia Juhasz, South Africa was one country, it was isolated. The oil industry, fossil fuel industry is much more powerful. Do you think divestiture will have more than a symbolic impact? And if so, how?

**Antonia Juhasz:** Well, I think first you can't undermine the significance of the symbolism, so, you know, one of the things that's very true about the oil industry is that wherever it operates, those places where its operations are taking place tend to be in very economically disenfranchised communities. Right here, where here we live 60 miles away, Richmond is where the Chevron refinery operates, a number of refineries operating in Contra Costa County. A very low-income struggling community whose voice is not often get heard and its confrontations with industry. It's true all across the country.

I covered the BP Oil Spill. You know, talk about communities that have been struggling to try and hold their oil companies to account very much within a vacuum, very much without the attention of the rest of the state, much less the country and much less the world. And so when, you know, people in college campuses who have the opportunity or cities or states, certainly the divestiture movement does not need to be limited to college campuses, as the --

**Bill McKibben:** Religious denomination.

**Antonia Juhasz:** -- city of San Francisco showed.

**Bill McKibben:** That's right.

**Antonia Juhasz:** You're saying a voice, you know, for the betterment of our, you know, functioning right here and communities right here who don't have a voice, as well as internationally. I think one of the other thing that the movement has been able to do is to call attention to hypocrisy within the industry. A lot of the push-back that movements for divestiture have gotten with the oil companies

are, well, you know, they're leading the way, they're investing in alternative energy. So we want to support them because, you know, they have the capacity to shift this better towards alternative energy.

The reality is that is just so not the case. Hitting a height around 2006, the oil industry was putting a lot of attention into the fact that they were looking at alternative energy. BP, of course, famously changed its name to Beyond Petroleum. Well, as of this year, BP is completely out of the alternative energy business, as are most of the oil companies. At best, BP was the highest investor and at its height, it was 4% of its total exploratory and capital budget to alternative energy, and that was the best. Most of the companies are 2%, 1% and 0%. And most are on a downhill slide. Instead, where they're really focusing is on oil. Because now we're letting them go get oil wherever they want, in the tar sands, deep, deep, deep offshore in whatever country you're looking at.

**Bill McKibben:** In the Arctic.

**Antonia Juhasz:** In the Arctic. Shale. We're letting them get it at the same time as the price is high, high, high, so they are doubling down on oil and shifting away from alternatives. And the dirtiest, scariest types of oil, whereas you have oil, you have to fight wars for to it to get.

So part of the symbolism of the divestiture movement is to say, "We actually know the facts," which is that this industry is stepping backwards, not forwards, and we're going to shine a light on that.

And that symbolism allows for messages that don't often get to be told in places like the media and in commercials, and in places we don't have as much access to, even as reporters.

**Greg Dalton:** So is the hope then that divestment pressure will have them to invest more capital into cleaner sources of energy or, what's the goal here?

**Bill McKibben:** The hope is that it will weaken them politically. And if they're weakened politically, then we can start about the work of regulating this industry, instead of letting it just run roughshod over everything. They're always going to be powerful, but at the moment their power is - - the power imbalance is so great between them and anybody else that it isn't even a contest.

I mean, you know, 2009, there was the weakest possible climate legislation that one could have written. This Cap and Trade Bill that would have done virtually nothing, except that it would have at least established the idea that we were going to try and regulate carbon, you know?

The Senate, then with 60 Democrats, was so terrified of the oil industry that Harry Reid wouldn't even bring the thing to a vote. The whip count, you know, when he caved, showed that in a Senate with 60 Democrats, they had 43 votes in favor of this incredibly weak thing. It's not even close in Washington, or on almost anything. It's been a small miracle that we have been able to hold this Keystone Pipeline at bay for a couple of years. You know, there's a reasonably good chance we are going to lose that fight over the next six months because the Obama administration talks a good game on this stuff, but that's all they do. And so we're, you know, it's a completely unbalanced fight and it's an attempt to put some balance in there.

**Antonia Juhasz:** If I can --

**Greg Dalton:** Antonia Juhasz?

**Antonia Juhasz:** Yeah. So the other piece of that is, again, it gets back to their, is there something that you can do about it? I think the biggest victory of the oil industry is making itself seem impenetrable, that activists, concerned citizens, people who live where the industry operates will always look somewhere else to do something because they don't feel like they can do anything about

the oil industry.

And that's not a coincidence. Part of it is by design. And I think one of the things that the industry has done very well is make it so that you also just sort of feel like, "Well, you know, maybe they are, you know, really putting their energy in the right places and so we don't have to worry about them on a long list of things we have to worry about." What I'm thinking about, for example, you know, Chevron's human energy ad campaigns, which are designed -- you know, I don't think necessarily to make you think that they're investing, you know, billions of dollars in AIDS research in Angola, which you might be surprised to find that they're not.

