

## TRANSCRIPT

### Environmental Insights

**Guest:** Catherine Wolfram

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**Catherine Wolfram:** I would not call carbon pricing dead. I could see it coming back in some form. Maybe not the economy-wide carbon price that textbooks favor, but maybe something that starts on a more limited scale.

**Robert 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 Environmental Economics Program. Although many people in our global audience for this podcast series might think that little has been happening in the United States and in the climate and energy policy realms, the past few years have actually been a very busy time with some progress made, albeit surely limited by domestic political realities. Today, to talk about this and other matters and place it all in an economic perspective, we're fortunate to have with us [Catherine Wolfram](#), the Cora Jane Flood Professor of Business Administration at the [Haas School of Business](#) at the [University of California](#), currently on leave as the visiting Raymond Plank Professor of Public Policy at my own institution, the [Harvard Kennedy School](#) here in Cambridge, Massachusetts. Welcome, Catherine to Environmental Insights.

**Catherine Wolfram:** Thanks so much, Rob. Great to be here.

**Robert Stavins:** So, in a few minutes, I'm eager to hear your thoughts about energy and climate change policy, and for that matter, how they relate to trade policy, but first, let's go back to how you came to be where you are. So where did you grow up?

**Catherine Wolfram:** I grew up in Minnesota, the Twin Cities.

**Robert Stavins:** The Twin Cities, and does that mean primary and high school there?

**Catherine Wolfram:** It means through eighth grade, and then my parents moved away, and I ended up going to boarding school. My dad was a professor and he was visiting at Cornell and didn't know whether he would stay in my ninth grade year, so I was sent to boarding school.

**Robert Stavins:** I've come to appreciate through this series the tremendous professional serial correlation there is with academics, because time and time again, I wind up learning that one of my guests who's a professor, that one or both of their parents were also academics. So, you joined that group.

**Catherine Wolfram:** Yeah. I think that I've seen some statistics about how that's unusually the case for economists, that economists are even more likely to have academics as parents.

**Robert Stavins:** Oh, is that right? So that's why I've seen it so much then in this podcast series.

**Catherine Wolfram:** Yeah. That could be.

**Robert Stavins:** So, then you moved off to college at Harvard, is that right?

**Catherine Wolfram:** Yep.

**Robert Stavins:** And you studied economics and graduated from Harvard College with a bachelor's degree in 1989?

**Catherine Wolfram:** Yep. That's right.

**Robert Stavins:** And so that means that you're a youngin', at least relative to me because one year earlier in 1988, I had already joined the faculty at the Kennedy School having graduated with a PhD. But you went for your PhD to a different institution in Cambridge.

**Catherine Wolfram:** That's right. I went to MIT. Actually, after I graduated from college, I worked for a couple years so that was a little bit unusual at that time, not to go straight through to a PhD program, but I found it super valuable. I actually worked for the Department of Public Utilities in Massachusetts, the regulator for the energy sector, and learned a ton, both about economics but also about the politics of energy regulation.

**Robert Stavins:** And so, what was your function at the Department of Public Utilities?

**Catherine Wolfram:** I was a rate analyst, so I would review filings that the utilities put in for requests for rate increases and would go to the hearings. And really, I have made this case to a number of undergrads. I think if you go into government straight out of undergrad, you get a lot of responsibility. Basically, if you're capable and willing to put in the work, there are a lot of things to do so you're given responsibility.

**Robert Stavins:** And as a rate analyst at a public utilities commission, you were at the sweet spot of their responsibility and activity?

**Catherine Wolfram:** Yeah, there was a lot going on. There was a lot going on both in terms of rates and also energy efficiency was a big deal and people were talking about energy efficiency programs, so I learned a ton and really had a blast.

**Robert Stavins:** And then went back to school, as you said, at MIT, did a PhD in economics. What was your dissertation on?

**Catherine Wolfram:** My dissertation was on the British electricity industry. It was kind of a conversation stopper at cocktail parties for a little while, but then the California energy crisis hit and I was able to tell people, "Well, Britain did the same thing as California but didn't have a crisis."

**Robert Stavins:** And who were your dissertation advisors?

**Catherine Wolfram:** Paul Jaskow was my student advisor. Also Nancy Rose, and I spoke to Dick Schmalensee as well. I basically went to grad school knowing I wanted to work with Paul so everything worked out as planned.

**Robert Stavins:** And both Paul and Dick separately have been previous guests on this podcast series. So what was your first position out of graduate school?

**Catherine Wolfram:** Out of graduate school, I was hired at the Harvard Economics Department as an assistant professor and spent four years there before I moved to UC Berkeley.

