

TRANSCRIPT

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Guest: Gilbert Metcalf

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Gib Metcalf: I think we are obligated, those of us who care about the climate, to promote policies that will reduce emissions now, even if they're not necessarily our most desirable policies.

Rob Stavins: Welcome to [Environmental Insights](#), a podcast from the [Harvard Environmental Economics Program](#). I'm your host, Rob Stavins, a professor here at the [Harvard Kennedy School](#) and director of the Harvard Environmental Economics Program and the [Harvard Project on Climate Agreements](#). As listeners know in these podcast episodes, I engage in conversations with leading experts from academia, private industry, government, and NGOs, with our focus on environmental economics and policy frequently within the realm of climate change policy. And to today, we're fortunate to have with us, someone with experience in at least two of those sectors, academia and government, and someone who is exceptionally well qualified to talk about the economics of climate change policy. I'm referring to my longtime colleague and friend [Gib Metcalf](#), Professor of Economics at [Tufts University](#) in Medford, Massachusetts. And I'm pleased to say an associate scholar of the [Harvard Environmental Economics Program](#). Gib, welcome to Environmental Insights.

Gib Metcalf: Thank you, Rob. It's a pleasure to be here.

Rob Stavins: I'm very interested to hear your impressions about the economic dimensions of environmental and climate change policy. But before we talk about that, let's go back to how you came to be where you are and where you've been. Let's start with, where did you grow up?

Gib Metcalf: I grew up in northern New York in Watertown, New York. But I had a brief stint in Washington, D.C. while my father was in graduate school.

Rob Stavins: And then so primary school and high school were in upstate New York?

Gib Metcalf: Actually, I went to a boarding school in Delaware, a small Episcopal boarding school called St. Andrew's School.

Rob Stavins: And what was that experience like, was that good?

Gib Metcalf: That was a terrific experience. It's a small school, but everyone was expected to participate in everything. So I always thought of myself as good in school, but

not good in sports, but I ended up rowing on the crew and ended up actually rowing in the finals at Henley.

Rob Stavins: Wow. And then from there, did you go directly then to college?

Gib Metcalf: I went directly to Amherst College. That's right.

Rob Stavins: And there you studied mathematics if I have it correct?

Gib Metcalf: I Did. I vacillated between math and history and I ended up doing a lot of history. But I felt like the math was more challenging, so I went that route.

Rob Stavins: And then you graduated in 1976. Did you go on to graduate school right away or did you work for a bit?

Gib Metcalf: No, I actually became a bicycle mechanic. I ran a bike shop in Amherst Mass. with some friends and did that while I was also doing a fair amount of anti-nuclear organizing.

Rob Stavins: That all fits together somehow. Running a bike shop in Amherst, Massachusetts in the 1970s, you'd have to be doing anti-nuclear organizing to go with it.

Gib Metcalf: Well, that was a time when there was talk about building a nuclear power plant in Montague Mass., just north of Amherst. But that fizzled, but of course, all the action then was in Seabrook. And I was part of the Clamshell Alliance that among other things occupied the site.

Rob Stavins: Now after Amherst College and after being a bicycle mechanic, then you stayed in Amherst, but at the University of Massachusetts Amherst, is that right?

Gib Metcalf: Well, that's right. I drifted a bit. I ended up doing a fair amount of statewide anti-nuclear organizing. I started a statewide group that was fighting the sale of 20 percent of Seabrook to a consortium of municipally owned electric utilities. And in that process, I found myself going to town select meetings and light boards all across the state, debating with economists about whether there was going to be demand for electricity, and whether we needed Seabrook. And through that, it led to my entering a master's program in environmental economics at UMass.

Rob Stavins: And then you graduate from that in '84. Did you go directly on to your PhD at Harvard?

Gib Metcalf: I went directly on to... I actually finished in '82. I spent a year working for some faculty at UMass, and then entered Harvard in '84. I actually deferred a year. I should have come in, in '83, which is, I think when you came in.

Rob Stavins: Yeah, that's right.

Gib Metcalf: But I deferred because my wife and I, we were trying to get pregnant and we thought we would do that, have a child and then come to Harvard. But as luck would have it, we ended up having twins at my first semester at Harvard in 1984.