But rather, to have you just sort of look away, say "Well, clearly, you know, they've got their heart in the right places. We know the oil industry does dirty things, operates in bad ways, but clearly they're not all bad and so we can look at other things." And so part of what the divestiture movement does is create this space, so just talk about them. Open up the doors, shine the sunlight. How much money are they actually investing in Angola? How much are they actually investing? And I mean, not investing in oil in Angola but rather in health care in Angola? And how much are they investing alternative energy? And to make it so you can start having a dialogue that's often very difficult to have around this industry at all.

**Bill McKibben:** They are very skillful. I mean, these guys have unlimited amounts of money to spend on public relations and the strategy that they have hit on in regard to climate is just to keep insisting that though they like to do something, nothing can be done. And they put out a report, you know, Exxon, every year, puts, "Oh, it will be 50 years before, you know, whatever." Well, given if they stay in charge, it sure will be 50 years. And probably 50 years from now, it will be another 50 years, you know? If we're able to break that power then, it won't be 50 years, and that's what this fight is about. And that's why they're terrified of the few counterexamples now we see around the world.

So, for instance, you know, the Germans, source of many of the problems of the 20th century, are doing their best to provide some of the solutions to the problems of the 21st. They're really doing a serious job on renewable energy. And that's the scariest thing that, you know, the oil industry can hear, is that there were days last summer when Germany generated half the power it used from solar panels within its borders, okay? I mean that's Germany. I mean, Munich is north of Montreal. Think what they could do if they were in, say, oh, I don't know, California.

**Antonia Juhasz:** Well, in --

**Greg Dalton:** But hold on. Germany's doing a lot, but you're conflating oil and coal. The oil is not really burned for electricity.

**Bill McKibben:** Yeah.

**Greg Dalton:** That might be a threat to the coal industry and we haven't talked much about coal yet. Then I want to, a lot of climatologists would say, "Coal is really the big problem."

**Bill McKibben:** I drive a car now that takes electricity to make it run.

**Greg Dalton:** Me too.

**Bill McKibben:** And I plug it into the solar panel on my roof. So I'm, you know, if I was in Germany, I'd be just fine.

**Greg Dalton:** Right.



**Antonia Juhasz:** I take public transportation. [Laughter] But the other piece that I just wanted to add is we know that we're not going to not be using oil tomorrow. The question is how do we move more quickly away from oil and coal? What's the best way to make that happen? One of the best ways to make that happen is to open this door on the fact that we actually can limit where the industry gets to work while we invest much more heavily in the meaningful alternatives.

And again, the most important is public transportation. What happened with the discussion of peak oil, which disappeared because, the more we were having a discussion about peak oil and the concerns about what would happen when we hit the peak, is that it created this really great door for the industry to say, "Yeah, you don't want that to happen. You better let us go wherever we want to go." And so we did. And so, we pushed the peak further out because we opened places that I just think simply shouldn't be opened.

**Bill McKibben:** Exactly.

**Antonia Juhasz:** But that pushed the peak out.

**Greg Dalton:** Well, and technology change is a big part of that.

**Bill McKibben:** But what's really important now, I mean, it's a big part of this fight. I mean we're playing offense when we do divest stuff. We're going after them, but we also have to play serious defense. Antonia's absolutely right. I mean, think about what folly it is to build something like the Keystone Pipeline. It connects to the dirtiest oil on Earth and insures that you'll be using it for 50 years. Once you have spent the money to build it and once you've provided that jolt to financing up to the people who want to expand the tar sands and things, it just keeps going.

Our colleague KC Golden, at Climate Solutions in Seattle, published a great essay. He said, "We're going to call this the Keystone Principle. We should make sure that we don't build new infrastructure that locks in our dependence on this stuff, just the opposite." We should be starting to shut it down as quickly as we can, and in the process, force ourselves to wean ourselves. I mean, you know, I mean weaning is sort of the right metaphor here, you know? It's... I remember our daughter, it's not the easiest process in the entire world, but it needs to happen, you know?

**Antonia Juhasz:** And I disagree with this fundamental idea that it was technology that opened it up. It's technology plus utterly liberalized deregulation. So I disagree with the fact that the industry really has the technology mastered to go 7,000 feet out to do offshore. They don't. We learned it the hard way. BP was the evidence. And we've just allowed them to take steps in technology and turn it into, "We get to go wherever we want to go, however we want to do it." And you can also argue that they don't know how to do the tar sands, given the environmental human cost of the tar sands. They actually don't know how to do it if they can't capture it and do it cleaner and safer and healthier. I would argue that means they don't actually know how.