**Robert Stavins:** So, you're at Harvard through 2000, is that that right?

**Catherine Wolfram:** Yep.

**Robert Stavins:** And then you go on directly to the Haas School at UC Berkeley,

**Catherine Wolfram:** Yep, that's right.

**Robert Stavins:** And you have remained there essentially ever since with some leaves of absence we'll talk about. So obviously, it's a place that suits you and you suit them.

**Catherine Wolfram:** Yeah. No, we moved across the country with a two-month-old and now have a 22-year-old.

**Robert Stavins:** Wow.

**Catherine Wolfram:** Yep. It's been a good run at Berkeley.

**Robert Stavins:** Now, along that way, those couple of decades, you took time out for government service from 2021 to 2022 as Deputy Assistant Secretary for Climate and Energy Economics at the US Department of the Treasury. How did that come about?

**Catherine Wolfram:** That basically came about because I reached out to Janet Yellen. I saw that she had been appointed to be Secretary of Treasury and I knew that some of our colleagues in the past had served a role in Treasury that was related to energy and environment. So Billy Pizer had that role, Gib Metcalf and Matt Katchen, so I basically reached out to Secretary Yellen as we refer to her at the Treasury, and said, "I know there's been this position. I know it disappeared in the Trump

administration but if you think about reinstating it, I'd love to be considered for the position."

**Robert Stavins:** Oh, that's marvelous. Now, tell me, of your time there, can you refer to one high point, and maybe as well what might be as interesting, one low point?

**Catherine Wolfram:** Sure. The high points were pretty high, I would say. I had a wonderful time there. It was really the honor and thrill of a lifetime. Again, I would highly recommend government service to anybody who's interested. I would say the high point was definitely the work on the price cap on Russian oil. That was the main thing that I spent time on in the last 10 months of my time at Treasury, and was absolutely fascinating from so many different perspectives. For one, I learned a lot about foreign diplomacy, or I guess I should say that I observed foreign diplomacy in action. I'm not sure that I could do it in the same way that the people that I was with were able to get things done, but really a super rewarding professional experience.

**Robert Stavins:** Now, those people who were engaged in diplomacy, were they within the Treasury Department or were these people in the state or some other part of the government?

**Catherine Wolfram:** Yeah, so Treasury worked with State, but the people I worked most closely with and the people I'm thinking of were the people at Treasury. So, I did a lot of work with the Assistant Secretary for Terrorism Financing and Financial Crimes, a woman named Liz Rosenberg, with Wally Adeyamo, the Deputy Secretary. He was very involved and I traveled abroad with him a couple of times, and just seeing Secretary Yellen in action, she's a real amazing leader.

**Robert Stavins:** With an incredible number of contributions in different parts of the government over several administrations. It's a remarkable career.

**Catherine Wolfram:** Yeah, the trifecta.

**Robert Stavins:** Yes, exactly.

**Catherine Wolfram:** [inaudible 00:09:22] Secretary of the Treasury.

**Robert Stavins:** So that was a high point, and it sounds like a very high high point. What about a low point during your experience there?

**Catherine Wolfram:** I got a little bit frustrated. I hadn't realized before I went to government just how deep the rift is between the progressives and the economists. I got the sense that there were some people who would rather see no climate action than see a carbon price, that absolutely just despise the idea of a carbon price. So I was very supported and felt very in sync with colleagues at Treasury for sure but did not always see eye to eye with other colleagues in the administration.

**Robert Stavins:** So, these were people who were not necessarily in the Department of Treasury but in other departments and agencies?

**Catherine Wolfram:** Yeah.

**Robert Stavins:** So that's a high point and a low point of your time in government. I'm sure we could talk about it for easily an hour, but let's turn to your scholarship and your activity in the scholarly world of energy and environmental economics. I know this is an unfair question, like asking you about your favorite child, but I always like to ask this. What's the one research publication that you are most proud of, Catherine?

**Catherine Wolfram:** Yeah, so I've listened to your podcast in the past and I knew that this question was coming. It is like picking your favorite child, which is cruel. So, I did love my job market paper, my dissertation topic, but I think probably the one that I will talk about for these purposes is [a paper](#) that I wrote with Ken Lee and Ted Miguel on rural electrification in Kenya. And I guess I made a pivot in my research career and really became more and more interested in studying energy use in the developing world, and so that was the first big paper that we wrote, that I wrote with Ted Miguel and Ken Lee. And I guess I'm kind of proud of the pivot that I made to studying energy in the developing world because when I started work on that project with Ken and Ted, it was 2012. There really weren't that many people in the energy and environment space that we're working in development, and there weren't that many people in the development economics community working on energy.

**Robert Stavins:** Now that you've mentioned that paper, I bet there are a number of listeners who would like to obtain a copy. What's the best way for them to locate it?

