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Matt Ridley on Climate Change

EconTalk Episode with Matt Ridley
Hosted by Russ Roberts

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Science writer and author **Matt Ridley** discusses climate change with EconTalk host **Russ Roberts**. Based on his reading of the scientific evidence, Ridley describes himself as a "lukewarmer." While Ridley agrees that humans have made the climate warmer, he argues that the impact is small or positive over some temperature ranges and regions. He rejects the catastrophic scenarios that some say are sufficiently likely to justify dramatic policy responses, and he reflects on the challenges of staking out an unpopular position on a contentious policy issue.

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- ["Cherry picking and the tale of the Siberian larch trees,"](#) by Matt Ridley. Rational Optimist, January 2014.
- ["Matt Ridley Wants to Gamble the Earth's Future Because He Won't Learn from the Past,"](#) by Dana Nuccitelli. *The Guardian*. January 2015.
- ["The Case Against the Hockey Stick,"](#) by Matt Ridley. *Prospect*. 2010.
- ["The Myth of the Climate Change '97%',"](#) by Joseph Bast and Roy Spencer. *Wall Street Journal*. May 2014.
- ["Meteorologists' Views About Global Warming: A Survey of American Meteorological Society Professional Members,"](#) by Neil Stenhouse, Edward Maibach, Sara Cobb, Ray Ban, Andrea Bleistein, Paul Croft, Eugene Bierly, Keith Seitter, Gary Rasmussen, and Anthony Leiserowitz. July 2014. PDF file.
- ["A Brief Retrospective on the Hockey Stick,"](#) by Ross McKittrick. May 2014. PDF file. Bristlecone pine overview.
- ["Let's Take the Con Out of Econometrics,"](#) by Edward Leamer. *The American Economic Review*. March 1983. UCLA, PDF file.
- ["Matt Ridley wants to gamble the Earth's future because he won't learn from the past: Ridley argues against climate action because he believes zombie myths"](#), by Dana Nuccitelli. *The Guardian*, January 21, 2015. N.B. The *Guardian* article now has a footnote that reads: "The original photograph on this article was changed on 26 January 2015 because readers found it offensive."

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Highlights

Time	Podcast Episode Highlights	HIDE HIGHLIGHTS
0:33	Intro. [Recording date: June 18, 2015.] Russ: We are going to talk about climate change, your view of the state of our scientific knowledge and some controversies you've been in. How has your thinking on this evolved over time? Give us some background. Guest: Well, I've covered climate change as a journalist for more than 25 years. I first wrote about it in the late 1980s, for <i>The Economist</i> . At the time I took everything that alarmed scientists were saying at face value. I gradually became more skeptical, in the 1990s. I then returned to alarmism, for a while, because of seeing the hockey-stick graph, which seemed to me to demonstrate unambiguously that what was happening today was much more drastic, was unprecedented and much more drastic, than what we'd seen. So, when I discovered that that graph was actually very misleading, once you understood the statistics behind it, I began to look at all the rest of the evidence. And the more I looked, the more skeptical I got. Not about the idea that climate change is--not about the idea that mankind can influence the climate. Not about the idea that carbon dioxide, greenhouse gas, but about the idea that we are totally likely to see dangerous climate change within the next hundred years or so. Russ: So, we are going to come back maybe and talk about the hockey stick. But one issue that hangs over this conversation and that hangs over our conversations here at EconTalk on economics many times is this issue of 'the facts.' And I find it remarkable, the deeper you dig into something, the more often you realize that the facts are a little bit ambiguous. Uncertain. They are created. They are not just coming down from Sinai. And when people tell me, 'Well, the facts speak for themselves,' I always get suspicious. Because they never do. They have to be prepared and measured and packaged, and that often makes a difference. Now, as you said, you are not skeptical about a lot of things; in fact you describe yourself as--and I love this phrase--a 'lukewarmer.' That's one word. That's not a name. That's not Luke Spacewarmer--although that would be an interesting character, I think, if we had a graphic novel about a project. But, what do you mean by a 'lukewarmer'? Guest: What I mean by a lukewarmer is somebody who is not challenging the idea that carbon dioxide levels are increasing or that carbon dioxide is a greenhouse gas or that we have seen warming in recent years or are likely to see warming to continue. But is challenging the idea that there is a strong likelihood that this will turn dangerous at some point in the future. In fact, I would often go further and say, actually, there's pretty good evidence that the carbon dioxide <i>emissions</i> we are putting into the atmosphere as fossil fuels are in many ways improving the environment. By that I mean we've seen a 14% increase in the amount of green vegetation in the planet in the last 30 years. Almost certainly largely because of the extra CO ₂ , which is enabling plants in <i>all</i> ecosystems to grow more vigorously. And that has slightly improved the	

greenery of the planet, particularly in arid areas like the Sahel and Western Australia. So there are really quite--and I haven't even begun to mention the effect of slightly more rainfall on crops, and so on. Drought on the whole has been decreasing over the last 30 years. So, there are all sorts of reasons for thinking that for the planet as well as for mankind, carbon dioxide emissions are a good thing. A far bigger example of course is that if we burn coal oil and gas, we don't burn wood. And so we don't chop down forests. There is no doubt that switching to fossil fuels enabled us to stop destroying forests on a massive scale. Particularly in the Western World, where forests are recovering a lot of land very rapidly. So, I think the conversation about climate change is often terribly one-sided: Talks only about the damaging impacts and never about the positive impacts of fossil fuels and their emissions. And a 'lukewarmer,' like me, is someone who thinks that we are unlikely to see dangerous climate change; we are quite likely to see benefits. *Meanwhile*, this doesn't make me someone who is not concerned about the environment. I think there are some very serious environment challenges. Top on *my* list is invasive species, which are helping to decimate native species on particular islands all over the world, still. This has been a big problem for hundreds of years; it's getting worse at the moment. And I think *those* issues have been *neglected*. Because we are spending all our time talking about climate change.

5:25 **Russ:** So, when you suggest that it might actually be good for humanity or the world to have more CO₂, that must drive some people very crazy. And we will talk about the kind of reactions you've been getting over the last few years to your writing and positions. But, why do you think--to focus on the key part, I think of the lukewarming, the lukewarmer position--that there's little or no risk of *dangerous* climate change? So there might be--we've had, I think 8/10ths of a degree Centigrade of warming over the last, I forget, how long. The worry is we might go to 4. Or 6. Why aren't you worried about that? True, it might be, the dose makes the poison. Maybe a little bit more CO₂ is better for the environment--for human life and the planet. But we get into the range of the higher increases that some people are worried about, those would seem to be pretty dangerous. **Guest:** Yes. Well, two reasons. One is because the rate of warming has been much slower than predicted. So, if you go back and look at what the IPCC's (Intergovernmental Panel on Climate Change) climate models have predicted, we have seen much less warming over the last 20 years, 30 years, 40 years, 50 years, than those models have predicted. We've seen a little more than 0.1 degree per decade. The IPCC, remember in 2013, came out and said that it is *very confident* that more than half of the warming since 1950 is man-made. Now, we've have 0.8 of a degree since 1880. About 0.5 of a degree since 1950. More than half of that is 0.25 of a degree. So they are saying that something like a third of a degree of warming is man-made over 50 years. Now that's extremely hard to measure. And we've got no really good evidence that we are measuring it accurately. In fact, the surface temperatures tend to find a slightly faster rate than the satellites. Which implies that we are contaminating the record with urban heat island effects and things like that. Local warming, in other words, not global warming. So that's the first reason--is that we've got nothing in the data that we've seen so far to suggest that increasing carbon dioxide from 0.03 to 0.04%, which is what we've done, has produced anything like the *speed* of warming that we would expect if the models were right. The second reason is that the models are assuming something which we now know pretty well not to be true. And that is that the carbon dioxide warming will be hugely amplified by a water vapor warming. It's a very little-known fact, which is often kind of kept of the conversation, to my frustration, that it's widely agreed by the IPCC and everybody else, that if you double carbon dioxide, you only get 1 degree of warming: 1.2, 1.1, that sort of zone of warming. **Russ:** If you double the *stock*-- **Guest:** If you double the levels of carbon dioxide in the atmosphere. Don't double emissions, but double the level in the atmosphere. From 300 parts per million to 600 parts per million, or 400 to 800. It doesn't matter where you double *from* because the graph is curved. You double from 800 to 1600, you still expect to get 1 degree of warming. That's the way the arithmetic works. So, why do they say that *their* estimate of climate sensitivity, which is the amount of warming from a doubling, is 3 degrees? Not 1 degree? And the answer is because the models have an amplifying factor in there. They are saying that that small amount of warming will trigger a *further* warming, through the effect mainly of water vapor and clouds. In other words, if you warm up the earth by 1 degree, you will get more water vapor in the atmosphere, and that water vapor is itself a greenhouse gas and will cause you to treble the amount of warming you are getting. Now, *that's* the bit that lukewarmers like me challenge. Because we say, 'Look, the evidence would not seem the same, the increases in water vapor in the right parts of the atmosphere--you have to know which parts of the atmosphere you are looking at--to justify that. And nor are you seeing the changes in cloud cover that justify these positive-feedback assumptions. Some clouds amplify warming; some clouds do the opposite--they would actually dampen warming. And most of the evidence would seem to suggest, to date, that clouds are actually having a dampening effect on warming. So, you know,

we are getting a little bit of warming as a result of carbon dioxide. The clouds are making sure that warming isn't very fast. And they're certainly *not* exaggerating or amplifying it. So there's very, very weak science to support that assumption of a trebling. Now the really interesting thing is that when the Intergovernmental Panel on Climate Change came out with this latest report on this--the main report was in 2013, the follow-up report was last year in 2014--they had before them 14 different peer-reviewed papers of this climate sensitivity issue, all of which pointed to a much lower climate sensitivity than they had been assuming in the past. And these are the ones based on observational data. And rather than adjust their--so, what they did, they adjusted the *range* of climate sensitivity they think is likely, downwards slightly, from the previous year, from the previous report in 2007. But they did *not* give a best estimate of climate sensitivity, which had been 3 degrees in 2007. They simply didn't give one. They simply said, 'We don't know what the best estimate is.' Now, that's been completely ignored in all the impact models that countries are using around the world to estimate how much warming they are going to get and what the effect will be on people's livelihoods and sea level and so on. They've gone on assuming that the best estimate is 3 degrees. Whereas, pretty well every scientist who is working on this is now accepting that climate sensitivity is in the 1-2 degree range. So--and that, by the way, explains, in an instant, the rate of warming we've had over the last 50 years. If it's only in the 1-2 degree range, climate sensitivity, then that would explain why we've only had a third to a half degree of warming in 50 years, when we should have had much more than that. So, if you see what I mean, both the *theory* and the *data* support lukewarming and not alarming warming. Why is everyone going on about the future being alarming? Because there's a huge vested interest in that now.

12:45

Russ: So, we had Martin Weitzman on recently, who, with Gernot Wagner is the author of *Climate Shock*. And he takes--Weitzman takes what he calls a precautionary approach, a fat-tailed approach. He says, 'True, it's not so likely that we are going to have catastrophic warming, but since there is a *chance*, a prudent approach is to take precautions and to reduce the possibility of that catastrophic outcome.' In fact, his--the level that he's worried about is the 700 parts per million--I think we're around 400 right now? Do I have that right? **Guest:** Yes. **Russ:** High 300? **Guest:** Yes. 0.04% or 0.07% is I think a more accurate way of describing it, but it doesn't sound so big. So they [?]. **Russ:** Right. So, it's parts per million. So, it's a small number. But that's life. So, his worry is that in the next hundred years, which is a long time but it's a short time when lifespans are expanding and we have direct worries about our children and grandchildren--over the next hundred years we could hit 700. Seven hundred *could*--I think he suggests there's a 10% chance that could lead to 6 degrees of warming. You are suggesting that's just not possible, given the relationship between carbon dioxide concentration and temperatures that we've observed in the past. Now, the question would be--so, one, I want you to verify that they've got that right. And then, two, the question would be: It *is* possible that there are other things going on; that the reason we've only seen this small of warming we've had so far is because of sun spot activity, volcanic activity, ocean changes--who knows? What do we know about any of that? **Guest:** Yeah. Well, you are quite right. There are huge uncertainties. We don't know about all of that. And one of the frustrations has been these recent papers saying things like 'All the warming has gone into the ocean,' and then instead of that being a guess, hypothesis, a preliminary discovery, it becomes, 'Oh, they've solved the problem.' And therefore, you know, etc. Premature consensus, premature certainty being declared the whole time in this debate. Which is very dangerous. But back to the main point about Martin Weitzman's fat tails: You describe his point very accurately. And it is a well-known argument that a small possibility of a very large disaster needs to be taken seriously. It's in a sense the same idea of the Black Swan argument, that Nassim Taleb puts forth-- **Russ:** And he says the same-- **Guest:** and I would argue that it actually--sorry. **Russ:** Taleb has made the same point about climate change. **Guest:** He has indeed. **Russ:** He's in the same camp. **Guest:** And I would argue that it's a new version of Pascal's Wager--if you remember, Blaise Pascal said, 'I don't think God exists, but if he *does*, I'm in much deeper trouble for not believing in him. Whereas if he doesn't it doesn't matter. Therefore, it pays to believe in him--[?]' **Russ:** Rather than take a chance. **Guest:** [?] Rather than take a chance. **Russ:** Eternal damnation is a big negative, so a few years of religious observance is a good investment. That's the argument. **Guest:** Correct. Exactly. And I think that's a slightly closer analogy than other people would think. In other words, I think there's an element of sort of religiousness in all of this. But, why do I think that Weitzman's approach in that respect is not the right way to think about it? Two reasons. One is empirical: that actually the fat tail on the distribution, the relatively significant even if small possibility of a really big warming has got a heck of a lot thinner in recent years. This is partly because there was a *howling* mistake in the 2007 IPCC Report, the AR4 Report (Fourth Assessment Report: Climate Change, 2007), where a graph was actually distorted. And a brilliant scientist named Nick Lewis pointed this out later. It's one of the

great, shocking scandals of this, that a graph--and I'm literally talking about the shape of the tail of the graph--was distorted to make a fatter tail than is necessary. When you correct that, the number gets smaller. When you feed in all these 14 papers that I've been talking about, all the latest observational data, 42 scientists involved in publishing this stuff, most of the mainstream scientists--I'm not talking about skeptics here--when you feed all that in and you get the average probability density functions for climate sensitivity, they turn out to have *much* thinner tails than was portrayed in the 2007. And that Martin Weitzman is basing his argument on. So the 10% chance of 6 degrees of warming in 100 years becomes much less than 1% if you look at these charts now. So, we've got to update our knowledge based on our latest information. And after all, we've got 5 more years of data, and 5 more years of relatively slow warming, and 5 more years of knowledge about watching the past. And by the way, one of the *excuses* for lack of warming for the last 50 years has since been exploded. And that is the aerosol one. It used to be thought that we were dampening warming by putting so much sulfate into the air through the burning of coal. There *is* an effect there; but it turns out that now we know more about it, that effect is smaller than we thought. So, for all these reasons, the tail is very thin. The probability of really dramatic warming is extremely small indeed, now. It's been narrowed down. And that is acknowledged in the last IPCC report--not explicitly enough for my liking, but it is there. And it's got to the point where it's so thin that, in my view, it deserves no more attention than the small possibility that we will be hit by an asteroid. The small possibility there will be a catastrophic volcanic explosion. The small possibility that the measures we're taking against climate change, including renewable energy and preventing people getting hold of fossil fuels and things like that, will *itself* be very dangerous. All these things *could* be dangerous. I mean, aliens could arrive, even take over the planet. Should we spend a lot of money now to try and prevent that possibility? You have to, at some point, take a reasonable view that certain possibilities are too small to spend a fortune on. **Russ:** Well, some would argue that if aliens attack the planet, it would stimulate the economy as we prepare for it. But I will leave that to another episode.