**Greg Dalton:** There actually is some carbon capture sequestration happening up there and what really ensures it is oil that's \$80 or \$100 a barrel. As long as oil prices are high, it's economic to burn the released dirty stuff.

**Bill McKibben:** Well, no. As long as there's no price on carbon --

**Greg Dalton:** Right.

**Bill McKibben:** -- it's economic to burn the really, you know... the minute that there's a serious price on carbon, no one's getting near the tar sands because that's expensive stuff to get at.

**Greg Dalton:** They'll make less doing it and, yeah.

**Bill McKibben:** Yeah, I mean, it's just a toss curve. I mean, you put a \$50 a ton price on carbon, you've closed off Alberta to exploration and you've closed off a lot of places. And that's what we need to do because we need to start forcing ourselves off this stuff.

**Greg Dalton:** A couple of the oil companies, we had the president of Shell Oil here a few days ago, they have a \$40 per ton shadow price on carbon. Now that's kind of funny money but they're out there saying, "We anticipate a world where there's a real price on carbon."

**Bill McKibben:** But we're going to fight like hell to make sure it doesn't happen --

**Greg Dalton:** To make it happen later rather than sooner.

**Antonia Juhasz:** The word where capture... where capture should be is the price of oil should be high, the price of gasoline should be high. The question is who's capturing that money and where is it going? Right now, a \$100 barrel for oil... between the fact that the oil industry is also engaged in speculative futures trading, as our hedge funds, as our banks, which is also unregulated, and also driving the price of oil up, they are capturing the benefit.

If we instead forced the high price of oil and the high price of gasoline and the high price of coal to be captured by governments in the form of taxation that is immediately invested in moving us for the alternatives, the high price would function in a completely different way. It would function towards moving us towards alternatives, making it less interesting to the industry because they're getting less out of it, and therefore making these places where they're operating less, economically.

**Greg Dalton:** And the high prices is funding the tar sands and all these things. It's providing revenue streams to do that. Let's talk about stranded assets. There's been a lot of talk lately about a carbon bubble. I heard David Blood, who's an investment partner with Al Gore, say recently that, "There's going to be stranded assets and if it's not going to be carbon on the ground, it's going to be cities and schools, and other types of assets. And so, this is -- and there's different bets on which assets are going to be stranded." So Bill McKibben, explain for us --

**Bill McKibben:** Sure.

**Greg Dalton:** -- that the carbon math and --

**Bill McKibben:** So this was the math that underlay this piece in Rolling Stone in a sense, okay? What it said was that these guys have five times the amount of carbon that we could safely burn, if we want to stay below two degrees.

**Greg Dalton:** And you're saying all fossil fuel companies?

**Bill McKibben:** All taken together. If we wanted to stay below two degrees, so that gives you two choices. Either, you bust the planet and raise temperatures four or five degrees, and let these guys burn it and recover all the money they're expecting to recover now and their share price stays full and whatever. Or you bust them. You say you've got -- we can't do this because it will wreck the planet for geologic time, at which point, according to recent studies from HSBC and Citigroup, you'd lower the valuation of the fossil fuel stocks about 40% to 60%, okay?

So, just be clear, that's what we're doing, that's the decision at the moment that we're making, is that, we'd rather break the planet than lower the valuation of Shell 40%, okay? And, make it clear too that if you're willing to invest in these companies, then that's the bet you're making, that no one

will ever regulate them. And so you'll get to keep, you know, you'll get to make whatever money you're making off them. If you had any hope that someone was going to regulate these companies and try to keep those carbon reserves in the ground, if you had any hope of that, then it would be a bad bet to make, you'd be sitting on a bubble. That's bubble that we're trying to help pop with this divestment campaign.

And you know what? I mean, given the arcane nature of all of this, it's been pretty exciting to watch how quickly this campaign has built and how many people are understanding its importance.

**Greg Dalton:** It certainly gained the attention of people quickly. But it's a bet that the political will will not happen. Is there any evidence that people are starting to short these stocks or bet on the other side of this yet, or is it too early to think and why?

**Bill McKibben:** No, I don't think there's any evidence of it yet. I think the oil companies remain serene in their belief that nothing can touch them, but I think that they're wrong. And I mean, we'll find out. In fact, I know that they're wrong. Eventually, we're going to try and do something about all this. And the interesting question is will we try to do it before in a time period that still allows us to have some chance of it making a difference?

At a certain point, you know, look, one of the reasons that they should not be serene is that Mother Nature continues to provide an incredible array of teachable moments here, each of which... [Laughter] I mean, last October, in the greatest city in the world, the public transit system got filled up with the Atlantic Ocean, you know? If you had some sense that somehow our technological civilization was invulnerable, it should have ended right then and there, okay? And for a lot of people, it did. And as time goes on, more and more and more of this.