Rob Stavins: Certain things can't be perfectly planned alas. Tell us about your studies at Harvard in particular, your dissertation, your committee.

Gib Metcalf: So I went into Harvard thinking, "I'm going to do energy economics." But no one was really doing that there. And I stumbled into a job working as a research assistant for Marty Feldstein who had just come back from the [Council of Economic Advisers](#) as the chair. And that was just terrific. Marty was a fabulous mentor and advisor and I ended up doing state and local public finance. I kind of stumbled into it, working with him.

Rob Stavins: I never knew that. I knew that you had been working in public finance and I thought you discovered energy and environment later. It turns out energy environment came first, went into public finance, and then you returned to energy and environment.

Gib Metcalf: That's right. And I actually returned because there was a grad student who had come up to the NBER with Alan Auerbach, who was visiting. And it turned out he had been raised in Greenfield Mass. where I had lived and I knew his mother, and it turned out Kevin Hassett and I got to be friends and began to write a series of papers on energy economics.

Rob Stavins: Indeed. And including a paper I know well, that I'm going to actually get to. I'm interested to hear about that. But first let me find out, just to finish your professional trajectory. you graduate in 1988, is that right, from Harvard?

Gib Metcalf: That's right.

Rob Stavins: Same year I did. And then what was your first job out of school?

Gib Metcalf: I went to Princeton. I was an assistant professor in the Department of Economics there.

Rob Stavins: And how did you like that?

Gib Metcalf: It was a great learning experience. I had terrific colleagues, Harvey Rosen, Avinash Dixit, David Bradford, but I was really quite eager to get back to New England.

Rob Stavins: And you did that because you moved to Tufts as an assistant professor in '94?

Gib Metcalf: That's right.

Rob Stavins: And you've been there ever since, which is unusual among faculty. That's also characterized as me, I guess, but...

Gib Metcalf: Well, that's right. I've found Tufts University to be a very congenial place. I love being in the Boston academic community. And as you well know, it's a very quick trip to get down to D.C. if you want to do policy related work.

Rob Stavins: And speaking of quick trips to D.C., didn't you go off to Washington full-time for a while? Did you take a leave of absence?

Gib Metcalf: I did. I took a leave of absence in 2011 to become the Deputy Assistant Secretary for Energy and Environment at the Department of Treasury.

Rob Stavins: And what did you do there?

Gib Metcalf: I was in the international affairs division working under Lael Brainard, who's now at the Fed. And my job was to oversee Treasury's involvement in multilateral climate energy and environmental funds. People don't often know this, but the Department of Treasury is the overseer of any U.S. involvement in multilateral funds. Whether it's the World Bank, IMF, the Climate Investment Funds, whatever. We have oversight and that was my job. I had a staff and we participated in a variety of initiatives.

Rob Stavins: Now, you mentioned earlier, Kevin Hassett, who I believe, is he back at AEI now, is that right?

Gib Metcalf: I don't think he is. I'm not sure where he is now.

Rob Stavins: But for a while, he was at CEA, of course, in the Trump years, right?

Gib Metcalf: He, he was head of CEA in the Trump years. And before that, he was the Director of Economic Studies at AEI for many, many years.

Rob Stavins: Right. Now, when I looked at your CV to prepare for this conversation, the first energy publication that I could find in academic journals was indeed your '93 article with Kevin Hassett, which I think was really interesting and in many ways, pathbreaking. It was one of the first articles, if you put aside some work by Jerry Hausman many years earlier. Can you tell us about that briefly?

Gib Metcalf: You'll have to remind me which paper you're talking about, because I wrote a lot of papers with Kevin.

Rob Stavins: Oh, so I'm thinking of the one in which you were looking at household decisions regarding, I think it was the adoption of energy efficiency equipment, or maybe it was in home construction.

Gib Metcalf: So, we wrote a series of papers where we were trying to understand the energy paradox. Why is it that households are not investing in what looked like money-making investments to save energy. So you pay some additional money today, you save energy in the future, it's a savings investment.

Rob Stavins: And what did you find?