19:38

Russ: I want to mention two more factual issues, and then I want to turn to the social issue of how the climate science issue is getting discussed and the polarization of it, being written about recently. The first factual issue I want to mention is, when I sometimes suggest that I'm somewhat skeptical of our understanding of the relationship between human activity and the climate, I often am greeted with the clever response: 'Well, 97% of scientists disagree with you. And you are only an economist. So how can you hold that view given that there's this massive consensus that 97% of scientists are convinced?' What's your reaction to that? **Guest:** Well, I'm in the 97%. That is to say if it's true that 97% of scientists are all of a particular view about climate, then let's go and ask what that view *is*. And if you go and look at the origin of that figure, it was that a certain poll--of 79 scientists, by the way, an extraordinarily small sample--said that, 97% of them agreed that human beings had influenced climate and that carbon dioxide was greenhouse gas. Well, I'm in that group. Pretty well every skeptic I know is in that group. I'm amazed they found 3% that disagree with that. If you see what I mean. So, actually, whenever you hear that 97% number, it's not referring to a consensus about *dangerous* climate change. It's referring to a consensus about humans' ability to affect the climate. And that covers everything, from a tiny effect to a big effect. In other words, a subsequent paper which claimed that 97% of papers published in this area supported climate change--but again, it was just about supporting man-made climate change. It wasn't about supporting dangerous climate change. So when President Obama tweeted that 97% of climate scientists agree with climate change is man-made and *dangerous*, the first word was right; the second word was wrong. It's just not true. And I'm afraid he was just telling a lie or misinformed about that. There has *never been* any study which has shown that 97% of scientists think man-made climate change is dangerous. By the way--there was a much bigger survey of members of the American Meteorological Association, most of whom are scientists and all of whom are climatologists in some sense; and that--the figure there, when asked about 'How many of you think that climate change is likely to be dangerous?' the figure there was 52%. That was a huge difference-- **Russ:** Well, they still win. I'm joking. I'm laughing. Because I really resent--and this happens in economics as well, I really resent the implication that science is a majority rule process. It's vulgar. **Guest:** Yeah. And of course, you know, the whole point of science is that, as Richard Feynman famously said, 'Science is in the business of proving that experts are wrong.' And you know, until very recently, 97% of medics agreed that cholesterol was the cause of heart disease. Now, that's gone. That theory is wrong. Pretty well everybody--well, not pretty well everybody, but gradually, most people are realizing that that just ain't true. Dietary cholesterol, I should say. Cholesterol is *involved* in heart disease. But it's not because you are eating it in your diet. And that was based on very dodgy science in the 1950s. Which was enforced by a pretty ruthless consensus-building exercise that was pretty brutal to people who disagreed

with it. And we see this again and again in science.

24:08 **Russ:** Yeah. It's in economics, as I said, as well. I find it very frustrating. It's obviously the case that at any point in time there can be disagreement about, say, cholesterol, about the causes of ulcers. It takes a while. It's not like everybody immediately sees the data and it immediately changes their mind. But eventually controversial theories get either accepted or rejected. And new things come along to change that. In economics--and I'm afraid in climate change, what they have in common is that they are multi-causal, complex phenomena using time series data frequently. It's very hard to measure these things with precision. And the other thing that I think I want to emphasize here, and I want to turn to, is this question of where the data come from. Talk about the hockey stick, the reaction to the hockey stick and the reaction to the reaction and what its impact on you was. **Guest:** Yes. The hockey stick is a chart of temperatures over basically the last thousand years. Produced in the late 1990s and based on so-called proxies. Now that means--you obviously can't go back and measure the temperature in, you know, Arizona or in 1420 because no one was walking around with a thermometer there. But what you can do is look at the width of tree rings. And if you make the assumption that trees are growing faster in warmer temperatures, then you can say it was warmer then or it was colder then, and you can produce a chart. And if you combine lots of these proxies, you come up with a rough estimate of temperature over the last 1000 years. And what it appeared to show was a sort of gentle cooling for most of that time, followed by a very rapid warming in the last 50 or 100 years. **Russ:** Corresponding to the onset of modernity, modern economic growth and human activity. **Guest:** Exactly. Exactly. Now it turned out that there were two things badly wrong with it. One was that many of the data sets, the most dominant data set of all, was from bristlecone pine trees in the American West, which had been explicitly gathered by scientists who knew they were measuring a different phenomenon, namely the fact that overgrazing in that area had caused tree bark wounds, which resulted in rather rapid growth as the tree tried to cover up the wounds if you like--of course stripped bark. But anyway, the point was nobody who was actually measuring the tree rings of bristlecone pine trees thought that bristlecone pine tree ring width reflected temperature. So that data shouldn't have been used. And I'm simplifying a bit here--there's a lot of other details and a lot of other data to discuss. But the second problem, if you like, was that the statistical filter through which the data was passed, called short-centering, resulted in any data series which showed a 20th century optic being vastly exaggerated. Being able to influence the final outcome more than a hundred times. In other words, the statistical method was--and this was beautifully demonstrated by Ross McKittrick and Steve Macintyre, Canadian economist and mathematician, basically, who were incredibly diligent in tracking this down. And they showed that actually this method was *fishy* out any data with a hockey stick shape and giving it undue emphasis. So, what happens if you leave the bristlecone pines out, and one other paper from the Gaspé Peninsula in Canada? And the answer is if you do that the hockey stick disappears altogether. Now, this was *known* to the scientists doing the work, because they'd actually done that; and they accidentally revealed this when they sent a data file called 'Censored' into the public domain, which showed that they had discovered that without those two data sets they couldn't get a hockey stick. Now, you don't have to get lost in the details of this or start accusing people of malfeasance, which I'm not doing here. I'm just saying that this one incredibly influential graph--and it *was* influential, not only on me but on the world: it was used 6 times in the Second Assessment Report of the IPCC; it was displayed at the Press Conference when the Report was announced. It was a fantastically important chart. This chart was based on data which--you only had to take one data set out and the chart changes completely. Now, for me, that's a real alarm bell. That tells you that--you are potentially contaminating your conclusions with very, very suspect data. There were further attempts to sort of rescue the hockey stick which involved large trees from Siberia. And again, when you drilled down, it turned out that there was one incredibly influential larch tree in the sample. One tree. **Russ:** A single tree. Well, it could be very informative. But of course it could be that distinctive things happened in that neighborhood that had nothing to do with the world as a whole. That's the problem. **Guest:** Exactly. If you've got a larch tree growing in the shade and all the other larch trees fall down because of a storm and it's left alone in the sun, it will suddenly grow faster. That might have been what happened in the 20th century to that particular larch tree.

29:49 **Russ:** So this comes back to a point that Ed Leamer makes in his theme of taking the 'con' out of econometrics: which is, sensitivity analysis. That, when you present something, although it's more dramatic, can get you more attention when you just present one end of it, it's a good idea to describe how sensitive your results are to assumptions you make, to other variables, what their size might be, etc. But what I found interesting about--and I don't know anything about the larch trees of Siberia so I can't comment other than to agree that one tree seems unreliable--what we might call a thin reed to lean on--is the reaction when that was pointed out.

And I think this whole--I would call it the sociology of science, the way this conversation moves forward is what's so depressing to me. And I think obviously to you, as you've written about it. And I want to turn to that. So, talk about how people reacted to that discovery and some of the other reactions that you've received when you've come out and suggested that maybe it's not as bad as it seems. **Guest:** Yes. Well, the person who has probably written most eloquently about this is Professor Judith Curry, who is a proper climate scientist unlike me. **Russ:** Previous EconTalk guest. **Guest:** Right, okay, yes. And she talks about--she's fascinating about the reaction of our colleagues, when she started having doubts about some of the--having been herself signed up to the mainstream view of this. And she started having doubts and challenging it and doing what she thought a scientist *should* do. And what we were all trained--those of us who did Ph.Ds. in science--I was in zoology; but you got gold stars in the class by saying during the seminar to the distinguished professor who was presenting his research in front of you, 'But have you thought about testing it *this way*?' 'Are you sure that this fact isn't caused by something else?' 'Maybe you are muddling cause and effect here.' Things like that. Etc., etc. You know, you were actually *supposed* to challenge. When she started doing that, and other people started doing that, instead of being allowed to have a conversation, it became, 'You've joined the dark side; you're a heretic; you're funded by fossil fuels. You're a denier'--which is an extraordinary phrase that began to be used for anybody who didn't sign up to alarmism and was deliberately intended to echo the Holocaust denial nonsense. And so, it became very much the psychology of taboo, in a phrase that's got often used. That it was taboo to question this. That if you thought that the hockey stick wasn't a reliable piece of data, then you were somehow sinning against the orthodoxy. And you were being unhelpful, because the world needed urgent action on climate change. And this *continues* to become more and more powerful of me[?]. And what you find now, for example in my profession, in journalism, very few people now ask the sort of question, the sort of skeptical questions about climate science that they do about economic policy, political policy, foreign policy, etc. They don't subject it to the same sort of scrutiny. Because they've been kind of frightened off by this, 'how dare you not join in this bandwagon.' **Russ:** It's a fascinating thing. Because--and it goes against the culture of the profession, as you point out. And yet in this corner I think it has an effect. **Guest:** Well, I've actually changed my mind a little on this. I used to think this was an exception, that science is actually, you know, the whole point of science is challenge, and so on; and I can see *why* in climate science this has happened. And that's because the IPCC process has kind of made a single church out of it, whereas science is often a very geographically enterprise with people in different universities all over the country and all over the world challenging each other. Which is actually quite *helpful*. The fact that there are rival groups prepared to say Professor Jones has got this wrong is what has kept science honest all these years. But actually if you look back at other episodes in science, there is a surprisingly strong tendency for this to happen. I refer again to cholesterol; I refer to Lysenko-ism--well, that was in a totalitarian regime where one biologist, Trofim Lysenko, was able to insist on his version of genetics and even got some of his opponents imprisoned. But you know, even things like continental drift and the age of the earth--it's often been very hard. Or you mentioned stomach ulcers. The two Australians who, 20 years ago, said 'I don't think stomach ulcers are caused by what we think they are. We think they are caused by a bacterium which is easily cured by antibiotics'--they were hounded and ridiculed and vilified for this *absurd* heresy, until they--well, they ended up with a Nobel Prize and we now realize that they were 100% right and the others were wrong. But it's not at all unusual for science to do this, to start championing one cause and making one church out of things. And by the way--there's an element of confirmation bias, and confirmation bias is an important aspect of what happens. In other words, if I champion, if I come up with a theory, then *I'm not* going to go out and look for ways in which this theory is wrong. I'm going to go out and look for ways in which this theory is *right*. **Russ:** Yeah, it's huge. **Guest:** And we all act like the prosecuting attorney who is trying to prove his case, rather than being--and sometimes will often *claim* we're the only person that challenges our own ideas. It's not really true, actually. Most of them actually look for confirmatory evidence. And by the way: I don't think we should stop them. I don't think it's possible to expect, you know, Professor Jones at such-and-such university has come up with a new idea to suddenly be his own worst enemy. It's just unrealistic, that. But what I *do* think we should expect is that Professor Smith should be Professor Jones's worst enemy. That's what's kept science honest over the years. **Russ:** That's right. And I've been writing recently about how hard it is for economists to change each others' minds with data; and that suggests that maybe economics is not so scientific. But the fact is, is that-- **Guest:** No, I think it's a very similar situation. I think you are absolutely right. **Russ:** Well, I'm thinking about Semmelweis and puerperal fever, when women were dying in childbirth. **Guest:** Absolutely. **Russ:** Semmelweis went out and he did a number of quick small experiments that confirmed *his* theory, which was people needed to wash their hands when they left the morgue when they left to deliver children, babies, in the maternity ward.

And he was laughed at. And it wasn't open and shut, to the other people; in fact what was the opposite--his theories were obviously cranky[?] and crazy. **Guest:** Worse than laughed at. He was *driven out*. **Russ:** Correct. **Guest:** He went mad in the end, and all that.