The question now is just, you know, can that reality catch up with the artificial reality created by this industry? Can it overwhelm their ability to keep -- I mean, at a certain point, they'll falter. They won't be able to keep Congress in line. It's too much pressure. The question is will that come in time to do any good or not? And on that, you once, you know, it's reasonable to be pessimistic because we don't have much time.

**Greg Dalton:** If you're just joining us on the radio, our guests today at Climate One are Bill McKibben, founder of 350.org and author of *Eaarth: Making a Life on a Tough New Planet*. We also have Antonia Juhasz, author of *Black Tide* and a fellow at the Investigative Reporting Program at the UC Berkeley Graduate School of Journalism. Did I get that right?

Been talking a lot about these guys and they burn it. The reality is we smoke the stuff that they sell. And, so I want to talk about individual responsibility and we can frame it on oil or even other areas where people don't want to pay more for certain products. They don't want to make lifestyle tradeoffs. We want to live the way we do without -- we want to solve this problem without making any sacrifices in our comfort or convenience or lifestyle. Antonia?

**Antonia Juhasz:** Yeah. I think the first thing is, we are making changes. Actually, we've been looking at the divestment movement, but a community in New Mexico just topped all of us and just passed a resolution that said they will not go after the natural gas through fracking and the oil that they have within their community, they're going to leave it on the ground. Because they think it's better to leave it in the ground than to produce it. And they said, "We're not going to produce this."

Ecuador's been trying to do a similar activity for some time, not particularly successfully. Also, in the United States, we had our peak of oil and gasoline consumption in 2007. People thought it would go back up as the economy picked up, but it turns out it's not just the economy that's motivating

people, people are actually shifting because of policy to more fuel-efficient cars and because they want to.

**Bill McKibben:** I think they don't want to drive anymore. Young people, the number of miles driven by young people has dropped 23% in the last decade, I don't know. I mean, every young person in America just wants to move to Brooklyn and drive, you know, ride a bike every place they go, you know?

[Laughter]

**Greg Dalton:** And interact on their cellphone instead of, yeah.

**Bill McKibben:** Yeah.

**Antonia Juhasz:** Well, but I mean, people are actually getting it and they're actually doing something about it, so that's, you know, the positive story. We are changing our demand and consumption activity within the United States, which is still the largest consumer in the world, so it's still important.

I think the pieces, as I said before, it's putting in place policies that make it possible for those individual choices to turn into collective action, and to making those individual choices more possible and affordable. So really, it is about, in the United States, in particular, it is about public transportation. I don't own a car. I've never owned a car because I have the advantage of living in major cities within the United States, which have world-class public transit systems. It makes it possible for me not to have a car. That's not true in so many places, even within major cities in the United States.

And also, we want to lead by example, so we want to help through whatever means we can for China and India and other developing countries that are turning towards cars, to instead have the assistance that they need to move instead toward that much more healthy, happy idea of public transportation and not moving around in cars, and to not see it as a personal sacrifice, but rather to see it in the way of all the things that we're going to gain, you know, our planet being one of them.

But you know, actually, there's a study that just came out in London which shows that people are actually happier when they take public transportation, overall, in their lives. There's a happiness coefficient, which is because it's not just the frustration of driving, it's actually the social interaction of sitting on a bus, sitting in a community group while you move around, which makes people happier. So it's what you will gain by giving up your car.

**Greg Dalton:** I don't know what bus you ride, but the bus I ride was on their iPods, iPads, and they're like, not looking anyone, and they're in their own world.

**Bill McKibben:** You know, it's not even just public transit either, you know? When we were all, many of us were in Copenhagen for the tremendous disaster of the Copenhagen Climate Summit.

In fact, the only cheerful thing of the entire week for me was watching as half of Copenhagen commuted to work through the snow and slush on their bicycles, without paying a single -- you know, without seeming to think it odd or self-sacrificing or, it's just what they did. And they'd set up the city so it's easy to do. You know, there's bike highways and bike stoplights, and they don't insist, you know, like none of them of wearing Lycra and trying to go incredibly fast, you know, [Laughter] through the whole thing. They were just riding their bikes to work, and it was great.

Everybody I know who works on this stuff, long ago, changed their light bulbs and did all those sort of things, and when they did it, they understood this is an important thing to do and it's not going to

stop climate change. This is a structural problem and the structures need to change, and the reason the structures can't change is because of power. And so we have to build some. It's remarkably, at some level, remarkably uncomplicated.