Gib Metcalf: And we brought a new sort of framing to it, which is that, while the investment you make today is a known amount, you know how much you have to pay for that more efficient furnace, the returns are uncertain because the returns depend on what happens to the price of energy. And so we adopted this option pricing framework that goes back... A lot of people who have worked in the finance literature and Dixon Pindyck wrote a book on this. And the point of that literature is that if there's uncertainty about the future returns, then in effect, you need a higher hurdle rate to make the investment.

Rob Stavins: And one of the reasons I say that that work is pathbreaking is just looking at the date of it. Because even now, I don't know if you continue to follow this literature, but even today, the energy paradox is still a focus of research, particularly from behavioral economists.

Gib Metcalf: That's right. And I have followed it, and been very interested in what the behavioral economist have found. And we can talk about my thoughts on that if you want. But I think there are a number... What I take away is that there are a number of reasons for why we have the energy paradox. There's no one answer that entirely explains it. But I think our uncertainty argument was one issue, but I think the behavioral is also an important aspect.

Rob Stavins: Right. And I certainly agree that there are a number of different factors. In fact, Richard Newell and I think Todd Gerarden and I but maybe was someone else, but at least Richard Newell. And I had an article in *The Journal of Economic Literature* when we looked exactly that. It summarized work in a workshop at Harvard that you participated in. I don't know if you remember that.

Gib Metcalf: I do remember that.

Rob Stavins: But tell me, you alluded to your thoughts about the behavioral work. I'd love to hear that.

Gib Metcalf: Well, I think the behavioral work is really, really interesting, but I think it's also a bit discouraging in the sense that if you look at sort of the benefit-cost ratio for any kind of nudge or other kind of information, I'll say nudge. A nudge type policy to overcome behavioral obstacles. You find that the benefit-cost ratios are huge per dollar of costs. The problem is, the costs are incredibly small. And I think that the energy savings are quite small in most of these experiments. So while I think a lot of this literature is quite interesting, but I don't think it tells us much that's going to help us reduce energy consumption dramatically.

- Rob Stavins: So is the point there then that although there is a high ratio of benefits to cost that both, but the overall calculation, the overall issue and the perception by consumers is that it's just trivial?
- Gib Metcalf: Well, I think the benefits from these nudges are pretty small and in terms of the increase savings and the costs are pretty small. So the net benefits net of cost are going to be small.
- Rob Stavins: Right. I'm going to now jump ahead to much more recent work of yours, and that's on climate change policy, which is not recent in terms of your attention to it. But what I'm referring to is a book I'm going to recommend to our listeners, "[Paying for Pollution: Why a Carbon Tax is Good for America.](#)" It came out in 2019 from Oxford University Press. Can you start us off here just by giving us a brief overview, if that's fair to ask you, I know it's like asking you which of your children do you like best, but a brief overview, the scope of the book, your methods of analysis, and maybe some key insights or conclusions that came from that work.
- Gib Metcalf: Well, the book is really an effort to write in non-technical language what the problem is, why we should care about it, why a carbon tax is a good solution, comparing it to some of the other possible policies out there. When I wrote the book, I made a point to include no formulas, no equations in the text and very few figures, because I really wanted it to be something that... My vision was that an aid to a senator or a congressman would have this book. So when his or her boss came into the office and said, "So what's this thing about a carbon tax? What do I need to know?", then the aid could pull my book off the shelf and answer his or her questions.
- Rob Stavins: And so what stood out to you? I mean, in writing it, although partly it was summarizing research you had already done. You must have learned a lot in writing the book. What stands out from that in terms of some insights or conclusions that came to you?
- Gib Metcalf: Well, the first insight was it's really, really hard to write a book without equations. We're so used to the shorthand of mathematics and to write things that my English major father could understand is difficult. But I think what I really took away from the book is both the clarity with which it makes sense to put a price on carbon, but the difficult politics of it. That it's just incredibly challenging.
- Rob Stavins: And that takes me to something that transpired just earlier, I think was earlier this week, no last week. And we were in a symposium together, alas a remote symposium via Zoom, in which I think you said something like, I'm probably not getting this perfectly correct. That economists are spending too much time focusing exclusively on carbon pricing, meaning carbon taxes or cap-and-trade. They really need to begin to work to help the political process in terms of non-pricing policies, what economists would alas refer to as second best approaches. Is that a fair characterization? If not, please, correct me.