37:47

Russ: So, speaking of going mad: You've been harassed quite a bit lately on a personal--by the way, the other part about this that's frustrating is you don't expect academics and scientists or social scientists in the case of economics to be name-callers. And I don't know whether this is an--accepting[?]excepting[?] to say this is a modern phenomenon. I suspect it's not. I have a feeling that scientists in the 18th century and 19th century were probably--had ad hominem attacks on their opponents as well. **Guest:** Yes, I think that's true, actually. **Russ:** It's a strange thing, though, that when you put an idea forward that you are called a bad name rather than having a patient explanation of why you are wrong. My view is that the angrier and ruder my opponents get, that suggests that I'm doing okay. Because if it weren't getting under their skin, that you'd just say, that's wrong and here's why, and it would be black and white, open and shut. And it's not. And that's part of the problem. But you've been under some attacks lately. So, what has happened, and what's that been like? **Guest:** Uh, yes. Well, just to illustrate your point, there's an old saying that when you are taking flak, you know you are over the target zone. **Russ:** There you go. **Guest:** But, I took a lot of personal attacks. People attacked my motives. And it's *true* that I have got personal investments in coal mining near my home; in fact, my family has been in it one way or another for a couple of hundred years. So, maybe I have a vested interest in carbon dioxide emissions. But I've always declared that; I've always made that very explicit. **Russ:** You owned that coal when you were worried about global warming. **Guest:** Well, exactly. That's right. **Russ:** Kind of gives you a [?]. **Guest:** [?] It's held me back. I've thought--I better not, I *must* be being influenced by my own vested interests here, so I'd better be careful. So, for a long time I hesitated before expressing my skepticism, for that reason. But, anyway: I was attacked for that. But extraordinary attacks. I mean, really bizarre attacks would come at me. Very personal, very rude. Often of the nature of this strange sort of fact-checking which doesn't check facts. Which says, 'His article is full of errors' and then doesn't actually give any example of anything that's an error. They might say, 'He said x but he didn't say y.' Well, that's not an error. It's an omission, but it's not an error. Or something like that. So, often--it got nastier and nastier. The more I put my head over the parapet of this. And eventually I wrote an article for the *Times* in London saying, 'Why is it? My views on this are pretty mild, actually. I'm a lukewarmer. I'm not a skeptic. Why are the attacks so nasty? Why do some of my colleagues in the House of Lords resort to impugning the quality of my Ph.D. thesis, which was on the behavior of birds 35 years ago.' **Russ:** I found that very entertaining. You wrote about that; I followed up and looked into it. It's amazing. **Guest:** But having--by the way, I'm sure the *were* mistakes in my thesis. But the very man who impugned me had been my thesis examiner and said it's a very good thesis. **Russ:** Yeah; that's awkward. It's very awkward. **Guest:** Anyway, I really wrote this up as a sort of entertaining story: This is what happens if you step into this arena. You get a lot of mud thrown at you. And I was really trying to be quite light-hearted and say this happens and it's where the world is. I wasn't trying to play the victim card or anything like that. Anyway, the reaction to this article was *another* of these pieces, in *The Guardian* dissecting [?] what an evil person I was to have written even *this* article. And the illustration at the head of this article was the severed head of a zombie. And the implication was that I was a sort of zombie person, whose views were so old-fashioned and so dead that they needed to be cut out. And the article virtually said as much. And then *below* the article somebody wrote a comment saying 'Shouldn't that be Matt Ridley's head in the picture?' And somebody else said, 'Isn't that going a bit far?' And he said, 'No, I think we should do this kind of thing.' This was the day that the Japanese hostage was beheaded in Syria. And then somebody else put a comment saying, 'The man who just made these two comments about Matt Ridley being beheaded is actually, although he is using a pseudonym, Jack Golgariev[?], and so occasionally he *writes* for *The Guardian*. He shouldn't be doing this. He's not just an ordinary Internet troll. That comment, was then removed by the editors. But not the comments recommending that I be beheaded. At which point, someone drew this to my attention, and I wrote a letter to the Editor of *The Guardian* saying that: 'Excuse me, this is technically hate speech and death threats, and I'm not going to give it to the police but I really do think you ought to do something about that.' And at that point they did intervene and remove these threats. But it took me three weeks to apologize for this. Now, I'm not, again, I'm not claiming that my safety was genuinely threatened here. But I *am* claiming that that goes too far. That, like, come on. All I'm saying is we think we may be spending too much money enriching wind farm tycoons and too little money reducing poverty with fossil fuels at the moment, because I don't think climate change is going to be as dangerous in 100 years' time as you think. I might be wrong in that. I might feel guilty in having that view in 50 years' time, as the weather heats up rapidly. But I don't think it's illegitimate for me to make that argument.

And I certainly don't think it requires threats to cut my head off.

45:33 **Russ:** I'm on the same page there. I want to say, though--I want to digress here for a moment, and I want to mention that I get suggestions from time to time to have on this program people running for President, or current politicians. And I--I always respond by saying I don't believe in having politicians on EconTalk. Because they are not truth seekers. They are generally not educators. They are not interested in finding the truth. They have a message to deliver. And that's what they do. And nothing wrong with that. But that's not what we do here. So I do want to--I should say, Matt, that you *are* an exception to this policy. In some dimension you are an office holder. You are not an American, a member of the American political system. But you *are* in the House of Lords. And I have to also add that the dialog that you link to in a recent article, and we'll put a link up to it as well, where you are arguing with some fellow Members of Parliament, is just unbelievable. First of all, the quality is very high. Which is a tribute to the British educational system, where the British people--I don't know what it is--the idea that American members of Congress could argue with such eloquence on either side would be absurd. But you *are* a politician, in some dimension. So I just want to get that--we have to be honest about that.

Guest: Yeah, indeed. Let me just pick you up on one word there: 'office holder' is wrong. I'm a back bench Conservative Member of the House of Lords. Which means I'm one of 800 people who are in a position where they can take part in debates and vote on legislation in the Upper House of Parliament. Which is, by the way, the far less powerful house--the house that always gives way on legislation. It's not as powerful as Senators or the House of Representatives in our system. So, in that sense, I am a very, very low form of life politically. But you are absolutely right: You know, I am a politician in that sense. But I am not a politician in the sense of being on message or representing a view of the government. In fact, judging by the exchange I had yesterday with a government Minister in the House of Lords, I am probably not the flavor of month with my own government at the moment. But that's another matter. And so, yes, you are right. I've found myself with this opportunity to express my views both in the political arena and through my journalism. But, debates in the House of Lords are often just about expressing views rather than insisting on policies, if you see what I mean. Not trying to influence policy--

Russ: But the other thing I want to clarify: Your position in the House of Lords. Are you up for election, in any time soon?

Guest: Yes, well that's a very good point. I'm not running for re-election, ever again, because in theory I'm appointed for life now.

Russ: How does that work?

Guest: Well, everybody in the House of Lords is elected for life. They literally can stay there till they fall apart. People increasingly retire rather than fall apart. But there we go. I'm not--at most, nearly all of the House of Lords are appointed by either the governing party or by a different mechanism. I'm actually in an unusual group of people who hold hereditary titles like the ones that the barons of Magna Carta had. And a small percentage of whom are still allowed to sit in House of Lords, and they select among themselves who that group is. So, if you like, there's an Electoral College of hereditary peers who elect a small number to be in the House of Lords. I'm one of those. And the reasons I'm a hereditary peer is because three and a half generations, four generations ago, one of my ancestors was a senior Member of Parliament, an elected Member of Parliament, and was given a peerage by Queen Victoria in 1900. So I'm nothing like an ancient baron from Magna Carta time, but I have got one of these titles which enables me to stand for a sort of election, but a very small election, to the House of Lords. I'm sorry about that digression into--bizarre Constitution.

Russ: Given that we recently--well, go ahead.

Guest: My position may not last. I'm a group that is often thought to be an anomaly in the current Constitution.

Russ: Kind of a dinosaur, right? Kind of perfect for our climate. For a lukewarmer. I think you are really holding an appropriate position in the government. We recently had an episode on the Magna Carta, here at EconTalk. And I want to say there is no limit to what you can learn by listening to this program. And that we've just had another example of that. For those of you who weren't quite clear on the House of Lords, we have I hope, made you wiser. So, that's good.

Guest: I've only scratched the surface of the complications.

Russ: Oh, I know.

Guest: The way to think of the House of Lords is a gigantic think tank where we talk about things. I think.

Russ: Well, as I said, the quality is very high.

49:14 **Russ:** Now, I'm going to put you in an uncomfortable position. You resent--as do I--when your opponents presume that you are not a nice person, that you must be the pawn of special interests. And yet, we also should judge our intellectual opponents the way we'd like to be judged. So, given how you are in a minority viewpoint, can you give us an interpretation of the people on the other side that is more charitable? You've suggested they are at the trough; they are making a lot of money off of this through research grants and government spending. Surely some of them are well-intentioned people genuinely worried about the state of the world. Can you give them their due? And what would they say--what would some of those folks say listening to your lack of concern?

Guest: Well, you are absolutely right. And it's a vital corrective. And I always *try* to do what you say and not make ad

hominem arguments or question people's motives. I don't always succeed, I must admit. But I like to think I'm not always, generally responding rather than initiating these sort of exchanges. Yes. I think there are a lot of people who have--there are some people who know perfectly well that I'm right and are nonetheless determined because they are on the bandwagon and keep going on. Of course there are going to be some like that. But I think the *vast* majority of people have not read deeply into climate science. And I've read quite deeply, but I won't claim that I've read deeply enough, or as much as other people. But the *vast* majority of people who have a strong view on this, whether it's an environment organization, in politics, or in journalist, or even in everyday life, have only scratched the surface. And have somehow equated, in their minds, the fact that climate has changed with a threat. With the fact that it's dangerous. And it's *that illusion*--that illusion between, when somebody says--so people will often say to me, 'Oh, come on, you've got to admit the birds have arrived earlier this spring.' Therefore we face dangerous future. **Russ:** 'The icebergs are melting.'

Guest: Now, 'therefore' is a gigantic leap. So, I don't think that those kind of people are being intellectually dishonest at all. I just think they've failed to appreciate that there's a difference between climate *changing* and climate *changing dangerously*. And, I therefore feel that there's a chance to have a reasonable conversation with such people. Now, of course there are others, who know even more than me and who still remain alarmed. And that's not necessarily because they are corrupt in some way. It's because we *all* look at the evidence and see what we want to see, to some extent. And no doubt I'm doing the same. When I see a piece of evidence saying 'We reckon now that there was no pause in global warming over the last 15-18 years because if you look at the way sea surface[?] temperatures were measured, once they started using intakes of water into ships rather than buckets thrown over the sides of the ships, they introduced a distortion that appeared to lead to a cooling of the temperatures when in fact it didn't--I look at that and think, 'Oh, come on, you are trying really hard to find an excuse.' Whereas *they* look at that and think, '[?] See! You guys were wrong.' Now, take another piece of data and I might take their view and they might take our view. So, we are back to confirmation bias. That if you look hard enough, you can find lots of evidence to be alarmed by global warming, while being intellectually honest. And if you look hard enough you can find lots of evidence not to be alarmed while being intellectually honest. But if it was a 50-50 fight where we were each allowed to have that view, fine. It's like thinking that social justice is more important than wealth creation. Or vice versa. **Russ:** They're not scientific. **Guest:** Left versus right in politics. **Russ:** They're not scientific questions. **Guest:** It's not a scientific question. Yeah.

53:55

Russ: That's alarming. That makes people uncomfortable, but I think it's unfortunately where we are in many issues. I don't know if that's where we are with climate change. I just want to make a personal note that I have always been--I would call myself agnostic or skeptical about the climate change debate, partly for the reasons you mention: that a lot of the so-called cures strike me as very dangerous, raising the price of energy when a large part of the world is very poor strikes me as a very cruel thing to do. And so, the uncertainty and the failure to predict accurately always suggested to me that they don't, scientists don't fully understand this. Even though, as you point out, I'm certainly *very* ignorant--you were talking about yourself, but I'm *very* ignorant of the details. I've not read deeply, but I have a certain intuition from my knowledge of economics and how research is done, and when I see people repeatedly overestimating the impact of carbon dioxide I start to think, 'Hmmm. Why aren't they starting to get more humble about their approach?' They don't. They seem to get more certain. And that causes me to be skeptical. Then, I have somebody like Nassim Taleb, whom I've learned a lot from, who is very alarmed about it. I have Martin Weitzman, who was very humble and very willing to admit that we don't know that much about it. So I start to think, 'Well, maybe we *should* be more prudent? Maybe we should be more cautious than Matt Ridley, who is a fine fellow. And even though--' **Guest:** That's very nice--
Russ: And he doesn't like the Tottenham Hotspurs like I do, but he's a fine fellow, and I gave a talk in London and he came to it. And I thought, 'What a decent chap.' **Guest:** It was a really, really good talk. **Russ:** That's kind of you. But as a result, I find myself, 'Oh, I can go back to my old view now. Because Matt'--Oh, I'm being honest here. I'm kind of exaggerating for dramatic effect. But I think it's fascinating to me how people who have little or no expertise in this area have an immense amount of confidence. And it's based on trust, respect for authority, and a lack of skepticism. And there's a confirmation bias; you become identified with a certain position. It becomes awkward, socially embarrassing to concede that you may be wrong. I just find it fascinating how hard it is to get at the truth in an area that has become as politicized as this one has. **Guest:** I completely agree with that. And by the way, you said one thing which I think is important, and that is that none of this would matter if the measures we were taking were costless. But, one of the reasons why Martin Weitzman's view to me is not attractive is because he's saying, 'Look, we've got to do something just *in case* there's damage to our great grandchildren.' Well, I'm saying, 'Yeah,

but to damage *poor* people today because you are worried about the fate of your great grandchildren doesn't seem to me to be altruistic.' Quite the reverse: it feels selfish to me. And I think that's the--so none of this would matter if we weren't taking matters in terms of energy policy, in terms of biofuels, in terms of denying electricity to the people who really need it--rather, affordable electricity, I should say. Those are genuine costs. Nobody denies that we are costing ourselves and humanity something with the measures we are taking. I just think we are taking chemotherapy for a cold.

Russ: Well, I think the right response to this mix of alarm versus maybe it's not so bad and this mix of an uncertain catastrophe in the future and a *certain* catastrophe today because of the measures you are taking--I think the right response to that is to favor policies that mitigate the worst of the effects we are talking about. So if we *are* to do something about climate change, putting a tax on carbon while lowering an income tax--not that that's ever going to happen politically--seems like an attractive way to do something. Putting a tax on developed--reducing usage in developed countries that are rich relative to countries that are desperately trying to get out of poverty that's killing people seems like a good idea. And that's also politically a dead end. So that leads us, I think--those two being political dead ends leads to where I think we will ultimately go, which is to adaptation. We will *cope* with the climate that changes, and that will mean maybe a little more air conditioning, which ideally we'll be wealthier because we didn't pursue some of these costly policies that have been advocated. Would you recommend doing anything? **Guest:** Yes-- **Russ:** Or would you rely on adaptation? **Guest:** Well, I agree with you that adaptation is important; and in fact the IPCC in its latest report says this. It says that a report recommending huge amounts of adaptation, much more than it's ever recommended before. This for some reason is always ignored by people who are talking about this these days, but it's a very important part of what they are recommending. And they are dead right. But the other thing I would do as well as adaptation is research. In other words, as people like Bjorn Lomborg have argued, instead of rolling out inefficient highly expensive 14th century technologies like wind in a vain attempt to cut government emissions, which it's signally failing to do on a significant scale, why don't we *research* energy *really* intensively? So at the moment we are putting about 100 times as much money into subsidizing the production of energy from renewables as we are into R&D (research and development) in renewables. And nuclear. Let's get fusion. Let's get thorium. Let's get molten salt reactors. Let's get all these ideas for zero carbon and [?] properly and fundamentally researched, because one of them is going to provide us with an answer that will blow fossil fuel out of the water. And impoverish people like me. And good for them. You know. But let's do that rather than subsidize crummy old technologies that are making terribly little difference, *and* chopping up eagles and ruining landscapes and all the other things wind power does. Sorry--you've got me onto a hobby horse, here.

Russ: And you've said you could make some money on wind. Personally.