**Greg Dalton:** I recently heard Al Gore talk at Stanford and he said, "Our democracy has been hacked." He was talking about -- he talked about climate and also campaign funding, and I'd like to hear about the democracy initiative, which is some groups coming together to look at some of the campaign funding and some of the -- that side of structural issues that affect the policy outcomes.

**Bill McKibben:** Well, I mean, I think that it's incredibly important. I also think that, you know, people have talked for a long time about campaign finance reform and all. It's very difficult to do, well, in part because, the system we had at the moment, by definition, the people who are in charge of it have prospered under the current system and so it's hard to get them to change. But it's also hard because people's eyes glaze over when people bring up, you know. It's just very hard to build a movement.

I think that the way, and I think Antonia said this sort of in passing before, the way to really challenge the rule of money in Washington may be to go after the fossil fuel industry, which is the worst offender and has this great vulnerability that they're destroying the planet in the course of doing this.

If we can bring them down a peg or two, it will have a great and salutary effect in kind of opening those discussions in D.C. They're really important to build and keep working on them. We work with people like the United Republic to try and change things and stuff. But look, I mean, the fossil fuel industry is the heart of this thing. The Koch Brothers didn't, you know, make their money selling soda pop or whatever else. They made their money selling oil, and they'll continue to. And so did an awful lot of other people who are corrupting our system.

**Greg Dalton:** Other part of the system is it's really predicated on growth and that a lot of people here who say that ultimately, you know, growth, we can have green growth, but still the idea of perpetual, quarterly growth is a structural problem. And no one really has a solution for capitalism that doesn't grow, built on more and more and more. I'd like to get your thoughts on whether even, say, we had a green economy, we'd still be growing and there would still be intense resource extraction and consumption that is part of the problem. Antonia?

**Antonia Juhasz:** I mean I think clearly, we've identified for some time that there's a fundamental problem with judging a healthy society based on producing more and more things. Obviously, our globe can't sustain such an idea and we had any reason to believe that producing more and more and more for less and less and less is problematic. The fire and deaths of 300 people in Bangladesh making cheap clothes for as cheaply as possible is really good evidence that that's problematic. And you know, there's been lots of great economic writing on... there all sorts of other ways that we could instead measure GDP and create a healthy economy, which isn't based on this idea of the model of growth that is currently the determinant that we use for GDP.

But actually, I want to go back really quickly to this issue of democracy and the companies because I think it's so critical. You know, I went to graduate school in Public Policy at Georgetown. I worked on Capitol Hill. I did the DC thing for 12 years and almost every single year of that time, I thought that every one of us needed to do for one year and do absolutely nothing else but focus on campaign finance reform, because nothing else we're doing was going to matter unless we did.

**Greg Dalton:** Right.

**Antonia Juhasz:** And that is only continued to be more insightful that I thought of back then.

[Laughter]

**Antonia Juhasz:** It's funny how that worked out way. But the truth is, we actually can do it because we've done it before. So one of the things I like to bring up a lot is a cartoon that I described in my second book, *Tyranny of Oil*.

In the 1870s, there was similar problems what we have right now. The biggest company was Standard Oil, corporations were dominating our system, and a cartoon depicted it really well. It's a cartoon that depicts the United States Senate. They're sitting, just like you are, a bunch of people in this room. Towering above them are these huge, fat cats in top hat and tails, which are identified as the corporate trusts. The only corporation that named by name is Standard Oil. There's a banner that reads, "The U.S. Senate: Of the monopolists, by the monopolists, for the monopolists." And a little sign in the corner by a door like that's locked and bolted and closed, and a sign says, "People's Entrance."

The response to this was a massive movement of political action, protests, strikes, shutdowns, lawsuits. The whole country got mobilized. And the result was the first laws that we've ever had in our history, on labor rules, such as, you know, the idea that maybe children shouldn't be doing labor, the crazy idea of the 40-hour workweek and the 8-hour workday, the first campaign finance laws we've ever had.

**Bill McKibben:** Antitrust.

**Antonia Juhasz:** And antitrust laws, the first target of which was Standard Oil, which was then broken up into many, many, many corporate parts. Over the years, those corporate parts, particularly starting in 1980s, under Reagan, under deregulation, were allowed to put themselves back together again, like the waterman in the Terminator.

[Laughter]

**Antonia Juhasz:** Slowly pulling themselves back together. And that's, you know, Exxon and Mobil, and Chevron and Texaco, and Gulf and Getty, which are now one company, and Unocal, Conoco and Phillips, BP which bought Amoco and ARCO. We allowed them to put themselves back together again. Well, guess what, we can do it again, we've already done it before.