**Catherine Wolfram:** So, it came out in the *Journal of Political Economy*. It should be linked from my website, although I must admit, I haven't checked in a little while. But get it from the JPE website or from...

**Robert Stavins:** And do you remember what year it came out?

**Catherine Wolfram:** Oh God.

**Robert Stavins:** In the JPE?

**Catherine Wolfram:** I think 2019, but it might be 2020. It's 2019 plus or minus a year or two.

**Robert Stavins:** That's good enough for the purpose of people locating it. So let's turn to the current world of US policy. So tell me particularly, what's your reaction to something we've seen in the Biden Administration's climate change policy, which is the [Inflation Reduction Act](#). It's a very important part of it. What's your assessment?

**Catherine Wolfram:** The [Inflation Reduction Act](#), I would say going into government, I was going to Treasury, and who would've known that Treasury would be basically the central clearinghouse for all of the really important, not all but a lot of the really important energy and environmental issues. We talked about the price cap and then I would say that the Inflation Reduction Act was certainly the kind of momentous climate policy issue. And as you know, a lot of the Inflation Reduction Act is being implemented through tax credits, and that's treasury's purview, so it was not my office within Treasury, it was another office, the Office of Tax Policy, but I was definitely in a lot of meetings about what started out as the Build Back Better Act and became the Inflation Reduction Act. So, that was really fun to see and is certainly a momentous piece of legislation.

**Robert Stavins:** Now, historically, and perhaps traditionally or conventionally, economists have favored carbon pricing policies as a way to address climate change, but on the stick side as opposed to the carrot side, in other words, taxes or cap and trade systems, not subsidies. And yet, we're now seeing that subsidies are playing a very important role in US climate change policy, and from what I've been reading, it looks like they're going to very soon in EU and UK climate change policy. What's your thinking on that?

**Catherine Wolfram:** I think there's some people who draw the conclusion that the fact that Inflation Reduction Act passed and involved subsidies means that, as you said, the whole world might shift to subsidies. I don't take that lesson. I basically think the Inflation Reduction Act passed because Joe Manchin wanted it to pass, and so we can't draw a grand theoretical conclusion about the political economy of subsidies versus taxes. All we learn about is basically one person, Joe Manchin's preferences, and if Joe Manchin had been a different person and had favored a carbon price, I think we would've had a carbon price.

So I know that the EU and the UK are talking about subsidies in response to the Inflation Reduction Act and we can talk about these important climate and trade issues, but yeah, subsidies are expensive. I see even potentially going forward in the US that as fiscal constraints bind, as interest rates go up, maybe I'm being the dumb economist that keeps beating her head against the same wall but I would not call carbon pricing dead. I could see it coming back in some form, maybe not the economy-wide carbon price that textbooks favor but maybe something that starts, for instance, with the industrial sector but that starts on a more limited scale.

**Robert Stavins:** And the IRA does include a tax, namely the methane fee.

**Catherine Wolfram:** It does. The methane fee, as soon as the EPA writes regulations on methane, the methane fee will phase out, but yeah, I think that that's important, that as long as something isn't touching customers directly, that even our Congress can do a carbon price or a greenhouse gas emissions price.

**Robert Stavins:** Now, from what I saw, even once the regulations are in place, the methane fee would still apply for any sources that themselves are not in compliance with the regulations. Isn't that the intention?

**Catherine Wolfram:** Yeah, that sounds right. That sounds right.

**Robert Stavins:** Okay. Okay. So you mentioned trade and environment international trade, and I know you're interested in that area. And I know you're writing an interesting paper with Kimberly Clausing from UCLA. I'd like to just ask a basic question because this is way outside of my area, and that is do you see climate policy and trade policy as complimentary or as antagonistic or of something between? What's your perception and assessment?

**Catherine Wolfram:** Yeah, that's a great question. I actually think that policymakers have a choice, that they can do things that will make them complimentary. I think they could be very complimentary but they could also do things that will make them at odds with one another.

**Robert Stavins:** Can you give us an example of both of those?

**Catherine Wolfram:** An example of complimentary, that the world consumes or traded... Or sorry. 25% of the emissions are tied to traded goods, and so for instance, think about right now, we talked about methane. Let's go down the methane hole a little bit. So Iran and Iraq are really big methane emitters in their production of oil and natural gas, and I don't really see a way to get those governments to pay attention to their methane emissions without doing something about their exports.

**Robert Stavins:** I see.

**Catherine Wolfram:** Something like a border adjustment where we say we don't want to import oil or natural gas from Iran and Iraq unless the governments find a way to get the oil producers and the natural gas producers to clean up their act and reduce the methane emissions associated with those exports. So I think that's where countries, all the countries that have signed the global methane pledge can collectively get together and use their power as consumers and international trade to affect change in countries where we might not otherwise see change.