Guest: Yes. I'm a landowner in the north of England. I get letters from the post from not only wind developers but solar developers offering mouthwatering sums of money if I would let them build on my land. But those sums of money would come *from* the energy bills of the people. That's the way we do it in this country: We add a stealth tax onto energy bills. You know, they are pure public subsidies, tax subsidies, but they are not called tax subsidies. They are just additions to the bills of people. Now, energy bills are a more important part of the budget for poor people than they are for rich people, so this is a regressive tax, going from poor people to rich people. And I'm sorry, but I won't do it. There *was* one wind turbine built from land which I don't own, but it turned out the mineral rights under it did belong to my family; so I was due compensation. So I gave that money away to charity over a year. Not very much--a tiny sum.

1:01:44

Russ: What's the state of shale in the United Kingdom right now? **Guest:** Well, as of today, or the last couple of days it's been announced that it will go ahead. But it will take about a year to start, because one of the environmental regulations that's been insisted on is a 12-month baseline survey of the state of aquifers in the region. In energy terms and economically, Britain's shale position is very, very promising indeed. We've got to think of the Bowland shale, which seems to have about 1400 trillion cubic feet of gas, which is huge. Bigger than the Marcellus in Pennsylvania. Probably one of the biggest reserves yet found in the world of shale gas. Very rich, very deep, very thick. All the techniques developed in the United States should work here. *But* we are hedging it about with so much in the way of environmental measures about earth tremors, contamination of water, etc., etc. that I *fear* that it will take a very, very long time for it to become economic. And we are insisting on the distribution of profits to local communities. Which is a good idea. But to the point where it, again, might make it un-economic. So the jury is still out on whether it is going to work economically. But the idea that Britain could produce as much energy on-shore in the United Kingdom as it has produced in the way of gas from its offshore reserves in the last 30 years is extremely plausible. And we've had a huge amount of gas from the North Sea.

1:03:30

Russ: Let's close with your optimism. You wrote a book called *The Rational*

Optimist. One could argue that that's a bias that you have to face in this area. I share that--I don't know that 'bias' is the right word--a preconceived notion that human creativity is bigger than people often anticipate. And in particular, how we will move around on this earth in 50 years: whether we are going to still use gasoline-powered cars and airplanes is to me a very open question. I think we are going to do all kinds of incredible things and we'll find ways to do things more cheaply, and adapt and find ways to use less energy. And I don't know what the future holds. But I remain somewhat optimistic. Do you share that? **Guest:** Well, you say that I had a preconceived optimism but it's only preconceived because of my experience of the last 30 or 40 years. And this is another of my arguments for being skeptical about dangerous climate change. I've witnessed the failure of apocalyptic predictions, on so many different things in the last 3 decades, that it has very much influenced my view. I now approach apocalyptic production, predictions, with great skepticism. So, when I was young, the population explosion results [?]: famine was inevitable, the oil was running out, nuclear winter was coming, the desert was advancing, the tropical rain forests were going to be totally destroyed. SARS (Severe acute respiratory syndrome) and Bird Flu and Swine Flu--the sperm counts were going to collapse. Acid rain: ozone layer. I've lived through all of these. I've covered several of them. And I've always, always, always come to the conclusion that the most alarming predictions are the ones that get the most coverage and the ones that are most raw. So, I don't see why I should be any difference in this case. And if I had believed everything that grownups told me in the late 1970s, early 1980s, I would expect this to be a very bleak world by now: Where life expectancy had fallen, where pollution was terrible. Where living standards had dropped. Where famine was widespread. None of those things happened. In fact, there were extraordinary improvements in lifespan, child mortality, health, wealth, happiness, IQ, violence--all these things have improved. And I find it very implausible that that were it cannot happen again. Because the mechanism by which we innovation, i.e., by exchanging ideas, got a heck of a lot easier in the last 10 or 15 years. The Internet. So I think it's very likely we will produce innovations that improve people's living standards during the current century. Now, that doesn't mean we can't have a disastrous World War, we can't descend into superstition, a collision with an asteroid. All sort of things that could go wrong in this century. But I think that every likelihood that the great grandchildren who will *face* one or two degrees of warming in the next century will actually be pretty wealthy people. And finding out[?] that's what the IPCC says, too. If you look at their charts on GDP per capita, they are between 3 and 16 times higher by 2100 than they are now today.

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COMMENTS (82 to date)

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Josiah writes:

I'm a big fan of Ridley's Rational Optimist, so I was a bit taken aback to hear him making some pretty basic errors when I comes to describing the state of play in climate science.

For example, Ridley says that "pretty well every scientist who is working on this is now accepting that climate sensitivity is in the 1-2 degree range." If you go [here](#), you can find a bunch of recent estimates of climate sensitivity, most of which are above the 1-2 degree range.

I don't think Ridley is trying to put one over on Russ. I suspect rather that he's just fallen victim to the sort of confirmation bias that he warns about. But this is not the only example in the interview of an eyebrow raiser.

Posted June 29, 2015 10:24 AM

Buzz writes:

I sense a little persecution complex by Mr Ridley. On one hand he's outraged by the language of being called a denier as it's an allusion to the Holocaust (a connection I haven't made before this show). On the other hand "when you are taking flak, you know you are over the target zone". So are actual Holocaust deniers over some target zone ?

Posted June 29, 2015 11:00 AM

Julius Komorowski writes:

Matt Ridley was chairman of Northern Rock until it was nationalised in 2007, which occurred when it was the first British bank to experience a run in over a century. It would be fascinating to hear his perspective on what happened.

Is there any possibility he might come back on to discuss that experience?

Posted June 29, 2015 1:02 PM

Jerome writes:

I was surprised to hear Matt Ridley's claims about the hockey stick. A little research and reading the wikipedia page reveals that Matt Ridley is cherry picking his evidence; each of his claims regarding the hockey stick have been disproven. https://en.wikipedia.org/wiki/Hockey_stick_controversy

Posted June 29, 2015 1:30 PM

Doug Anderson writes:

I suspect that the real bias on behalf of those who believe man made warming is likely to be a big problem is a bias against messing with well functioning environmental systems solely for the sake of extravagance. Why risk unintended consequences of technological progress when we can avoid it by being less materialistic.

In climate change they have found a vehicle for justifying changes that slow development, e.g. using fewer fossil fuels, desire to use locally produced goods, smaller houses, less air travel. Somehow climate change now justifies many of the same policy desires that the "limits to growth movement" has always had. When there are problems with the climate change justifications to these policies, they fight tooth and nail to defend what has been a pretty good rationale.

I'm not sure they are wrong (even if they are probably too extreme for my taste)-- and of course I can't prove any of the above, but that that doesn't mean I'm wrong.

It is also true that some of those who believe climate change is a big problem, don't have this set of biases-- e.g. those who advocate geo-engineering of much greater use of nuclear power. But that group of people strikes me as a small minority.

Posted June 29, 2015 2:12 PM

Matt Moore writes:

Where is the link to the House of Lords debate?

[[House of Lords Debate](#) --Econlib Ed.]

Posted June 29, 2015 3:14 PM

anonman writes:

Not to be too alarmist, (along the lines of Guy McPherson), but the analog to the

holocaust deniers can often correlate among believers in catastrophic warming to a belief that a margin of error of even a couple of degrees is not consoling, given that some believe that four degrees warming this century could, in fact, trigger enough warming to cause methane clathrates to be released into the atmosphere from the Arctic Sea.

If that happens, well, the fat tail becomes planetary suicide, if I get the argument correct. On the one hand, it would be a good idea to not bring that up to people that often, since we actually don't know that much about what could happen, (gun hypothesis, but not theory), but maybe it is indeed prudent to throw up the concept every once in a while.

If that happens, perhaps the analog to the holocaust deniers would be not-so-extreme?

Posted June 29, 2015 4:06 PM

Floccina writes:

Ditto what Doug Anderson wrote. That is why most people who want AGW addressed in the developed world, seem to not care if China and India increase co2 output. I would go for a CO2 tax but not cap and trade. Too much is hidden with cap and trade and so I think corrupt politicians would use cap and trade for their own personal gain.

Now on the other side fat tail, CO2 could save (/be saving) us from an ice age.

Posted June 29, 2015 4:48 PM

Dr Norman Page writes:

[Comment removed pending confirmation of email address and for comment policy violations. Please read our [Comment Policies](#). Email the webmaster@econlib.org to request restoring your comment privileges. A valid email address is required to post comments on EconLog and EconTalk.--Econlib Ed.]

Posted June 29, 2015 7:59 PM

Anonymous writes:

Re Jerome's comments on the Hockey Stick and Wikipedia. Wikipedia is only as good as the latest edit. On controversial subjects, it is not a very good source. Example here: The article dismissed the "Wegman report" (which few have read, but both its executive summary and the report are very well done) saying "found to have issues with plagiarism". This is evidence the author is a Mann partisan - notice that it does not give a reference for this claim! Mann even tried to say Wegman was guilty of perjury in Mann's book. If one reads the actual congressional transcript, you find that Mann's charge was baseless. Given the extensive historical evidence for extensive climate change since 1000, Mann's claim seems absurd on the surface! In my reading of all the charges/counter-charges, Mann is a good politician, typical of global warming alarmists.

Posted June 29, 2015 9:50 PM

Brett_McS writes:

With the massive amount of research funding predicated on the existence of catastrophic global warming (The effect of Global Warming on [add your particular research topic]) I'm not surprised at the so-called consensus among scientists (although that 97% figure that is often quoted is completely bogus). Scientists react to incentives the way anyone else does.

I also detect an air of desperation in the work of the alarmists (let's get the Pope involved!) as a result of the "hiatus" (a term which of course implies - quite unscientifically - that warming is set to continue soon).

If some hitherto unknown or unconsidered variable is enough to offset the massive increase in CO2 over the last couple of decades as China and India have come on-line, then the CO2-forcing itself couldn't be that strong, could it?

Posted June 29, 2015 10:58 PM

Ben Schorr writes:

Brett - whenever I hear the "massive amount of funding for global warming" argument I have to shake my head. The oil companies would write an embarrassingly large check to any scientist who could prove conclusively that fossil fuels are not contributing to climate change.

Most of the wealthiest companies in the world (and some of the wealthiest people in the world) owe their wealth to the burning of fossil fuels. To claim that climate scientists are opposing those financial giants for the money is absurd.

Posted June 29, 2015 11:26 PM

Brett_McS writes:

Ben, the ratio is huge. The oil companies could provide funding to sceptics but they don't; they are as much involved in 'green science' as anyone. These are corporatists to a large extent; more government is good for them. However, the government is funding the AGW crowd massively. In this environment 'scientific proof' is not a player.

<http://joannenova.com.au/2009/07/massive-climate-funding-exposed/>

Yes, I know Jo Nova is a sceptic, but she lays out the numbers from the government's own sources.

Climate modelling used to be an obscure research interest tacked onto the geography department. Now, because of the millions of government dollars they bring into their university they are rock stars. Is that an incentive?

Posted June 29, 2015 11:41 PM

Brett_McS writes:

Just a general comment, if I may. I am quite surprised at the number of people on Econ Talk blog who don't suspect a statist push behind the AGW line. AGW is a clarion call to sweep away national barriers and extract taxpayer dollars in the service of completely unaccountable international organisations. It is the 'perfect storm' for the leftist project, and they are absolutely determined to keep it alive and kicking.

On that basis alone I would demand absolute proof that there is a real issue here; not some vague 'better safe than sorry' nonsense argument.

Posted June 29, 2015 11:51 PM

Ben Schorr writes:

Brett - The NSF's annual budget is under \$7.5B. Exxon alone makes nearly \$5 a QUARTER in profits. How many of America's millionaires are earth scientists? You'd probably have a hard time finding any.

Claiming that earth scientists are biased in favor of climate change for the money is absurd. Full stop.

Posted June 30, 2015 1:30 AM

Ben Schorr writes:

Actually there ARE some earth scientists who make very good money...most of them are on oil company payrolls.

Fact is if you want to make money in earth sciences you don't do it by measuring ocean temperatures and publishing academic papers. You do it by helping oil companies find more oil.

Posted June 30, 2015 1:32 AM

Felix writes:

A general comment, if *I* may. It's nice to actually see a comments section in an EconTalk episode that didn't quickly divide along ideological lines of Left and Right. The fact that you're alarmed that there doesn't seem to be that ideological bannerism is what's alarming to me.

Posted June 30, 2015 2:29 AM

Matt Moore writes:

Worth reading the transcript of the House of Lords debate. My favourite moment:

Lord Stoddart of Swindon (Ind Lab): [...] I read in the Daily Express today an article —

Noble Lords: Oh!

Lord Stoddart of Swindon: I am sorry I have gone downmarket a bit.

Posted June 30, 2015 6:54 AM

Greg G writes:

More than almost any other issue, climate debates have a tendency to quickly focus on attacks on the motives or character of the participants. I thought Russ and Matt did a good job of avoiding that in this discussion but it popped up pretty quickly in the comments.

It's worth remembering that we see plenty of this on both sides. There is no shortage of people who insist that the consensus in support of AGW is the result of a hoax motivated by the availability of research dollars and the presence of authoritarian impulses.

Research money tends to follow the scientific consensus more than lead it. As Thomas Kuhn showed, challenging the scientific consensus can be professionally risky but has great rewards if you succeed. In terms of incentives it's like choosing between working for someone else or becoming an entrepreneur. Most entrepreneurs fail and most challengers to the scientific consensus fail. Those who succeeded get great rewards.

People who want to have influence in this debate ought to stop whining about how badly they are treated and just make their case like Matt did today.

One of my favorite EconTalk moments ever happened when Russ invited AGW skeptic Freeman Dyson to talk about how he had been persecuted for his views. Dyson insisted he had been treated well in this regard and had taken much more abuse from people unhappy with their vacuum cleaners.

Posted June 30, 2015 8:53 AM

Jerome writes:

Yes, it is good to see discussion on climate that is not quickly divided up along partisan lines. Economists should be most relevant to the cost/benefit analysis regarding climate. It would be troubling if they were all climate pundits.

Opposition to the climate science supporting anthropogenic global warming does seem motivated by the consideration of possible statist solutions. But the difficulty of solutions can not be used to inform the likelihood of the problem. Likely there are many solutions and they need to be judged according to cost/benefit analysis and political viability.

Posted June 30, 2015 9:08 AM

Josiah writes:

The oil companies could provide funding to sceptics but they don't; they are as much involved in 'green science' as anyone.

This is actually pretty damning to the climate skeptic side, IMO. Because Ben is right, fossil fuel companies would put tons of money into funding science to challenge the idea of AGW if they thought the arguments had any plausibility. That they don't means that even they don't think the skeptic arguments have any merit.

Posted June 30, 2015 10:01 AM

Mark Crankshaw writes:

Well, questions of motives will inevitably arise since the climate "debate" is politics that uses the façade of science to pursue a unpopular leftist zero-sum political agenda.