**Greg Dalton:** For those just joining us --

[Applause]

**Bill McKibben:** Hear, hear, hear.

**Greg Dalton:** -- and also, the senate was appointed and at some point, the senate became elected, right?

**Antonia Juhasz:** Right.

**Greg Dalton:** Antonia Juhasz is author of *Black Tide*. Our other guest today at Climate One is Bill McKibben, founder of 350.org. I'm Greg Dalton. We're going to invite your participation and put the microphone up here and invite you to join us. The line starts over there with our producer, Jane Ann, and we invite you to join us with one one-part question. We'll get in as many as we can in the 15 minutes we have left.

**Bill McKibben:** And while you're doing it, I just want to say something before, which is, if anybody hasn't read Antonia's books, they really should. She's the exact example of the kind of reporting. There have been two great books, two great authors working on the oil industry, she's one and Steve Coll, whose book about Exxon was the other. And, you know, this is the biggest force in our society and it's tragically under covered, and, you know, such credit for going and doing this kind of work.

**Antonia Juhasz:** I paid him to say that.

[Laughter]

**Greg Dalton:** Yeah, there's a podcast of Steve Coll at Climate One on iTunes. And there is some great stories in there about getting into the command center for the BP Oil Spill, you got inside, and some people got escorted out, there's some good stories in there. Welcome to Climate One, let's have your audience questions.

**Male Participant:** Thank you. It seems to me that the big oil companies have a very big, silent partner in us. A lot of people that I talked to, they say they recycled their bottles and cans and they turned their thermostat down at night. And then the only time they're really climate deniers is when they climb behind the wheels of their big SUVs or their four-door long bed pickup trucks and go down the store for a bag of groceries. I don't think the message is getting through to us. And I know that we can do it if we want because we just did it with the airlines a couple of weeks ago or this last week. Is there a better way? Is there a direction we could go?

**Bill McKibben:** There's not a way to solve this problem in the time that we have by getting everybody to change their lifestyle. We just, I mean, if we had a hundred years, this is exactly the right way to approach this problem. Human beings change best and human civilizations when it goes slowly and gradually. And, you know, you buy a Prius and your brother-in-law sees it and, you know, your sister rides the bicycle and gets, you know, starts looking healthy and somebody else copies her, and on we go. You know, over three generations we make real change.

Three generations is a good idea. We've got a few years and that means that we engage -- I mean all those things are important, but if we don't -- if you have a limited quantity of time and energy, which most of us do, spend a little bit of it changing your light bulbs and perfecting your own lifestyle and whatever. Spend more of it organizing, getting connected, becoming powerful enough to make that structural reform. That was the logic anyway behind 350.org.

**Antonia Juhasz:** And I think that's the can. Where I was going with the story of the oil industry doesn't want us to look at it, the next piece of that is it doesn't want us to feel like we can take action to regulate it. So one of the best things we can do that's a, you know, a quick fix, is to impose regulations on the industry that dramatically limit the places where it's permissible to it to go, and I would start on that list of places where it actually knows how to do its work might be a good place to start.

But, you know, we can actually put by acting collectively limitations on the operations of this industry, which will buy us a lot of time. As I said again, it's about collective movement of people. Collective movement of people means public transportation.

**Greg Dalton:** But restricting supply will impact, will raise prices. Is that the intended goal?

**Antonia Juhasz:** Well, there's two pieces to that. First of all, our oil markets, domestically and internationally, are completely out of whack. So what very most often happens is when we restrict

oil supply, the price of gasoline tends to -- I'm sorry, we've had, supply has increased of oil, demand has decreased and price has gone up. Our markets are very out of whack and one of the primary reasons is the control that's exercised over the markets of the industry.

**Greg Dalton:** Right.

**Antonia Juhasz:** What I would want to see is the price... we could restrict supply, restrict demand, and again, capture high prices of oil and gas into the ways that we need to transition the way off.

**Bill McKibben:** Well, that's right. And, you know, now economists... Bernie Sanders and Barbara Boxer introduced a bill this year in Congress. And I mean, it's very, it says, "Look, we're going to raise the price of oil, and we're going to do it artificially, and then we're going to take most of the money we collect and we're going to send it back to people, so that they don't get bankrupted in the process."

The basic question that you want to answer is who owns the sky? If it's Exxon, then we should keep doing what we're doing now. If it's all the rest of us, then at the very least, they should be paying rent, you know, to us for the damage they're doing. And if they did, I mean if you went to the -- every time you filled up your tank, gasoline was \$7 a gallon like it is in Europe, you would start saying to yourself, "Actually, I don't require a semi-military vehicle to get my groceries," you know?