**Robert Stavins:** So, an MBAM essentially.

**Catherine Wolfram:** Yeah. Or it doesn't necessarily have to be a price adjustment. We could say until Iran and Iraq have regulations in place or until some kind of threshold is met, then we don't want to import from them. I don't want to go too deep into what the regulations or mechanism would look like but I think there are a couple of different options.

**Robert Stavins:** So that's a great example of how trade policy and climate policy can be complimentary. What about how they might unfortunately become antagonistic?

**Catherine Wolfram:** So, I worry about this subsidy versus taxation issue. So right now, I would say that the EU and the US are equally ambitious, both on track to hopefully meet our nationally determined contributions. But the fact that we're taking the subsidy route and they are... They've subsidized in the past but they also have a pretty high price on carbon through the European Union's emission trading system. So I guess I worry that there's a future that evolves where the European Union gets pressure from its industry and loses enthusiasm for its carbon price, and so the competitive pressures from industry that are seeing these subsidies over in the US and thinking of moving to the US, that that causes the EU to backtrack on climate policy, just because we have these different approaches to reducing emissions. Ours subsidizes. That's attractive to industry. Theirs taxes. That's not as attractive to industry.

**Robert Stavins:** So, putting those together, and much more broadly actually, are you left being optimistic or pessimistic about future progress on climate change policy? I'm thinking both in the United States, but just as importantly or more importantly, globally.

**Catherine Wolfram:** I tend to be an optimist I think by nature, so I'm optimistic that we can figure things out and work together with the European Union. Coming back to the price cap, this might not seem like a natural analogy but I really saw the power of people working together and foreign diplomacy, so I think if the G7 countries can get together and figure out how to put a price cap on Russian oil, so hopefully, the G7 countries can get together and figure out good ways to use their presence in the international trade community to address climate change.

**Robert Stavins:** It's striking, Catherine, that your time in government is a source of optimism, whereas sometimes, one would think that people that spend a short time in government, it might make them pessimistic, but it did quite the opposite for you.

**Catherine Wolfram:** Hopefully, that's not a one-off experience. I really had fun and saw the diligence of the people that devote their careers to government, and I remain optimistic about the power of diplomacy.

**Robert Stavins:** So that naturally leads to my final question, which I ask you both as a scholar in this area, as someone now with substantial experience in government, and also on a personal level as a parent, and that is what's your reaction to the youth movements of climate activism? Starting in the year 2019 approximately, we saw a tremendous rise in activism from students, and I'm not talking just about Greta Thunberg but much more broadly, largely in the United States. In Europe, it went into hiatus somewhat with the pandemic, but then in 2022, it was back and quite prominent, both in terms of demonstrations in Europe, in the United States. What's your reaction to these youth movements of climate activism?



**Catherine Wolfram:** Yeah, I think that's another thing that gives me optimism. I guess I feel like we're not going to address climate change unless we just insist that policymakers pay attention to it. And I feel like if it takes throwing tomato juice at paintings or Greta Thunberg sailing across the Atlantic, I think that's just holding everyone's feet to the fire and insisting that we make this an important principal topic of our attention.

**Robert Stavins:** And then what I always wonder, and I'm interested in your reaction to this, is whether this current generation of youth activists, whether this is a cohort effect or an age effect. As these people get older, rather than demonstrating outside of the climate negotiations, will they be the negotiators inside the negotiation? Or is it an age effect and as they get older, they will become more conservative and be less concerned? What's your best guess on that?

**Catherine Wolfram:** Oh, I think it's probably a little bit of both. I do think that as you get older, you get more jaded. You've seen things happen, you're less inspired maybe to change the world. But I also think that as the people who are in their early twenties now, the Gen Z-ers of the world, my kids, as they got older, the effects of climate change are that much more pronounced and I doubt they'll lose their zeal. I think it's going to depend on how successful we are over the next five, 10 years, responding to their calls for action. Because if we don't, I think it's not going to take an activist. I think everyone's going to be focused on the effects of climate change.

**Robert Stavins:** Well, that's a very good place to bring our conversation to a close, both with a note of optimism and also encouragement for the youth movements of climate activism. So thank you very much, Catherine, for having taken time to join me today.

**Catherine Wolfram:** My pleasure. Thanks for having me.

**Robert Stavins:** So, our guest today has been [Catherine Wolfram](#), the Cora Jane Flood Professor of Business Administration at the [Haas School of Business](#) at the [University of California](#), currently on leave as a visiting professor here at the Harvard Kennedy School. Please join us again 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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