What's a stake? Well, only **trillions** of dollars and the *potential* to radically alter energy markets and lower our standard of living. That's all. As with all political issues, with **any** political decision, there are **always** political and financial "winners" and "losers", the decisions are fraught a multitude of inherent public choice problems, there is corruption, incompetence, and abuses of power. This is why the climate change crusaders stridently insist that the climate change issue is **scientific** rather than a **political**. How about both? It is a scientific issue that has clearly been politicized. That said, the real *debate* is **political** one.

In days of yore, there were societies that lived near volcanoes. Enterprising political entrepreneurs (aka: witch doctors, priests) would observe that the volcano that had erupted in the past is rumbling with greater frequency and they would routinely make a **valid probabilistic scientific claim** : increased rumblings meant increased probability of a catastrophic volcanic eruption. They would also then suggest a **political** solution: more of the society's resources funneled to the priest class, more rituals and chanting, and perhaps tossing a few virgins into the volcano.

Just because there is **probability** of a catastrophic event occurring (and in the case of climate change--the science "is not settled" as to what the probability of catastrophe is) doesn't mean you get a free hand **politically** to do whatever you want (or whatever you can get away with). One must consider the efficacy of the political "solutions" and, in evaluating the cost one is willing to bear to avoid risk, **the probability of the political solution lessening that risk**. If the probability of the political solution lessening the likelihood of the catastrophe is around zero, then no amount of "scientific proof" that the probability of a catastrophe isn't zero justifies that political action.

Tossing virgins into a volcano is not efficacious--it is no different than doing nothing. You don't have to be a "denier" to see that. Climate change and what we are politically to do about it *is ideologically contentious precisely because there is a deep divide in the "faith" held in the efficacy of political action (and in the political order that directs it) and the "faith" held of the likely political actors*.

The climate change agenda is being pushed by people with differing agendas, some good and some not so good. What unites them, however, is not the science but

political ideology: they believe that government, when presented with a problem, can and will do what it takes to solve that problem. That **is** an *ideological* belief. Some may even believe that it will do so efficiently and with few negative repercussions. The science, for many, is merely the vehicle to gain access to political **action** they desire and access to the benefits (real or imagined, material or ideological) they anticipate will result from that action.

This ideological preference is crystal clear to me because I do not share it. I believe that what is more typical is that governments, when presented with a problem, will propose government program after government program, expand the reach of regulation and control over the citizenry, employ millions of people, spend trillions of dollars to "solve" the given problem in the most ham-fisted circuitous way possible, and, in the end the problem remains completely unsolved. Whether this failure is by design, through incompetence, corruption or stupidity may be unclear or up for debate, but what is clear is that the problem remains unsolved (or even made worse). This is the general norm.

For instance: all of our recent military misadventures, the War on Poverty, Education Reform, the War on Drugs, Agricultural Reform, Tax Reform, and on and on and on. Considering the political blundering and bumbling of the USA and that **any** political solution to climate change would entail political cooperation among many countries, each of which are as blundering and bumbling and most of which are as (or even more) venal, corrupt, and mischievous as the US doesn't exactly fill me with confidence that "they'll get it right". The current EU financial fiasco is yet another example that they are even more likely to "get it all wrong".

To me, "the science" is hardly the "issue": the climate is, was, and always will be in flux, there is always a non-zero probability of "catastrophic" change (however one defines wants to define that), and humans have contributed to higher CO₂ levels. Agreed. The debate remains as to what the probability of this catastrophic change is. But that's it for the science. The rest--and the most important issues--what do we do about it-- (and that's 99% of the issue) is, has been and always will be political. **The true "deniers" are the ones which deny that obvious reality.**

Posted June 30, 2015 10:30 AM

John Roesink writes:

Nice post, Greg G. The Dyson moment was one of my favorites in EconTalk history, too. This episode produced several laugh out loud moments, I always like it when the guest picks up on Russ' humor.

As one of the despised earth scientists making a decent living by searching for oil, I find it interesting to note that the priors of the climate research community are rarely discussed in any meaningful way, meaning, as it relates to bias creeping in to interpretations. Many are quick to point out that left leaning politicians will grab the cause of climate change for personal gain (increased influence over the economy, new and previously untapped tax base in carbon, etc.) but this isn't the same as calling in to question the *interpretations* made by scientists of what a warmer planet will look like. Even in this discussion, Matt and Russ frame the outcomes as "slightly less warming, less catastrophic results" or "slightly more warming, potentially catastrophic results". The earth has been much, much warmer with much, much higher concentrations of CO₂ in the past. It doesn't automatically follow from higher concentrations of CO₂ and a warmer planet that we face ecological collapse. (Atmospheric concentrations spiked over 2,700 ppm geologically instantaneously at the KT boundary, mammals flourished, concentrations naturally returned to prior levels). When looked at from the perspective that the scientists making these predictions have HUGE priors about oil companies, capitalism, human impact on the environment, etc., shouldn't we call in to question the basis for all of these doomsday scenarios? Why discuss the size of the fat left tail when there is ample evidence from the geologic record that the possibility of **no** left tail is very real and non-zero.

I tried to ask Taleb this question on his Facebook page and he dismissed me with a charge of survivorship bias. I don't think I'm succumbing to that particular bias if the earth has survived the exact same "crisis" before and the climate hasn't spun off to resemble Venus. This, from the guy who is popularizing anti-fragility. What could be more anti-fragile than the atmosphere? Comets have changed the entire composition

of the atmosphere over night, much more dramatically than humans ever will, yet life endeavors to persevere. I think we need to craft a new logical fallacy called "the myth of human significance". If it weren't for the opportunity cost of climate science (as alluded to by Ridley), the cries to save the planet would be Python-esque and hilarious. Instead, seeing 1700+ private jets parked in Paris this fall to discuss cutting CO2 will be sobering and depressing.

Excellent discussion as always, Russ. I can already seed the #1 spot in 2015's best episodes.

Posted June 30, 2015 11:56 AM

john writes:

I have a lot of problems with the idea of "Climate Change". First the title is meaningless and doesn't convey any substance. What they really mean is "global warming" caused by man made CO2. Yet, where I sit, less than 20000 years ago was a 1-2 mile high glacier, the Sahara desert was lush and the California deserts were alive with lakes and flowing rivers. Now the glacier has retreated, the Sahara is sand and the lake beds in California are dry and this occurred prior to all the hot air and CO2 that is breathed out in the name of climate change. What was the temperature rise during the period when all this occurred and how much CO2 existed then? What this guest and others don't do is account for the total systemic time period of the earth. They focus only on the interglaciation period of time (within the last millions of years) when there has been ice on the polar caps and where temperatures fluctuate. Why don't they include all of earth's history? Because the data won't support their hypothesis. They ignore that for most of the earth's history (75 %) has been without ice on the polar caps and carbon dioxide levels at 6 to 72 percent higher than they are now and that is without man making it.

[N.B. You may want to use a nick that is more identifying than just "john" in your comments. Many commenters all use the first name "john". --Econlib Ed.]

Posted June 30, 2015 11:59 AM

John writes:

Sorry, I am a bit behind in listening. My comments were about the podcast with Martin Weitzman.

[N.B. You may want to use a nick that is more identifying than just "John" in your comments. Many commenters all use the first name "John". --Econlib Ed.]

Posted June 30, 2015 12:03 PM

Josiah writes:

John,

Part of the problem is that people differ in what they consider catastrophic. James Lovelock recent wrote a book where he said climate change won't be that bad, because while it will end up killing billions the remainder of humanity will survive and prosper. Personally I have a lower threshold for what constitutes a catastrophe.

The earth isn't going anywhere. OTOH, human civilization is adapted to the climate of the last few thousand years. A major change to that, particularly on a relatively brief time scale, could do a lot of damage.

Posted June 30, 2015 12:24 PM

Lawrence Whiteside writes:

[Comment removed pending confirmation of email address. Email the webmaster@econlib.org to request restoring this comment. A valid email address is

required to post comments on EconLog and EconTalk.--Econlib Ed.]

Posted June 30, 2015 1:19 PM

John Roesink writes:

Josiah-

Why? Your final sentence perfectly illustrates the inherent bias I'm trying to shed light on. Who's analysis are you invoking with such certainty? How do you know that major change -> lot of damage? 14,000 years ago there were camels and mammoths in the Denver basin where I'm sitting right now. I'd say things have changed a little, and in very short order in human terms, and I feel like we've adapted fairly well (camels and mammoths not so much). How many past predictions of pending and certain environmental catastrophe have proven correct? The beauty of the Lovelocks, Hansens, and McKibbens of the world is that they continue to make outlandish predictions even though they've lived to see many of them proven utterly false and absurd (boiling oceans). I think even a Squawk Box stock analyst would feel too self conscious to keep making picks with those guys' track records.

"We" survived a dramatic change over a short period in the Little Ice Age without bringing to bear any of the modern technology that has revolutionized everything from agriculture to transportation to indoor climate control. What could better shield us from the effects of any future change in climate than the control over our individual environments made possible by cheap energy? You're right that human civilization has adapted to the climate of the last few thousand years but that is neither

- 1) an implicit promise from the planet that it won't change if we repent from our CO2 producing ways or
- 2) an airtight argument for our inability to adapt to whatever comes next, be it of our own doing or some exogenous force.

Posted June 30, 2015 1:30 PM

John Roesink writes:

Josiah-

Because Ben is right, fossil fuel companies would put tons of money into funding science to challenge the idea of AGW if they thought the arguments had any plausibility

I don't think it's quite that simple. The decision to fund climate research (as Exxon has done in the past and faced sharp criticism for) would at least be predicated on:

- 1) The likelihood that those monies would make a return from their investment. In this case, there would have to be a specific and measurable impact to the quarterly profit of a large public company in order to not aggravate shareholders and the board. If the calculus reduces to "we're either in business or out of business", spending any sum on anything other than generating more revenue (drilling wells) in the near term is a waste of scarce resources (time value of money, we won't be shut down this year, make hay while the sun shines).
- 2) The general credibility of research explicitly funded by oil companies *as perceived by the public*. If you spent a bunch of money on great research that showed there was no negative outcome from increased CO2 but you knew the general public was just going to throw that research on the rubbish pile, why would you spend the money? The outcome in that scenario (general negative sentiment toward your industry, no likely change in pending legislation to limit your activity) is the same as the status quo. The expected value of that investment is exactly equal to the amount of money you gave to the researchers with a minus sign in the front. Maybe we'd sleep better at night, it's hard to quantify that value.
- 3) This is the part that is really shocking to most people: Oil company budgets are incredibly tight. I have to justify and argue for every dollar I spend on R&D because

it is very hard to book that expense against any expected revenue. There isn't a giant pot of money that can be dipped in to for pet projects, it just doesn't work that way. This was true even before the price of oil dropped by 40%.

Addendum to 1 above. It fascinates me that oil companies and industry in general are perceived on one hand as ruthless slaves to the bottom line, pursuing profit at all costs yet when something like the chance to fund research to make us look better comes along, the common wisdom is that we'd throw piles of money at it. That simply isn't the way things work in the private sector, at least not for very long. People who have no problem spending other people's money without regards to how effective it's being spent are out there, and they usually have a GS-# after their title.

Posted June 30, 2015 2:31 PM

Dave writes:

There's now a course about the "science of climate science denial!"

<https://www.edx.org/course/making-sense-climate-science-denial-uqx-denial101x-0>

Posted June 30, 2015 3:52 PM

Josiah writes:

How do you know that major change -> lot of damage?

Well, for example, we've built a lot of major cities near sea level. Rebuilding them elsewhere will be very costly, as will trying to protect them from sea level rise where they are.

Where I am in Texas, we just got out of a very severe drought. California, I believe, is still in the midst of one. Droughts like that do a lot of damage, and are projected to become more common in the American Southwest as the globe heats up.

Storms like Sandy and Katrina have done a lot of damage, and are anticipated to increase with rising sea levels and temperatures.

"We" survived a dramatic change over a short period in the Little Ice Age

The Little Ice Age killed upwards of a third of the population of Europe. If that's your model for what climate change will be like, then I would again suggest we have different thresholds for what counts as a catastrophe.

BTW, I find it a bit odd that you talk about my biases when you know nothing about me. To the extent I have ideological or financial biases on this issue, they are ones that would push me away from accepting mainstream climate science, not towards it.

Posted June 30, 2015 4:11 PM

Nick writes:

I ask this not as a skeptic, but as a general, nonspecialist observer.

Is there any evidence whatsoever that even the United States took the most statist, draconian measures (that both lowered productivity, standard of living, etc) just to stop climate change that we would have any effect whatsoever?

It seems like all this discussion on consequences ignores the potential point that it is highly unlikely that public policy can actually change the warming patterns of a entire planetary weather system. Or even if public policy might have a theoretical effect, the practical politics of convincing the biggest producers, india and china, to

remain in poverty in lieu of stopping warming by a few hundredths of a degree is a difficult or impossible sell. Not to mention the massive incentives to "cheat" any international system to get a little bit more economic growth.

Posted June 30, 2015 4:27 PM

John Roesink writes:

Josiah-

Last things first, I apologize, our wires must have gotten crossed. I never purported to know anything about your biases, as you correctly stated, I know nothing about you or your views. My point was that the list of possible outcomes as a result of a warmer planet is biased. Climate scientists (who I claim have inherent biases) make interpretations of climate models and then translate those in to predictions about the relative probability of specific weather changes, such as droughts and hurricanes. Those get reported in various outlets and picked up by the general public and then become "truths". I guess I made the assumption you aren't a climate scientist, but I can assure you I was assuming nothing further about you specifically.

The list of possible events you mentioned (drought, hurricane) are indeed negative in their financial and societal impact. The problem comes in the leap from "the planet is warming" to "there will be more hurricanes". We're currently in the midst of a decade long major hurricane drought in the US, a fact I'm sure you appreciate if you live in coastal Texas. That single, unpredicted outcome shows some of the inherent problems with the fundamental nature of climate science. They predict X, observe Y, return to the model, oh wait, now it predicts Y, issue press release to indicate how much better the models are getting. If I had time right now I would dig up climate models from several years ago that show the western US (including California) suffering from *increased* precipitation (as we are this year in Colorado).

Sea level rise and building in coastal areas is a problem that won't easily be solved, but as Dr. Ridley mentioned, is it the most pressing problem facing humanity? Is preserving the real estate value of developers in Miami that much more important than allowing women in Africa to cook over something less carcinogenic than wood and dung fires inside their homes? If you tend to be a "money where your mouth is" type, what do you think about the US President, who seems outwardly quite concerned about the climate, buying a beachfront mansion in Honolulu? For an excellent discussion that puts sea level rise in an interesting geologic context, I'd refer you back to the superb August 9, 2010 EconTalk with Nobel laureate physicist Robert Laughlin ([Laughlin on the Future of Carbon and Climate](#))

The point I was trying to make is that the prediction business is very difficult and we are underappreciating the effect of bias when we accept the interpretations of the climate scientists in the vocal majority and when their claims are parroted by politicians. There is an element of counterfactual thinking that rarely makes it in to these discussions as well. We're going to face more hurricanes? How many **more**? Because that's the real issue. The alternative to burning fossil fuels isn't a world without hurricanes. Would the expectation of more, frequent, and larger hurricanes (or insert any other climate related event) cause us to: Choose better, more resilient building materials in coastal areas? Situate houses away from already vulnerable coastal locations? Actually price insurance premiums to reflect the risk of loss due to processes that are working all the time in a coastal environment (instead of letting the government to swoop in and bail out bad private investments)? There is a list of outcomes that follow from a less predictable climate that can actually lead to positive changes in society. I can assure you that you'll never see it published in the New York Times in either of our lifetimes. That is the kind of bias I was referring to.