And at the same time, you'd be getting a check in the mail that would put you ahead of where you are and would actually give you the capital to go off and do things like put solar panels on your house that would free you from having to be forever dependent on it. I mean, look, one of the reasons, let's be clear about it, that we don't have solar panels and things like that in the abundance we should, is for, you know... Exxon could put them up, they could be good at it, that was. But the business, well, the flaw in the business plan for them is, you can't actually meter the sun, you know? So they hate it, you know? They like things where they can control supply.

**Antonia Juhasz:** And also, I think the other thing that would happen if gasoline was \$7 a gallon is that, more people would more aggressively demand that they had some other way to get around.

**Bill McKibben:** Why do you think -- it's right. I mean, Europe doesn't have a good train system because Europe has, like, better train engineers or something than we have. They have it because they kept the price of energy high since the end of the war, and so people, you know, you've got elected politicians, you get elected whatever you're doing by making sure that there were good trains that came on time.

**Greg Dalton:** Let's have our next question for Bill McKibben and Antonia Juhasz.

**Female Participant:** Okay. I have a Fidelity managed funds and I've asked my fund manager to have the representatives go to the annual stockholder's meeting, so the oil companies know how to push for renewable energy, and if they don't, divest from that. But my question is back in the '70s, there was... *New York Times* magazine had an article about the oil companies buying up all the solar patents and other patents since the 1930s. What has happened with that, why isn't anybody talking about what they've done all these years?

**Bill McKibben:** Well, they could well have done that, I mean, but the good news is that this technology, this genie out of the bottle, we know how to do it all over the place. The Germans are demonstrating that, the Chinese are demonstrating that every day.

I'll tell you a funny story. I was in China doing a big piece for *National Geographic* on China and energy, and I spent the day with a guy who runs the biggest solar hot water company in the world.



Twenty-five percent of Chinese homes get their domestic hot water from solar panels on the roof, compared with less than 1% in the United States and most of that 1% goes for swimming pools. At the end of the day he'd showed me his private museum, and the pride of place in his private museum was an old rusting solar hot water panel. He said, "You know what that is?" "No, what?" "That's one of the ones that Jimmy Carter put on the White House in 1979."

**Antonia Juhasz:** Wow.

**Bill McKibben:** And Ronald Reagan took down in 1985 because he wanted, you know, manlier forms of energy than this stuff. And we know how to do this stuff a long time ago. We've not done it because it's been in the interest of particular people that we not do it. And we know how to do it. The engineering gets better with each passing year. We're doing some of it around the edges. But the economic headwind imposed by the fact that there's no price on carbon guarantees we will never do it fast enough to make a difference in climate change unless we change that factor.

**Greg Dalton:** Let's get the -- let's try to get as many questions as we can, sorry about that. We've got seven minutes left. We have a line. We'll get through as many as we can with quick questions and quick answers. Welcome to Climate One.

**Female Participant:** Hi. We are maybe facing our own tar sands in America here in California with the oil industry wanting to frack the Monterey shale. Most Californians know nothing about this, and if they do know about it, they think it's natural gas, so it's a good thing. Meanwhile, our legislature, our mostly Democratic legislature and our governor is look at this oil as a source of jobs and of tax revenues. And so are our progressive allies, who are looking at things like an oil severance tax might really bring in a lot of money for higher education. So this is pretty much a serious situation. You got any suggestions for California anti-fracking activists?

**Greg Dalton:** Antonia Juhasz?

**Antonia Juhasz:** Yeah. You raised very, very good points and there's actually a number of really amazing groups that have started to focus on California's fracking. Folks helped me with some of the groups that are doing work on fracking because I know there's a lot, Greenpeace and Sierra Club. I know there's been a lot of activity.

**Bill McKibben:** And don't give up. I think the legislature just passed -- you know there's serious progress towards a moratorium on fracking in California, even within the last week or two. Don't give up. I bring you good tidings from my home state of Vermont, the only state in the Union that's banned fracking at this point. So it's not impossible. Go for it.

**Antonia Juhasz:** I think also it's really important in those discussions to talk about natural gas burns cleaner, but the process for getting it is the same for getting oil and, in some cases, can be even worse. The other just piece I wanted to add on really quickly, because it's really important for this discussion of divestment, is the idea of wanting to push oil companies more into alternative energy. That's not the path, I think, is the wise path. I think we've seen the way that industry uses the resource that it already works with, and I'm not particularly interested in handing the sun over to them, or handing wind or water over to them.

And I think that, really, the idea is localized production of alternative energy, and localized uses is much preferable than moving to have the majors move into alternative energy themselves. And rather have them really do everything they can and use all their money to produce oil the best way that they can, the cleanest and safest and healthiest. As long as we're dependent on this resource, they should be putting all of their money into doing it as absolutely as fine and well and fantastic as

they can, and I'd love to see them, you know, use their money towards that good rather than moving into other places.