Gib Metcalf: Well, it's a bit more nuanced. I mean, I am a firm believer that we should do the most efficient policies possible, and I think carbon pricing is precisely the way to do that. I prefer a carbon tax to cap-and-trade, I think for a number of reasons. But I think politically I can see an argument for cap-and-trade. But the political environment is such that, that's just not going to happen. And meanwhile, the concentration of greenhouse gases in the atmosphere continues to rise. So given, that I think we are obligated, those of us who care about the climate, to promote policies that will reduce emissions now, even if they're not necessarily our most desirable policies.

Rob Stavins: And what would be example of those sorts of policies?

Gib Metcalf: Well, unfortunately given the political environment we're in at the moment, it will be unilateral policies by the administration because Congress is simply not going to act. That's one level. So that means doing as much through regulatory policy as possible, even though that's quite challenging given some recent decisions by the Supreme Court and in fact, their willingness to potentially take on the Chevron decision. But it also means working at the state level and pushing policies there. I think actually what's going to be most promising and where we're going to end up doing the most is in spending money. And it's going to be spending money through R&D. And let me come back to that in a minute, because I have some thoughts on that, but also through tax subsidies, through production and investment tax credits. And I think we should use those as much as we can.

Rob Stavins: I mean, there is tremendous congressional resistance in this area, but one thing that's true about both Democrats and even today's breed of Republicans is that they vastly prefer giving out benefits to costs. And so subsidies are popular and in fact, the infrastructure bill does contain some climate friendly elements and the reconciliation bill has this \$555 billion of climate...what are essentially subsidies, which normally economists are quite critical of compared to a policy that would not necessarily be affecting government expenditures, but is a carbon tax or as you said, a cap-and-trade system.

Gib Metcalf: Well, that's right. And in thinking about, say production tax credits, which have been enormously influential for wind investment, one recommendation I would make, which is, I don't believe has made it into these bills. I wrote a policy brief on this, this past summer, is that if you look at the production tax credit gives a roughly two and a half cent per kilowatt hour tax credit for wind generated for the first 10 years of a project. And my recommendation is that we ought to tie that tax credit to the social cost of carbon. Today, if I did a rough calculation in that policy brief, and that would essentially, given the official social cost of carbon numbers that the Biden Administration is using, that would be about a two and a half cent per kilowatt hour production tax credit. So it doesn't change the credit now, but as the social cost of carbon rises over time, then the production tax credit should rise over time.

Rob Stavins: And it appears that this inter-agency task force that Biden set up to review the interim estimate of the social cost of carbon by I think the end of January 2022, they're going to probably come up with a number partly as a result of lowering the discount rate, which is approximately double or even more what the interim measure is of the social cost of carbon.

Gib Metcalf: That's right. And I think that means we should be doubling the production tax credit.

Rob Stavins: Now, you mentioned that because of the challenges in the Congress, this administration, as the Obama Administration did, is likely to have to resort to actions that they can do unilaterally, which would be regulations and also executive orders of other kinds, but as I think you alluded to in terms of the courts, regulations or rule makings during the Biden years are likely to be subject to successful legal challenge, more likely than they were during the Obama Administration because Mr. Trump appointed 225 federal judges, that's more than 25% of the federal judiciary. And perhaps more importantly, in what I think you were keying in on, three conservative justices for a six-three conservative majority, and one which seems to favor a literal reading of statutes giving less flexibility for the interpretation of a statute in "innovative ways" to the Congress.

Gib Metcalf: I see the regulatory approach certainly through the [Clean Air Act](#) is going to be fraught and will be subject to great legal challenge. I see less of a problem. You may know more about this than I do Rob, but I see less of a problem with fuel economy standards ratcheting those up. So we can do something in transportation. We're going to have to use, I think we'll use tax credits in the electricity sector instead of regulation and perhaps we'll do the same in buildings, but that gets to the third leg of what I would call a policy tripod in a third best world, which is R&D spending. And here, I think the R&D spending really needs to be focused on the technologies that have the greatest potential to lower the cost of clean energy. There's a [really interesting paper](#) that Jim Stock and Ken Gillingham wrote a few years ago, where they sort of differentiate between sort of static and dynamic policy efficiency. The static being, what your cost effectiveness of a policy, your emission reductions per dollar for a particular policy. And the dynamic one sort of focuses on which policy is going to give us the greatest likelihood of reducing the cost of clean energy in the future. And I think that's really where we need to focus.