Posted June 30, 2015 5:27 PM

Josiah writes:

Nick,

The most statist, draconian measures will not work. A more market-based approach, however, might work.

The problem is that right now the incentives to develop emission lowering technologies aren't there because there is no price on emitting greenhouse gases. For example, right now it's pointless for companies to spend a lot of R&D on developing carbon capture and storage technologies, because no matter how cheap they make CCS it's still going to be more expensive than just doing nothing. So what you're left with is R&D funded by government or by private philanthropists, both of which have sort of mixed track records.

Fortunately there's a simple solution. A carbon tax would create the necessary incentives and you can use the revenues to cut taxes on capital and labor, which are worse for the economy anyway.

Posted June 30, 2015 5:30 PM

Nick writes:

Are there any studies that show such a market based carbon tax in a single country would reduce carbon by enough to actually modify the adverse consequences of climate change? Especially when the vast majority of growth in emissions is now coming from economies such as india and china?

If there is an effect, how large is the temperature difference?

It seems to me the most adverse models show that it is too late to make any meaningful changes.

Posted June 30, 2015 6:22 PM

John Roesink writes:

Nick-

I've never seen a study that goes directly from carbon tax to emissions reductions in a single step but if you'd like to see changes in carbon emissions and the resulting change in temperature at two time steps (2050, 2100), CATO has built a handy-dandy calculator (their words, not mine).

<http://www.cato.org/blog/current-wisdom-we-calculate-you-decide-handy-dandy-carbon-tax-temperature-savings-calculator>

The variables are pretty straightforward, especially after Dr. Ridley's discussion of sensitivity. Here's one output: If the US cut CO2 emissions to zero and the highest IPCC sensitivity of 4.5 is used, we'd shave 0.062* C by 2050, 0.173* C by 2100.

Posted June 30, 2015 6:48 PM

Josiah writes:

Nick,

Just reducing emissions in a single country won't do much, which is why the U.S. trying to use command and control measures won't work. A market based measure like a carbon tax, however, has the ability to limit emissions in other countries in a couple of ways.

First, with a carbon tax you can do what's called "border adjustments," i.e. you tax imports from countries without their own carbon tax. Not only does that capture some emissions from other countries, it gives those countries an incentive to adopt their own carbon tax (since they are already paying for it without getting the revenue).

Second, putting a price on emissions encourages the development of lower emissions technologies, and once developed these technologies can be adopted by other countries.

Posted July 1, 2015 7:59 AM

Josiah writes:

John,

Let's take the example of hurricanes. Over the long term, higher sea surface temperatures should lead to more powerful storms, because there's more energy to draw on (this is why hurricanes tend to be limited to the warmer part of the year).

Aside from this long term projection, there is also the question of when the effect of global warming on storm intensity will be detectable. The general view among climate scientists used to be that this wouldn't happen for several decades. However, a few years back some scientists published papers arguing that the influence of warming was already detectable. The claim eventually made it into the IPCC's 4th assessment report.

Then something amazing happened. Other scientists published papers questioning the findings of the previous papers. And the IPCC responded by retracting its prior claim, and went back to saying we can't yet detect any warming effect on hurricanes.

Two points I'd highlight about this story:

1. Whether warming will increase storm power in the future is a separate question from whether a warming effect on storms can be shown to be happening now. One is a matter of physics, the other of statistics. Evidence against a detectable influence now (e.g. there haven't been many storms recently) is not evidence against a long term effect.
2. This case shows that the IPCC and climate scientists in general are quite willing to modify their position in a more "skeptical" direction where this is supported by the evidence. If someone criticizes the IPCC, it doesn't just brand them a heretic and throw them into the outer darkness. It evaluates the evidence and maybe accepts it. So where climate scientists don't accept skeptical arguments, it can't just be that they have an inherent bias against capitalism or whatever.

Posted July 1, 2015 10:32 AM

Ajit writes:

After listening to all the econ talk episodes on climate change and then reading the comments here - I'm still confused as ever. Not about the arguments, but the ultimate implications.

I kind of feel like homer simpson when he's asking lisa for who to bet on in the superbowl. At some point he goes, "Lisa...just tell me...the team whos going to win is...?"

Posted July 1, 2015 1:05 PM

John Roesink writes:

Josiah-

Good points, and I'm glad you brought up the distinction of physics and probabilities. CO2 operates as a greenhouse gas in a bell jar. That is a simple physical phenomenon that can be observed, modeled, and replicated. The atmosphere behaves in no meaningful way like a bell jar. That's true if you don't even include the hydrosphere and the biosphere. So what we have is a simple causal mechanism operating in a complex system. There is no statistically meaningful way to predict the specific outcomes of any one input to the climate system. How did we get so far away (intellectually) from sensitivity to initial conditions and strange attractors? Maybe it has had too much of an influence on my thinking, but chaos theory was de

rigueur when I began my career. 25 years later, we've built a couple of supercomputers and we think we can predict the future. Isn't this the same complex system that was described with a butterfly flapping its wings in Texas and producing a typhoon in Japan?

Take your overly simple hurricane example. It is also my understanding that warmer surface water feeds stronger hurricanes. Even if I grant you the outcome that the atmosphere will warm, it is still a leap to assume that it will directly result in warming of ocean surface waters (latest publication shows the oceans have not taken up the missing heat). If I grant you warmer surface waters, you would have to know for certain that any other changes (ocean circulation, atmospheric circulation, the gradient or contrast between ocean and air temperatures, and on, and on) will necessarily produce an outcome that would be expected under *current* conditions. This is a point that Russ tries to make in economics all the time. Economists who say "I'm going to model the US economy, and then I'm going to increase federal stimulus spending, *holding everything else the same*" commit a major fallacy. When you declare "I'm holding everything else the same", you're no longer making a meaningful representation of the underlying complex system.

My point is not that the oceans won't warm, or the atmosphere won't warm, or that we won't see more hurricanes, but that the HUGE uncertainty in any specific outcome makes the idea of using climate science to drive public policy decisions seem preposterous.

Posted July 1, 2015 5:14 PM

Paul Spring writes:

As a scientist who is concerned over human impact on the biosphere, I was very interested in Mr. Ridley's perspective - I need to have my beliefs challenged. Yet, as the interview went on I detected a pattern often exhibited by sowers of doubt - throwing out accurate facts that really don't bear on the basic issue - are we humans putting the biosphere at risk? Increased CO2 has lead to more foliage.....you're point, Mr. Ridley? I believe the there is a delicate ecological balance that underlies modern civilization as we know it. Mr. Ridley seems content with continuing to conduct this massive crap-shoot of an experiment we've engaged in since the industrial age.

As an aside and an indicator of the credibility of Mr. Ridley's conclusions, his statement regarding the benign nature of dietary cholesterol is utterly false yet he feels comfortable using that to bolster his claims of the benign impact of CO2.

Posted July 1, 2015 9:59 PM

Orson writes:

Early on, **Ben Schorr and Brett_McS** discuss the issue of funding of climate science versus global warming skeptics. And because facts are lacking, the discussion doesn't get very far.

Ridley himself recently opined on this, recently in the UK. Before I share his trump, let me point out that: "climate science" is the second biggest item in the federal science budget. While estimate vary, the figure I'm familiar with is \$78 billion total.

Astrophysicist Nir Shaviv last fall pointed out that the claimed range of 2 to 5.5C degrees warming for a doubling of atmospheric CO2 REMAINS THE SAME as it was before the \$78 billion came along! That is going back to 1979 until 2014. Lots of money down the rathole, no improvement in the "scientific" answers. (Which some years ago led MITs atmospheric scientist Richard Lindzen to present a paper to the World Federation of Scientists, entitled "Is Climate Science Designed to Answer Questions?" Short answer: apparently not.)

Now, this is prestige career building, federal funding. Ex-military scientists went into "climate science" in order to have science careers. I know, because my old GF was taught by two of these ex-rocket scientists in the 1990s. They were unemployed with the end of the Cold War, but then re-tasked to work to "solve" global warming by

Vice President Al Gore, who took the old climatology budget and increased it by 10 times at the federal level in one year.

With this "prestige" federal funding comes the uncritical support of outfits like AAAS, with its head office on K-street in DC - home for lobbyists. And we're to think this is purely a coincidence? If you have a brain, of course not.

Recently, over in the UK, the Royal Society - the UK's answer to the AAAS - admitted that even with the nearly 19 year long "pause" in the earth's temperature (while CO₂ has climbed over 20%), that they would not change their stance for 50 years! Even if the pause continued for years and decades. So much for "Nullius In Verba" - "Take no one's word for it" (meaning, follow the data, do the experiment), which is the Society's motto.

They say you can't buy scientists loyalty? You can. Thus led Ridley to exclaim recently that he - an Oxford PhD in zoology turned science writer - to was wrong: science is not always a self-correcting process. And he ought to have known it, he admits.

Consider eugenics, and Lysenkoism and dietary fat. ALL of these got government funding, monopoly funding. Better alternative theories were beaten out of the game of science by this crucial step. The institutional "rules of the game" were perverted.

Is climate science the same? Yes, Ridley argues.

<http://quadrant.org.au/magazine/2015/06/climate-wars-done-science/>

This is the same with respect to privately funded alternatives. (More data points on this, getting back to **Ben Schorr and Brett_McS** concerns next time.)

But before I do, note this fact: almost all of the global warming skeptic scientists are either retired (eg, Lindzen recently) or else very senior scientists like Judith Curry. They don't have careers to build or CV to fill. They do not have and benefits to reap by "going out on scientific limbs."

Is this why smears like "deniers" are hurled at them? They cannot be intimidated or "defunded." All that's left is thuggery.

Posted July 2, 2015 6:04 AM

David Zetland writes:

I sympathize with Ridley's plight as a martyr against conventional wisdom, as well as his "let's look at data" perspective BUT

- (1) There's nothing in BASIC science that says anthropogenic GHGs are a good thing.
- (2) The impacts of CC are NOT good when it comes to the water cycle, i.e., more drought, worse storms, etc.
- (3) It seems perhaps better for him to put WAY MORE weight on ending fossil subsidies (we can all agree on that, right?) before saying "all's well."
- (4) I'll leave it to the scientists to address his other claims.

Posted July 2, 2015 7:02 AM

William writes:

Russ, after the Weitzmann interview I thought you might at last have moderated your skepticism. But maybe not. Please interview a real, mainstream, climate scientist. Ridley isn't a scientist and Curry isn't at all mainstream. There are many, many possibilities including at Stanford.

Ridley attracts criticism because of the way he behaves. In your interview for example, he talks of CO2 levels at 400ppm saying that 0.04% is "a more accurate way of describing it, but it doesn't sound so big". The two values are exactly the same (ppm is parts per millions, 1% would be 10000ppm, 0.1% is 1000ppm, 0.01% is 100ppm etc - you get the idea). Using % instead of ppm is no more "accurate" but he manages to imply that scientists, which he is not, are somehow deliberately exaggerating for some ulterior motive. People taking a dispassionate, unbiased, view of a subject don't do this. Is it a surprise that he is criticised?

As other examples, he equates satellite and surface temperature records as if they measure the same thing. They don't. He pooh-poohs a possible 6C warming as less than a 1% probability as if that is the end of it. But there is nothing special about 6C; if you look at the probability distributions, there's around a 10% chance of 4C warming - and "just" 4C could be a disaster.

You are not a scientist so it is not reasonable to expect you to pick up on these debating tricks, but others do and often correct him. He takes no notice and will use the same devices to undermine climate science next time round; and the next, and the next ad infinitum, to the point that people just give up calling him out in frustration. His strategy is therefore successful but doesn't lead to respect.

It has been pointed out that Ridley's articles are a good source for playing climate wars bingo: urban heat islands: check; lysenko: check; CO2 a trace gas: check; hockey stick: check; ...Bingo!

I am disappointed in you in your use of what appears to be a favourite skeptic argument against action on emissions:

"...that a lot of the so-called cures strike me as very dangerous, raising the price of energy when a large part of the world is very poor strikes me as a very cruel thing to do."

We can't cut our emissions because it will hurt people we otherwise don't care much about strikes me as a self-serving argument. It is not beyond our wits to address emissions without hurting the very poor. Many very poor people pay huge amounts for energy with existing technology and won't be affected by any taxes we put on carbon in the west. And if climate change does turn out to be damaging, we can be sure that the poor will bear the brunt of the suffering while we adapt.

Posted July 2, 2015 7:27 AM

JohnT writes:

First, what is the correct temperature for the earth? What is the temperature baseline at which the argument pends around? Why do we keep arguing over CO2 levels which are meaningless when you look at the entire history of the earth and not just the last millions of years during interglaciation? Why dismiss the melting of the glaciers 10-20 thousand years ago? What produced that? Why not use the temperature from that period of time as normal?

Josiah wrote about sea levels, droughts, storms and might as well include earthquakes, fires, volcanos, plagues, viruses, etc.. The earth is a very dynamic place where changes and disasters are going to occur no matter what we do. The droughts and storms you mentioned are very normal and been happening in said places before humans existed there --they are not man made. The storms Katrina was cat 3 and very normal. Sandy was typical for that region. All we can do as humans is be adaptable. The best anti-fragility would be to know that these things will happen and prepare for them or at least recognize their possibility and prepare to adapt. We all know at some future time a very large earthquake will hit LA. The argument now is how much resources do you divert to prepare for it? Why concoct a myth that we can prevent these disasters from happening by banning a substance? There is nothing we can do to prevent them from happening --this is hubris, that we can do so.

Also, warmer oceans don't drive storms, temperature differences do. If the entire planet increases in temperature uniformly then you won't see storm intensity

increases.

My bias is that I prefer a warmer earth to a colder one. Whose to say that increased CO2 might prevent the earth from going back into an ice age which would be just as devastating to humans via starvation, famine and freezing to death? "Alaskans for global warming...".

There is just too much future uncertainty in other variables to make any climate model valid:

Sun Activity
 Plant Population and CO2 absorption
 Alternative Energy Discoveries (I am a skeptic, although Fusion and Nuclear come to mind)
 Meteorites
 Volcanic Eruptions
 Water Vapor levels
 Famine
 Plague
 Viruses
 War
 Other astronomical events: Super Nova, etc...
 Earth Magnetic Field collapse or reversal
 etc...

