

Al Gore explains why he's optimistic about stopping global warming

By Ezra Klein, Updated: August 21, 2013

Al Gore was vice president of the United States from 1993-2001. Since leaving politics, he's been heavily involved in the campaign to fight global warming, even winning a Nobel Peace Prize for his efforts. And he says he's more optimistic than ever that the issue has reached "a tipping point." In this lightly edited interview transcript, he explains why.

Ezra Klein: In 2005, when "An Inconvenient Truth" came out, I remember that the hope was we could keep the carbon load in the atmosphere to 350 parts per million, and the fear was we would hit 400ppm. Now we've hit 400ppm and people are hoping to avoid 450ppm. This seems to be getting out of hand, and fast.

Al Gore: We have already crossed the 400 parts per million mark. We crossed it earlier this year. The question now is how high it will go before we begin bending the curve. But in spite of the continued release of 90 million tons of global warming pollution every day into the atmosphere, as if it's an open sewer, we are now seeing the approach of a global political tipping point.

The appearance of more extreme and more frequent weather events has had a very profound impact on public opinion in countries throughout the world. You mentioned my movie back in the day. The single most common criticism from skeptics when the film came out focused on the animation showing ocean water flowing into the World Trade Center memorial site. Skeptics called that demagogic and absurd and irresponsible. It happened last October 29th, years ahead of schedule, and the impact of that and many, many other similar events here and around the world has really begun to create a profound shift.

A second factor is the sharp and unexpectedly steep decrease in prices for electricity produced from wind and solar and the demand destruction for fossil fuel energy from new efficiency improvements. The difference between 32 degrees Fahrenheit and 33 degrees Fahrenheit seems larger than just one degree. It's the difference between water and ice. And by analogy there's a similar difference between renewable electricity that's more expensive than electricity from coal and renewable electricity that's less expensive. And in quite a few countries in the world and some parts of the United States we've crossed that threshold and in the next few years we're going to see that crossed in nations and regions containing most of the world's population.

Another way to think about this is that back when mobile telephones first appeared, the market projections for how quickly they would increase market share turned out to be not just wrong but way wrong. This is a point made by Dave Roberts at Grist, but the projections made 5-10 years ago for the installation of solar and wind technologies were, similarly, not just wrong but way wrong. We've seen a dramatic increase that's far more rapid than anybody projected and it's accelerating — not just in the United States but even more rapidly in developing countries.

EK: Do the policy failures of the last decade put more pressure on technological advances to be the source of the solution?

AG: No, I see them as intertwined. To some extent, the failure of policy at Copenhagen and before that in Washington has put more emphasis on the hopeful developments in technology, but as the conversation is won on global warming — and it's not won yet but it's very nearly won — the possibilities for policy changes once again open up.

We are seeing dramatic progress towards new policies in China, Korea, Ireland. We've seen a coal tax in India. We've seen changes in Australia, the largest coal producing nation. We've seen Mexico take a leadership position. We've seen action in California and other states. And some 17 other countries are in various stages of adopting either a cap and trade or carbon tax or both. If China follows through in its stated intention to move its cap-and-trade pilot program into a nationwide program in two years, then we'll see a new center of gravity in the global energy marketplace that will accelerate the shift towards a market-based set of policies that will speed up the phase-out of coal-based electricity.

EK: Let me push back on your optimism here. To again use "An Inconvenient Truth" as a time marker, when that came out, Republicans in the Senate were still introducing bills to fight climate change through policies like cap-and-trade or cap-and-dividend. In 2008, there was a cap-and-trade plan in the McCain/Palin platform. In 2009, Waxman-Markey passed the House. But since then, Republican opposition has solidified, and cap-and-trade and carbon tax ideas seem completely off-the-table in American politics.

AG: Well, it's not unusual to find big political shifts that take place beneath the surface before they're visible above the surface. A lot of Republicans have shared with me privately their growing discomfort with the statements of some of the deniers in their ranks. Even though they're not yet willing to come back to advocate constructive policies, there is definitely movement. You have now the formation of the first organized caucus in the Senate, with Sen. Sheldon Whitehouse joining with others in a hard-hitting effort.

But you see it at the local level a bit more than at the national level. You see these state initiatives and laws. And you see maybe the biggest shift of all in the business community. I think that in order to be competitive internationally we'll have to make the shift towards a price on carbon. People are increasingly aware that we're already paying the costs of carbon and so it makes sense to put a price on it.

EK: But to play the pessimist again, wouldn't carbon prices in other countries give us a competitive advantage the longer we resist them at home? It seems that if India is taxing fossil fuels and we're not, that's a slight edge for us. It's easy to imagine it becoming a kind of protectionist, save-our-manufacturing-sector issue.

AG: It's certainly something that can't be dismissed out of hand. But remember the World Trade Organization rules explicitly allow the recapture of carbon taxes at the border, much in the manner of a value-added tax. The U.S. is in danger if it did not change of being subjected to those recapture provisions. And as the cost curve for renewable electricity continues plunging, the low-cost electricity in the future will be renewables. At Apple, for example, 100 percent of its server farms and headquarters are on renewables, and they're on the way to 100 percent for the company. Google is going down the same road. The pressure is only going to build as the price of renewable electricity continues to fall.

That's even more true as the consequences to society and to the future of human civilization become ever more apparent to people. Once questions are resolved into a choice between right and wrong, then the laws change. It happened with civil rights. It's happening now with gay rights. It happened with apartheid and, in an earlier era, with abolition. And this is now being resolved into a question of right and wrong.

EK: What do you think of the Obama administration's intentions to push regulatory approaches to limiting carbon emissions?