Rob Stavins: And with climate change, which is a long-term problem, that approach of thinking about the effect of a policy on bringing down the costs of carbon reductions over time is extremely important.

Gib Metcalf: It's critical. Absolutely critical.

Rob Stavins: Now, some people, just to finish up on the courts, some legal scholars and commentators have suggested that the [Chevron Doctrine](#), which has been around down for, I think about 30 years if not more, in which the courts and the

Supreme Court gives deference to agencies' interpretations, could actually be overturned. Is that an excessively pessimistic thought?

Gib Metcalf: Well, it's a pessimistic thought, but I think it's a realistic thought. I do see that as a risk. But I'm not a lawyer, so I don't know what that will mean at the end of the day, but I think our experience so far has been that the regulatory approach is a slow one that is subject to a lot of sand in the gears through legal challenges.

Rob Stavins: Well, one of the things that could quite possibly mean would be that the conclusion by the current and the Obama Administration, that the article of the [Clean Air Act](#) focusing on localized air pollution could apply to carbon dioxide and climate change, that might be in trouble. That interpretation, that's the entire basis for action under the [Clean Air Act](#) on climate.

Gib Metcalf: But it is striking that even if that doesn't get overturned, the Obama initiative with the [Clean Power Plan](#) went nowhere.

Rob Stavins: Yes. And that was before the demise of Justice Scalia that the Supreme Court intervened and placed a stay on the [Clean Power Plan](#). So that was without these three justices that are on the Supreme Court now. That is a difficult route. I agree with you completely. Can I finish up, because we're running close to the end of our time together. Something that's been striking with regards to climate change and climate change policy broadly conceived, have been the youth movements of climate activism in Europe and in the United States, particularly in 2019, and then we saw a bit of a hiatus in 2020 because of the pandemic, but then it came back again in force, certainly at Glasgow this year at COP26. I'm interested in, as a former youth activist yourself as you described back in the bicycle repair days, what's your reaction to these youth movements on climate change?

Gib Metcalf: It's interesting. My views have really changed. Ten years ago, I think I looked at groups like 351.org that were focused on pipeline and some of the other movements and thought they were kind of a side show, and that the climate talks and the negotiations were really the important things happening at these COP meetings. I've actually changed my mind entirely. And to me, I'm more pessimistic about where the negotiations will get us given the urgency of action. But the youth movements, Greta Thunberg and others, are really, to me, incredibly important in that they are driving public opinion and bringing media attention to the problem, in a way that I think is extremely valuable. So I see them as just absolutely essential.

Rob Stavins: I mean, I think an interesting question there is, and I agree with you. My views and my reactions to it have also evolved in the same direction over that same period of time. But I think an interesting question is, whether or not we're seeing an age effect or a cohort effect. So, ten years from now, if it's purely an age effect, then these people are going to be somewhat more conservative as they age and may be thinking about other issues. If it's a cohort effect, they're

going to retain their strong views, their commitments, and rather than being demonstrating across the street from the negotiations at the annual Conference of the Parties, they'll be the delegations inside the Conference of the Parties.

Gib Metcalf: So the one thing that encourages me that this is a cohort effect rather than simply an age effect is the self-interest. If you go back to the anti-Vietnam protestors, John Kerry and others back in the '60s and '70s, they had a real stake in the game because they could go off to Vietnam. And I think the current youth movements see a very clear stake for themselves in terms of the damages that we're seeing in the world today because of climate change. So I think that gives them a more enduring stake that may outlast their youth.

Rob Stavins: Well, that's a very encouraging and hopeful point and wish on which to end. And I hope you're right. We are going to bring this to a close with that. Thank you very, Gib, for taking time to join us today.

Gib Metcalf: Well, it's been a pleasure, Rob. Thank you.

Rob Stavins: Our guest today has been [Gib Metcalf](#), Professor of Economics at [Tufts University](#). Please join us for the next episode of [Environmental Insights: Conversations on Policy and Practice](#) from the [Harvard Environmental Economics Program](#). I'm your host, [Rob Stavins](#). Thanks for listening.

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