As Thomas Sowell said:

There are no solutions, just trade offs...

Posted July 2, 2015 9:25 AM

John Roesink writes:

William-

but he manages to imply that scientists, which he is not

Um, BA with First Class Honors in Zoology in 1979, DPhil (Ph.D) in Zoology in 1983, both degrees from Oxford, and current fellow of the Academy of Medical Sciences. He may not be working in a research lab right now, but I would be careful to level the charge that he isn't a scientist, if for no other reason than it makes your comments come across as highly partisan (I quit reading...)

Posted July 2, 2015 11:49 AM

John Roesink writes:

Well said, @JohnT. What would be the climate change community's equivalent remedy to seismic hazard, prevent anyone from living in California, Japan, or anywhere around the Mediterranean? Earthquakes pose a far more serious and orders of magnitude more probable threat to human life and property by any metric you choose and yet we continue to let people live and build in high risk areas. I guess the problem with shifting tectonic plates is that there isn't a greedy corporate executive profiting off their movements.

Posted July 2, 2015 12:04 PM

William writes:

John, you are right that it was unnecessary. But accepting that, do you expect a "scientist" to pretend that 0.04% is more "accurate" than 400ppm? What possible justification can there be? Ridley uses this sort of device habitually, even though he

must know it is nonsense. Or maybe he doesn't. Did that occur to you? I am surprised that doesn't bother you more than whether everyone with a science degree is a "scientist". I took high school physics - does that make me a physicist?

Posted July 2, 2015 12:57 PM

John Roesink writes:

William, I don't want to split hairs but his full quote is that it is a "more accurate way to describe it", not what you're implying, that it is more accurate as a number. I don't know if it is idiomatic for an Englishman but maybe he was trying to say that since people have more familiarity with percentages than parts per million it can convey a more intuitive sense of the quantity of CO2 in the atmosphere (not much). High school physics was compulsory for me, not sure for you, so I don't think that makes you a scientist any more than the pillows in the shape of my initials make me a "home economist" ;-). I think once you've gone through all that is involved in doctoral level coursework in the natural sciences, researched, written, and defended a dissertation, your chosen occupation doesn't diminish what you've accomplished in your academic career. In fact, good science writing and good science editing in popular media are an incredible service to society which is in short supply. I once read the following from the science editor of the New York Times: "Natural gas, which can even contain methane..." (I haven't regularly read the paper of record since...)

Posted July 2, 2015 2:04 PM

Jerm writes:

Isn't it much LESS accurate to use percentages instead of PPM when it comes to the makeup of a mix of gases?

(I also only have high school level of science education, but I'll throw in my two cents)

My understanding in this case is that O2 is "smaller" ("lighter"? "less bulky"?) than CO2, so a mixture of O2 and CO2 that has 400PPM of CO2 will actually contain more than 0.04% of CO2, depending on what the percentage is measuring.

Percentage would require more explanation of exactly what is being measured (mass? weight? population?), while PPM is a direct reference to the unit of measurement.

Posted July 2, 2015 3:19 PM

William writes:

John, I quoted the whole thing earlier; I didn't think it necessary to do so again, but if I must, he said: "0.04% or 0.07% is I think a more accurate way of describing it, but it doesn't sound so big". This contains both a misdirection (0.04% is not "a more accurate way of describing it" when you don't say what "it" is and when everyone listening who actually knows what you are talking about - a subset of listeners - knows that the Keeling curve and every other scientific discussion of CO2 uses ppm) and an accusation: that scientists deliberately use a large sounding quantity to deceive. That is not behaviour one would expect from someone who, as Russ hopes, is a "truth seeker". Neither is conflating the surface and satellite records or ignoring the fact that bad outcomes (3 or 4C) do not have very low probability just because truly disastrous outcomes (6C) do.

Russ are you not disappointed that someone you think of as seeking the truth takes such a circuitous path around it?

Posted July 2, 2015 3:34 PM

Robert Swan writes:

An enjoyable interview, though not many surprises. Up front I'll +1 on John Roesink's comments -- well said.

To those who think that fossil fuel producers are threatened by climate activism, besides what John Roesink said I'll add that some of these "evil" fossil fuel companies are on board with climate concern. Australian coal producers have been quite enthusiastic about carbon capture and storage. This is an opportunity for them to sell 30% more coal to generate the extra power to condense CO₂ out of the emissions and pump it away to "safety". They're on board, but as bootleggers, not as Baptists.

Paul Spring: you complain about "sowers of doubt". Doubters may "water" the doubts and help them grow in peoples' minds, but the doubts themselves are inherent in the problem. If it was well understood, there wouldn't be umpteen complicated computer models disagreeing with one another, would there? As I said in the Weitzmann comments, it is emphatically *not* basic physics. I say it never will be either. At best it will become a blended theoretical and empirical field like engineering, but there's still a long way to go even to get there. One last point, what do you mean when you say the ecological balance is "delicate"? I could agree if you mean "responsive to small changes", but I suspect you mean "fragile". If so, why?

William: This was a spoken interview and Ridley's were impromptu answers; sometimes the perfect word won't come to mind immediately. I'm sure he meant to get across that a percentage would be "more familiar" to the layman, thereby forming a "more accurate" image in his head. Rightly or wrongly, the layman would, I expect, find this more accurate image less worrying than the usual ppm figures.

I have read all the comments above, yours included. You accuse Ridley of a few sins, but they don't seem to amount to much. Certainly nothing as dodgy as treating trees as thermometers, or that a single tree can stand as a thermometer for the whole world. In any case, to me, his key points relate not to science but to policy.

In particular, I am with him 100% on putting extra money into R&D for efficient energy sources. Rolling out large scale wind and solar at their present mendicant level is a terrible waste. Do you disagree? Why?

Posted July 3, 2015 9:22 PM

William writes:

Robert, like Ridley, you can't stop yourself: "the layman would, I expect, find this **more accurate** image ...". It is not more accurate, it is an refinement of the "insignificant trace gas" type arguments preferred by skeptics before they realized such ignorant talk harmed their cause.

The talk about tree rings is another favourite skeptic dog whistle that starts with studies **over 15 years ago** by Michael Mann, the hate figure of all skeptics. More recent reconstructions find the same basic pattern as Mann. Mann at Penn State would be a good interview candidate, Russ.

You think Ridley's non-truth-seeking behaviour is trivial, but would it be necessary if he had a strong case?

Of course everyone supports putting extra money into research - it is like apple pie and motherhood. Governments can borrow at historically low rates right now, so it would make sense to borrow many extra billions for research. Is that what you and Ridley have in mind? That would be a refreshing change from the deficit cutting rhetoric we often hear from the right (Ridley is of the right, isn't he?). My guess though is that Ridley doesn't mean this at all, his purpose being just to oppose wind and solar.

Opposing the efficiency of solar is very odd. At 15-20% efficient (see [here](#)) it is comparable with the vast majority of petrol engined cars built to this date that have turned about 20% of the energy in petrol into motion. Does Ridley or do you think we should have stopped building cars until research could give us something better? Many traditional power stations do no better than 30% and then lose 5% and more

on transmission losses. Maybe, like accuracy before, efficiency is not the word Ridley was looking for.

Posted July 4, 2015 4:59 AM

Christopher Winter writes:

John writes: "Why don't they include all of earth's history? Because the data won't support their hypothesis. They ignore that for most of the earth's history (75 %) has been without ice on the polar caps and carbon dioxide levels at 6 to 72 percent higher than they are now and that is without man making it."

Your descriptions of prehistoric changes in climate are all true. But the truths you fail to mention are that only within the past 10,000 years, when temperatures and sea levels were remarkably stable, did human civilization develop, and only within the past 300 years did a global technological civilization with a good deal of its infrastructure at sea level arise. The sort of changes that occurred before would be very bad for that high-technology infrastructure and the people who depend on it.

Posted July 4, 2015 7:21 PM

Christopher Winter writes:

John Roesink writes: "2) The general credibility of research explicitly funded by oil companies as perceived by the public. If you spent a bunch of money on great research that showed there was no negative outcome from increased CO2 but you knew the general public was just going to throw that research on the rubbish pile, why would you spend the money?"

If there were research that showed "there was no negative outcome from increased CO2" — that AGW is false, in other words — why would the public "throw that research on the rubbish pile", as you put it? I for one would be very glad to hear about such research. I'm 99 percent certain that a great many other people would too.

I grant you that many companies would be cautious about funding that research, depending of course on the level of funding required. But I have a hard time believing that none of the hugely profitable oil companies would invest in it. ExxonMobil has over the years spent millions on bogus science in order to sow doubt about anthropogenic global warming (AGW). Why would they not spend even more on valid evidence showing it was wrong?

Perhaps you base your conclusion on the \$78 billion figure mentioned above, thinking that disproving the climate-change consensus would require a comparable amount. That's doubtful. Personally I would expect a figure 3 orders of magnitude lower to be the maximum (given the existence of any evidence at all against the reality of AGW).

Posted July 4, 2015 7:55 PM

Robert Swan writes:

William,

When Australia converted to the metric system, my local public swimming pool had its depth markings updated. I remember that the shallow end was (rather ridiculously) marked 914mm, where it had previously said 3'. The old units drew an accurate image, the new units drew a blank. In the mind of someone unfamiliar with ppm, 0.03% CO2 will indeed conjure a more accurate image than 300ppm CO2. Where I went on to say "rightly or wrongly ...", I was implying, as you did, that Ridley favours this wording for rhetorical reasons (in much the same way that we hear so much about "carbon pollution"). Agreed?

On your comment on tree rings, your earlier posting (July 2, 7:27 AM) suggests that it doesn't matter. Defending the indefensible with "check" is a handy, if shallow,

device. Anyhow, I agree that Mann could make for an interesting interview -- if he's game and Russ doesn't over-restrain himself.

On "non-truth-seeking", far from agreeing with your accusations, I simply said that they didn't amount to much. What is your definition of a truth seeker? Ridley is at least honest enough to admit he is prone to confirmation bias. As did Weitzman a few weeks ago (IIRC).

Ridley said explicitly that rather than rolling out inefficient and expensive wind energy right now, put the money into research. I agree. He said he is a Conservative member in the House of Lords; that would make him "of the Right" for people who believe politics is one-dimensional. In comments elsewhere I have recommended Kling's "Three Languages of Politics" (Econtalk or book) for a less simplistic view.

The energy efficiency of solar is a strange argument to make. Coal is generally more than 30% energy efficient (and up to 45% apparently), from this standpoint, you'd have to rate it much better than solar. And I don't know where you get your car petrol engine efficiency figures; 25-30% is more like what I've read, and much higher than that on the highway.

But I don't think it's the energy efficiency that matters to either side of the climate debate. Cost efficiency and CO2 intensity sound more like the metrics that should matter.

Sadly, the climate debate is probably not going to go down in history as having been ended by us, here at the Econtalk forum. I hope it will some day move on to why or why not someone is wrong, not whether or not they are evil. It's all very well to attack cartoon cutouts but, as with politics, people themselves are multi-dimensional.

Posted July 4, 2015 8:56 PM

Dallas Weaver Ph.D. writes:

The most important and least discussed factor in this whole global warming discussion is the huge thermal capacity of the oceans to temporarily store (on a multi-decade time scale) all the excess energy from the excess CO2 with a very small temperature change.

The driving forces are in the watts/M2 range and the heat capacity of the top 1000 meters of the ocean is the million watts hrs/M2/°C range. In other words, a minor change in ocean thermal mixing is a huge number that can effectively time shift any models that assumes the ocean mixing does not change, by decades.

For an economist, visualize a macro-economic model where there is source and sink for money many times larger than the GDP where the movements of money in and out are not known. Consider only having very recent and incomplete data on these flows with very limited accuracy ($\pm X$ times the annual economic growth with $X > 10$).

We don't know the long term 3D temperature/salinity information on the oceans.

Posted July 4, 2015 11:13 PM

William writes:

Robert, people will stop looking for evil motivation in Ridley (and those like him) when he adopts a more honest approach to the climate and energy debates. That will have to wait until he stops constantly repeating the same oft-corrected half truths as a kind of personal mission to prevent CO2 reductions and protect fossil fuels.

Where should the money for investment in research come from? Is Ridley suggesting that electricity surcharges now directed at renewables should just be redirected to

research? Or should governments borrow to fund research? Or should we just accept that whatever research is now ongoing is the right amount and wait for it to throw up some results (in which case advocating research is just advocating doing nothing)? People on the right repeat this "lets do more research" mantra so often that there must be some agreement on where the money will come from. So where?

Companies will fund research if they see a profit at some point. But imagine the invention of something that would compete with fossil fuels when produced at large scale, but that requires more billions of \$ than investors can provide to attain large enough scale production. According to the Ridley model that is still not good enough.

But that was essentially the problem faced by solar 20 years ago. The Germans made the funds available and now there is a global industry that in suitable places is competitive with fossil fuels. In what way is that a bad outcome?

Posted July 5, 2015 4:45 AM

osse writes:

"Sadly, the climate debate is probably not going to go down in history as having been ended by us, here at the Econtalk forum. I hope it will some day move on to why or why not someone is wrong, not whether or not they are evil."
Amen to that. I'd only add that all kinds of ad hominem arguments tend to rebound on those who make them. It suggests a failure to find any more convincing point to make.

Posted July 5, 2015 5:06 PM

Robert Swan writes:

William,

Like I said, I don't care to speculate on motivations. Right and wrong, good and bad, are independent axes. In this debate, what matters is right and wrong. Even if Ridley were out and out wrong on some of his points or garnished the truth a bit to strengthen his argument, that still wouldn't make everything he says a lie. In particular, I note you didn't deprecate Ridley's criticism of the CO₂->H₂O positive feedback loop (incidentally, this is the point that about 15 years ago inclined me to see the whole global warming scare as a beat-up). I've just had a look at The pertinent page at skepticscience. Underwhelming.

I am intrigued that you are so keen on solar -- to me it is bordering on immoral. Renters don't get to put solar panels on their roofs so they pay full whack for their electricity. Their landlord, meanwhile, can put a subsidised panel on his home roof and feed price protected power to the grid. As Ridley said about wind, this is nothing more than a regressive tax -- from poor to rich. I guess that marks Ridley and me as being of the pious left, and you get to line up with the odious plutocrats of the right.

Anyhow, we're neither of us going to convince the other on global warming, so that's enough for now. But do have a listen to [Kling's Econtalk](#) I mentioned earlier -- it's only about politics, not nearly so polarised.

Posted July 5, 2015 11:07 PM

William writes:

Robert, please say where the funding for all the new research you and Ridley favor would come from.