**Greg Dalton:** Let's have our next question. Welcome.

**Female Participant:** In the context of the public making sustainable choices within our petro-hegemony, would you both comment on plastic use, on our addiction to plastic in convenience culture? Plastic bottles exactly.

**Greg Dalton:** Plastics. Right. Antonia Juhasz?

**Antonia Juhasz:** Yeah, absolutely. This is a petroleum product. There's a lot of problematic petroleum products and not just oil. And, you know, I think there has been, you know, really good movements towards trying to shift away from, for example, using plastic bottles to reusable bottles. But we have to look at the whole cycle of, like, life in plastics in the same way that we look at the whole cycle of -- we're trying to look more at the whole cycle of life -- of oil. Because in the same way that we have problematic refineries, production of oil, disposal of oil, the petrochemical industry is, you know, just as, if not even more destructive in its production processes creating plastics and other byproducts that it makes. And much less attention is paid to that and I think the more that we looked at that, the more people would be willing to give up, you know, the so-called convenience of using our plastics, and maybe part of expanding the story as a part of a way of addressing that.

**Greg Dalton:** Let's have our next question for Antonia Juhasz and Bill McKibben. Welcome.

**Carter Brooks:** Hi, my name is Carter Brooks at [climateart.com](http://climateart.com). We've been talking about structural problems. One of the structural problems that civilization has is that there's too much energy. We have a supply problem if you will. It took the Earth half a billion years to store up all this energy. So, as we talk about the fossil fuel industry as being the problem, there's sort of the middle man in this. In a way, we're all in it together in that we have this too much energy problem as if that's an open bank vault.

So, my concern is that, you know, the demonization of the oil industry as the problem, just not withstanding all the, you know, abuses, means that we don't recognize this other problem that we have, which is that it's there. You know, they're bringing it to us and we have to shut it down, but if we just say they're the problem and then we fix that, then we still are left with the problem that we have. So I wonder if you can both comment on that a little bit.

**Greg Dalton:** Antonia Juhasz?

**Antonia Juhasz:** Oil isn't an inherently problematic resource. It exists in the planet naturally. It exists in our ecosystem naturally. In the Gulf of Mexico, there are natural seeps that go into the Gulf every single year. There are ecosystems that have developed to withstand the natural seeps and to live in harmony. For many, many, many years, oil was dealt with as a localized, limited-use resource that was used to fix boats by Native Americans in the United States. And, you know, people lived in harmony with this resource, which is a naturally-occurring resource. What shifted was turning it into something of mass production, mass consumption, and mass profit. It's not an inherently problematic resource. We can live in coexistence with it. What we can't live in coexistence with is the way it's being explored for, produced, refined, consumed, and disposed of, and that is something that we absolutely do can't have a handle over.

**Greg Dalton:** Bill McKibben last words?

**Bill McKibben:** I mean the real answer to your question, yeah, there's a lot of oil on the planet and

a lot of energy we could get at. But you know, it's minuscule compared to the amount of energy that washes over the planet every hour of every day from the sun and the wind. Think of the insane waste of just letting that all wash past us and instead we're like, you know, down 7,000 feet below the Gulf of Mexico, you know, trying to like drill holes through things, or up in the tar. People are going to look back in a 100 years and just like, scratch their heads, you know? It's like "Really? That's what --" It's like we're of a cult of, like, black rocks that we go find or something...

And so, there isn't literally unlimited amount of energy that comes from above, and as we get good at using it, you know, it'll replace that. The question is, and it's the only question, can we get good at using it fast enough? Because we've got a very limited window, a very short time to avoid absolute, all-out, too late to stop global warming but maybe not too late to stop all-out climate catastrophe. That's what the issue right now, and that's why this is so urgent. That's why people are going to jail in large numbers. That's why kids at Rhode Island School of Design, the day before yesterday, occupied the president's office and demanded divestment of their fossil fuel stock. That's why, you know, people around the world are starting to stand up. They understand that our moment, uniquely in human history, what we do over the next few years will determine what tens of thousands of years to come will be like. That's why it's a fight.

**Greg Dalton:** We have to end it there. Our thanks today to Bill McKibben, founder of 350.org and author of *Eaarth: Making of a Life on a Tough New Planet*; and Antonia Juhasz, author of *Black Tide* and a fellow at the Investigative Reporting Program at the UC Berkeley Graduate School of Journalism. You have been listening to Climate One. I'm Greg Dalton. Thank you all for coming.

[Applause]

**Bill McKibben:** Very good work. Thank you. Great.

**Antonia Juhasz:** Thank you.

[END]