AG: I'm very encouraged. I thought the president's speech on climate was terrific and it followed the inspiring comments in his inaugural address and his post-election State of the Union. And remember the impact of policy direction on business calculations is forward-looking. When business begins to understand the direction of policy, they have to start adjusting to where the policy is going. When you look at the EPA process, it's undeniably clear that there will be a price on carbon one way or the other. Then when you look at the movement in other countries and the states and local measures being enacted, the direction is now quite clear and businesses are making plans to adjust to it.

EK: You've moved from the world of politics to the world of technology. How has that changed your view of how much technology can do to solve this problem, and in particular, has it changed your view on various geoengineering schemes?

AG: Let me deal with the geoengineering part of your question first. That's complex because there are some benign geoengineering proposals like white roofs or efforts to figure out a way to extract CO₂ from the atmosphere, though no one has figured out how to do that yet. But the geoengineering options most often discussed, like putting sulfur dioxide into the atmosphere or orbiting tinfoil strips — these are simply nuts. We shouldn't waste a lot of time talking about them. Some people will anyway, but they're just crazy.

To the broader part of your question, innovation is already playing a major role in bringing about new potential solutions to the climate crisis. The tech world had a bitter experience after the burst of enthusiasm in 2005 and 2006 because of a perfect storm made up of four elements: First, the great recession, which had a huge, destructive impact on business generally. Number

two, the Chinese juggernaut, which subsidized the production of several prominent renewable energy technologies to the point where their sales price fell below the price of production in the West. Third, the shale gas boom dropped the retail price of electricity to levels below what many renewable energy plans needed to be viable. And fourth there was the policy failure I mentioned earlier in the U.S. Senate and Copenhagen. And all the while there was this massively funded climate denier campaign by the Koch Brothers and Exxon-Mobile and others that hired tobacco industry veterans to work with them on consumer advertising and lobbying activities.

But that setback was only temporary because reality has a way of reasserting itself. There has been a 100-fold increase in the number of extreme, high-temperature events around the world in the distribution curve. And people have noticed for themselves — the rain storms are bigger, the droughts are deeper and the fires are more destructive. All of these things have not escaped notice and people are connecting the dots. The cumulative amount of energy trapped by manmade global warming pollution each day in the earth's atmosphere is now equal to the energy that would be released by 400,000 Hiroshima bombs going off every 24 hours. It's a big planet, but that's a lot of energy.

The consequences are now hard to escape. Every night on the news, it's like a nature hike through the book of revelations. Eleven states today are fighting 35 major fires! People are noticing this. And simultaneously they're noticing the sharp drop in the cost of carbon-free, greenhouse gas-free energy, and the combination is pushing us over this political tipping point and the trend is unstoppable.

EK: What's your response to people who say those events simply can't be confidently connected to global warming?

AG: The leading scientists have in the last two years changed the way they discuss that particular connection. It's true that it used to be common for them to say you can't blame any single extreme weather event on global warming. What you had to say is the odds have shifted and those events are becoming more common and extreme. They've now changed their description of that connection. The temperature has increased globally and there's now 4 percent more water vapor in the Earth's atmosphere than 30 years ago. As a result, every extreme weather event now has a component of global warming in it.

If you look at superstorm Sandy on October 29th, the ocean water east of New Jersey was nine degrees fahrenheit above average. That's what put so much more energy into that storm. That's what put so much more water vapor into that storm. Would there be a storm anyway? Maybe so. Would there be hurricanes and floods and droughts without man-made global warming? Of course. But they're stronger now. The extreme events are more extreme. The hurricane scale used to be 1-5 and now they're adding a 6 [*Update: See [this post](#) for more on Gore's remarks on hurricanes*]. The fingerprint of man-made global warming is all over these storms and extreme weather events.

EK: Give me the optimistic scenario on what happens next. If all goes well, what do the next few years look like on this issue?

AG: Well, I think the most important part of it is winning the conversation. I remember as a boy when the conversation on civil rights was won in the South. I remember a time when one of my friends made a racist joke and another said, hey man, we don't go for that anymore. The same thing happened on apartheid. The same thing happened on the nuclear arms race with the freeze movement. The same thing happened in an earlier era with abolition. A few months ago, I saw an article about two gay men standing in line for pizza and some homophobe made an ugly comment about them holding hands and everyone else in line told them to shut up. We're winning that conversation.

The conversation on global warming has been stalled because a shrinking group of denialists fly into a rage when it's mentioned. It's like a family with an alcoholic father who flies into a rage every time a subject is mentioned and so everybody avoids the elephant in the room to keep the peace. But the political climate is changing. Something like Chris Hayes's excellent documentary on climate change wouldn't have made it on TV a few years ago. And as I said, many Republicans who're still timid on the issue are now openly embarrassed about the extreme deniers. The deniers are being hit politically. They're being subjected to ridicule, which stings. The polling is going back up in favor of doing something on this issue. The ability of the raging deniers to stop progress is waning every single day.

When that conversation is won, you'll see more measures at the local and state level and less resistance to what the EPA is doing. And slowly it will become popular to propose steps that go

further and politicians that take the bit in their teeth get rewarded. I remember when the tide turned on smoking in public places. People thought the late Frank Lautenberg was crazy for proposing a ban on smoking in airplanes, but he was rewarded politically and then politicians began falling all over themselves to do the same. That's the optimistic scenario. And it's not just a scenario! It's happening now!

Don't get me wrong. We've got a long way to go. We're still increasing emissions. But we're approaching this tipping point. Businesses are driving it. Grass roots are driving it. Policies and changes in law in places like india and China and Mexico and California and Ireland will proliferate and increase, and soon we'll get to the point where national laws will evolve into global cooperation.

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