I'm not really that keen on domestic solar for the reason you indicate. But German organizations that campaign for the poor have been in favor of the Energiewende, so who am I to criticize. My priority would be improving efficiency. As for social justice, electricity prices are the least of the poor's worries.

What I don't like is the degree of opposition to renewables from the right. The fact

that this correlates so well with opposition to climate science make me skeptical. As for arguments for the poor from the right, I don't buy them for a minute.

I will listen to Kling. It looks interesting. As it happens I know something of how different groups think, as I was quite strongly of the right until recent years. I have moved strongly leftwards, partly as a result of living these years in a poor South American country and partly through discussing climate science and renewable energy online with their opponents.

Posted July 6, 2015 5:23 AM

John Roesink writes:

Robert- Great observation about renter vs landlord to which I would add the following. Fees to cover grid maintenance and low income energy assistance programs are funded off of the final assessed amount of a consumer's monthly bill. Net metering programs allow the residential solar producer to sell his power back to the grid at parity, the same price they're charged for just the power. This has the effect of reducing the effective "tax bill" of the person who is wealthy enough (or has a good enough credit score) to cover the upfront costs associated with buying or leasing rooftop solar. This lessened exposure to fees equates to 1) less money paid to maintain infrastructure 2) less money contributed to low income assistance programs. Since maintenance costs are born by the other rate payers and low income programs are structured to only distribute the funds they collect each year (no minimum funding requirement), the rich, white, yuppie who slaps a couple of Solar City PV panels on his roof and then brags to friends at his backyard BBQ that he's "saving the earth *and* saving money" is literally taking food out of the mouths of poor people right in his community. The effects of government interference in a marketplace seem to be boundless.

Second the comments on Kling. The book is an easy and very enjoyable read, too.

Posted July 6, 2015 12:12 PM

Robert Swan writes:

William,

If Ridley's suggestion were followed, the removal of subsidies for solar and wind farms would make plenty of money available to support research. Where the funding comes from seems rather less important than how it's structured. As John highlighted, government policies, especially the complicated ones, can lead to all sorts of unwanted consequences. Easy hand-outs would surely attract the bootleggers. Perhaps a number of suitable targets along the lines of Xprize would get things moving.

I won't rank the concerns of the poor for them, but even this least of their worries is still a worry (I'd have thought the scarcity of foie gras, or the thinness of the latest iPhone to be down the list from the cost of electricity). Since you mention "social justice", in a world where some children are born disabled, how do you define social justice?

Once again, you arbitrarily draw divisions into right and left and say that you don't "buy" arguments for the poor from the right. I agree that there are bootleggers; people who argue for the poor (or other worthy cause) but are not sincere. They're everywhere. Nevertheless, if their arguments are correct, they are correct; if they are wrong, it's up to you to say why they are wrong. Not doing so and merely questioning their sincerity puts your own sincerity in doubt.

I agree with John that Kling's book is \$2 well spent. It or the podcast might help attune you to a world more interesting than left/right, so I'm glad you're going to have a listen.

Not that it matters, my own values broadly align with Kling's libertarian axis, but are far from a perfect fit. I feel the government does have an important role in policing and defence (conservative axis), and also for looking after the disabled (progressive

axis). This last item I feel particularly strongly, and the way a society deals with its disabled is a mark of its civilisation. Neither the US nor Australia comes away looking too well on this score.

Posted July 6, 2015 10:45 PM

William writes:

Robert, removing solar/wind support doesn't direct any money at research. It reduces it - the companies now battling to offer bigger and better turbines or cheaper panels would no longer exist. A few prizes do nothing to compensate for the profit motive. As for availability of money, there is so much money available now that nobody knows what to do with it. Your "solution" is to do nothing.

This is an example of how ideas that are right, can at the same time be wrong. It is clearly right that we should be putting more into research but the ideas put forward make that less likely, or no more likely. The same way as the people who argue in favor of protecting the poor from additional costs are not serious as their political philosophy always seeks, for example, to deny the poor affordable health care or to cut social spending and welfare systems that protect the poor.

Posted July 7, 2015 3:24 AM

David Hurwitz writes:

There is a huge amount at stake here! We should get it together as a species, finally! Imagine that decision making based on this scientific issue may be driven by consideration of the size of the voting bloc favoring one position or another! Unlike macroeconomics perhaps, the truth of AGW will ultimately reveal itself. Whether the physics has caught up with the measurements and observables by then is another question. What if from hindsight AGW was indeed a cataclysmic threat, but due to the roughly evenly split consensus amongst the public we didn't act in time when maybe we could have saved ourselves from catastrophe? On the other hand, what if it turns out that AGW was not a major threat but draconian action was taken against the risk, and consequently we lost vast treasure unnecessarily that could have been better spent. In that case, perhaps the economies of the world would end up needlessly crippled, and freedom eroded, through the resultant regulation and economic disruption.

From what I have seen in the comments section, as reflective of the greater world, it seems that most people that feel strongly about the subject frequently believe that the other side is not following the evidence or reason. Therefore there is hope that if we find an adequate platform to expose the falsehood (as there will generally be when supposedly science based conclusions contradict each other) we can help advance civilization by providing infrastructure enabling wiser decisions based on sounder reason and evidence. On the Global Warming controversy it seems that the proponents of the differing positions probably feel that the other side couldn't bear intense scrutiny. They should get their chance.

This was another excellent Econtalk episode, and Mr. Ridley makes an excellent case for his position. To a young person without much knowledge of the subject I would think it would sound intelligent and compelling—but so might Al Gore's "An Inconvenient Truth." Surely we can't rely on listening to just one side of an issue before forming an opinion. However when we do listen to different sides we often just end up confused, because we don't know who to believe. Even watching various types of debates where the panelists have limited opportunity to respond to each other hasn't proven very helpful.

I believe it is the case that all past debate formats are structurally, as well as practically, ineffective as agents of positive change in resolving controversies, and that the broadband web has made possible the production of a spectacular transmogrified version capable of meeting all the requirements needed to expose provable falsehood in a highly visible way, and render it far less viable in the marketplace of ideas. That's something I've been trying to bring to fruition.

Posted July 7, 2015 8:45 PM

Robert Swan writes:

William,

Having said you were "not that keen on domestic solar", perhaps you would give your blessing to removing its subsidies for a start. Subsidies to large scale wind and solar won't do much for R&D into tidal, wave, geothermal, nuclear, or into energy storage possibilities. I doubt it even encourages R&D in wind and solar, beyond merely streamlining production of current deficient technologies. You concede they would be out of business without subsidies, so they are definitely farming subsidies as well as wind or sunlight. "Sustainable" is a popular word in the global warming context, but these businesses seem to be the opposite. Why is doing "nothing" not preferable to encouraging them?

You pooh pooh a graduated set of prizes. That's your prerogative, but the highly government funded NASA model hasn't yielded much progress in space exploration for a long time, so I for one am glad to see people trying different and relatively cheap approaches. I see that Xprize do indeed have some prizes for energy breakthroughs, so perhaps you'll join me in hoping you are wrong.

This conversation isn't heading anywhere. You seem unable to accept that a person's logical argument remains logical whether or not your political values differ. I hear Sir Isaac Newton was a pretty nasty fellow, and utterly wrong about alchemy too. In spite of this, it'd be foolish to discount all of the things he had to say about mechanics; calculus was also a pretty nifty thing.

The funny thing is that you're not on any surer ground avoiding the technical questions and arguing motivations, politics and psychology. On top of all the technical doubts I have about the supposed upcoming climate catastrophe, I also see the lack of conviction in the behaviour of the boosters (moving to sea-front houses, never promoting nuclear, etc.), and their eagerness to say "I know" when the truth is no more than "I think". Doesn't seem like ideal truth-seeker behaviour to me.

The Roth Econtalk is next in line on my player so I'll call it quits here and move on.

Posted July 7, 2015 9:52 PM

neil21 writes:

"One can't believe impossible things," said Alice. "I daresay you haven't had much practice," said the Queen. "When I was younger, I always did it for half an hour a day. Why, sometimes I've believed as many as six impossible things before breakfast."

I daresay Mr Ridley presented two misleading things before five minutes were up.

1. "In aggregate there has been more rainfall." And this statement, following last week's podcast about the folly of aggregates in Africa. The problem with climate weirding of course is flood and famine.

2. The false dichotomy of "fossil vs wood". Perhaps for the very-much developing world. For anywhere at the cellphone level of development, solar (PV) for electricity and solar (thermal, if required) for heat. And as an excuse for our developed world SUVs and coal power plants?! Chuck Marohn has appeared on your show explaining how car-minimising city designs are fiscally much more responsible, not to mention land value increasing and health-enhancing.

I listen on, in the hope of vigorous skepticism and intelligent debate...

Posted July 9, 2015 12:41 AM

neil21 writes:

At 7.40 the urban heat island effect is a throw-away explanation for global warming.

The focus on 'warming' thus far - as opposed to weirding, ocean-acidification etc. - is worrying. As if record snowfalls in small but politically important areas of the world will be used to counter record droughts/floods in poorer areas.

But on my favoured topic of urban design - if the urban heat island effect (aka wide streets and parking lots being baked in the sun - vs narrow streets and cooling trees) is the cause of global warming then shall we not now rush to retrofit/build human-scale cities of canals, narrow streets and trees?

Posted July 9, 2015 12:50 AM

neil21 writes:

I got lost but intrigued at 11minutes.

We were talking about water vapour being a GHG. And more fossil combusting, means more CO2, means more warming means more H2O-air means more warming. That much was agreed.

Now, again, no mention of ocean acidification. But ok.

His point was 3degrees wrong, 2degrees now the accepted likely max. Of additional water-vapour-induced warming.

So, 2 degrees globally is still kind of a big deal. And this is warming dampened by cloud cover. The way Vancouver this week has seen summer high temperatures dampened by ash cloud cover.

And acidic oceans?

It doesn't feel like a super duper rebuttal so far. And it doesn't feel very economics so far either.

I listen on...

Posted July 9, 2015 1:03 AM

neil21 writes:

At 15 minutes you've just run over a lot. Sunspots (the stuff of loons), ocean carbon sinks...

And your guest dismisses quite quickly.

I begin to worry that you are relying on his accent for credibility.

Posted July 9, 2015 1:10 AM

neil21 writes:

At 20 minutes

'the possibility that warming [still warming, not any other deleterious CO2 effects] will be dangerous is equivalent to possibility that asteroid strike or wind farms will be dangerous'

I fail to see the anti-walkability argument here. Or rather I fail to see the downside to the New Urbanism, the traditional urbanism - plus some panels on the roof and a battery in the basement. Quality of life seems unimpaired - if not improved, vs Phoenix sprawl - and if there are some CO2 benefits, so far so good.

Posted July 9, 2015 1:18 AM

neil21 writes:

"Nobody who was actually measuring the tree rings of bristlecone pine trees thought that bristlecone pine tree ring width reflected temperature. So that data shouldn't have been used."

Au contraire. Seems like the perfect naive dataset to me.

Posted July 9, 2015 1:33 AM

neil21 writes:

Your soliloquy Russ at 53mins is beautiful.

But uncertainty has been seeded by special interests.

And then your guest says: it wouldn't matter if this were costless. But walkable urbanism is costless! Not only costless, but higher ROI and QOL! (Return on Investment and Quality of Life, for the non-TLA crowd.)

Posted July 9, 2015 2:07 AM

neil21 writes:

"Well, I think the right response ... is ... putting a tax on carbon while lowering an income tax ... [and] reducing usage in developed countries that are rich relative to countries that are desperately trying to get out of poverty"

Sign. Me. Up.

Politically infeasible because intelligent media like won't give airtime to them, like you'll give airtime to unelected landowners with Harry Potter accents.

Posted July 9, 2015 2:14 AM

William writes:

Robert, the thing is that Ridley doesn't present a logical argument, he's just effectively saying, "I don't like renewables".

As for certainty, can you point to any scientific papers that are as certain about what will happen to climate as Ridley is? They all talk in probabilities. Ridley leaves little room for such messy uncertainty.

Posted July 9, 2015 3:42 AM

David Hurwitz writes:

I should have referred to the guest in my comment as "Dr. Ridley," not "Mr. Ridley." My apologies. I hope I am not further erring by using "Dr." versus "Lord" (which hopefully as an American I can be excused for).

Posted July 9, 2015 8:19 AM

Martin writes:

Russ,

Could I ask you to post a link to allow us to investigate further the issue of water

vapor?

Ridley said, "... *the models have an amplifying factor in there. ...In other words, if you warm up the earth by 1 degree, you will get more water vapor in the atmosphere, and that water vapor is itself a greenhouse gas and will cause you to treble the amount of warming you are getting.*"

I'd like to learn more about that issue. Thanks!

Posted July 10, 2015 1:25 AM

William writes:

Martin, water vapor is an important greenhouse gas (more important than CO2). But Ridley is probably wrong to say that "the models have an amplifying factor in there" as if they contain a number of 3 somewhere that amplifies warming from CO2. The value 3 is the so called climate sensitivity and is an emergent property of the models - meaning that it is a result of running the model, not an input to the model. See this link for some more information:
<http://www.skepticalscience.com/Evaporating-the-water-vapor-argument.html>

Posted July 10, 2015 9:32 AM

Greg Linster writes:

Ridley uses a version of an expected utility argument and misses Taleb's ruin argument. We don't get a do-over if the models are wrong or imprecise. He also conflates situations in which we have some control (e.g., carbon emissions) and those we don't (e.g., an alien attack, his example, not mine).

Posted July 10, 2015 11:40 PM

Tony Furse writes:

I would refer to one of our foremost scientists in this area, this paper goes into the problem with climate models overestimating sensitivity

Asia-Pacific J. Atmos. Sci., 47(4), 377-390, 2011

DOI:10.1007/s13143-011-0023-x

On the Observational Determination of Climate Sensitivity and Its Implications

Richard S. Lindzen

1

and Yong-Sang Choi

2

1

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(Manuscript received 23 February 2011; revised 22 May 2011; accepted 22 May 2011)

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Posted July 22, 2015 4:59 PM

Tony Furse writes:

An analysis of the overstatement of model climate sensitivity is in the following Lindzen Choi paper:

On the Observational Determination of Climate Sensitivity and Its Implications

Posted July 22, 2015 6:18 PM

Tony Furse writes:

Maybe third time lucky with the link to Lindzen-Choi paper on model climate sensitivity problems.

"With all corrections, the conclusion still appears to be that all current models seem to exaggerate climate sensitivity (some greatly). Moreover, we have shown why studies using simple regressions of Δ Flux on Δ SST serve poorly to determine feedbacks."

see <http://www-eaps.mit.edu/faculty/lindzen/236-Lindzen-Choi-2011.pdf>

[I've fixed the html for the link for you, Tony. --Econlib Ed.]

Posted July 22, 2015 10:25 PM

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