

## TRANSCRIPT

### Environmental Insights

Guest: Maureen Cropper

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<https://tinyurl.com/4en7advz>

Maureen Cropper: I do think that there has been momentum to further the cause of estimating and using the social cost of carbon.

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 our Environmental Economics Program. Today, we are very fortunate to have with us [Maureen Cropper](#), who needs little introduction for this podcast, but I will note that she is Distinguished University Professor, [University of Maryland](#); Senior Fellow, [Resources for the Future](#). She's a member, and a very active member at that, of the [National Academy of Sciences](#) and a fellow of the [Association of Environmental and Resource Economists](#). She's a member of the Board of Directors of the [Society for Benefit Cost Analysis](#) and a former member of the Board of [Resources for the Future](#). In addition to all of that, she was previously Chair of the Environmental Economics Advisory Committee of the [US-EPA Science Advisory Board](#), President of the [Association of Environmental and Resource Economists](#), a member of numerous editorial and advisory boards and the author of some 100 articles. Just going through that I'm getting exhausted. Welcome, Maureen.

Maureen Cropper: Thank you very much, Rob. I'm delighted that you've asked me to be here. I am.

Rob Stavins: Well, we're delighted to have you. Before we talk about some of your research and your current thinking about an environmental and resource policy, let's go back to how you came to be where you are. Where did you grow up?

Maureen Cropper: I was born in Jersey City, New Jersey, and grew up there till I was 10 years old. The family moved to Manhasset, Long Island where I went to Manhasset High School. The most famous graduate, of course, at Manhasset High School is Jim Brown, the football player.

Rob Stavins: Huh.

Maureen Cropper: Yes, of the Cleveland Browns. But I enjoyed that very much. And then I went on to [Bryn Mawr College](#).

Rob Stavins: And at Bryn Mawr you studied economics, is that right?

Maureen Cropper: That's correct.

Rob Stavins: And when you were studying economics at Bryn Mawr, were you already thinking of environment or did that come later? Just in graduate school?

Maureen Cropper: Actually, environment didn't come until my first academic appointment, which was at the [University of California, Riverside](#). I majored in economics when I was in college. I very much enjoyed my professors at Bryn Mawr – Phillip Bell, Mort Baratz, Richard DuBoff. They were great professors. I applied to Cornell for graduate school and went there. But when I was at Cornell, I was doing really more monetary theory.

Rob Stavins: Oh really?

Maureen Cropper: Yes.

Rob Stavins: I was going to guess that when you said it wasn't environment, I was going to guess public economics or IO, but monetary theory.

Maureen Cropper: Yeah. My dissertation was bank portfolio selection with stochastic deposit flows.

Rob Stavins: Wow.

Maureen Cropper: Yes. And I-

Rob Stavins: Very interesting.

Maureen Cropper: I got a job offer from the NYU Business School, but I wound up going to UC Riverside because it was a joint job market search with me and my partner at the time. And luckily my partner had actually been acquainted with Ralph d'Arge, so we were lucky to get appointments at the University of California, Riverside at the time Ralph d'Arge was there. Tom Crocker, Bill Schulze, and Jim Wilen were graduate students. And this is also when the Journal of [Environmental Economics and Management](#) was started. It was started in 1974. I arrived at Riverside in '73 and that's when I became an environmental economist.

Rob Stavins: And so from Riverside where you became an environmental economist, as you said, you then went on to USC, is that correct?

Maureen Cropper: Right. What happened was Ralph and Tom went to the University of Wyoming, which was great for the University of Wyoming, and Bill Schulze and Jim Wilen went on their careers.

Rob Stavins: Right.

Maureen Cropper: The department at that time, once they left, was predominantly a Marxian department.

Rob Stavins: Oh.

Maureen Cropper: Bill Schulze had gone to USC as an assistant professor and I had the opportunity to go there too. And it was something I just couldn't turn down.

Rob Stavins: And then you stayed there and then eventually went on to the University of Maryland where you've obviously spent a tremendous amount of time.

Maureen Cropper: My partner did not get tenure at Riverside, so we were on the job market together. And luckily for me, I received an offer from Maryland and I have been there for over 40 years. Yeah, absolutely.

Rob Stavins: As assistant associate and full professor and now University Distinguished Professor on top of all of that. Now, along the way at some point you spent a substantial period of time as lead economist in the research department of the [World Bank](#), if I don't have that wrong. If that's correct, I hope it is.

Maureen Cropper: Yes.

Rob Stavins: Can you tell us about that? How did that come about and what was the experience like?

Maureen Cropper: How did I get there? Well, I should say, first of all that, when I was at Maryland, I also began an affiliation with Resources for the Future, so that actually came before the [World Bank](#). I was a Gilbert White Fellow at [Resources for the Future](#), which had a huge effect on my career. But then in 1993, Nancy Birdsall asked if I would join the research department at the World Bank, which was also a wonderful opportunity. I took a year off from Maryland, joined, as they call it, DECRG, the research department. And then after that year, I was a part-time person at the World Bank, a part-time economist at the World Bank, and also on an academic appointment at Maryland. Yeah, that's how it happened.

Rob Stavins: You mentioned RFF, when you first went there was Bob Fri the president?

Maureen Cropper: Actually, I think this was before Bob Fri's time.

Rob Stavins: Okay.

Maureen Cropper: Because that was 1986. We'd have to look it up to see exactly who was president then, but Paul Portney was certainly a big figure at RFF and also a big figure in my life. Yeah.

Rob Stavins: Yeah. My first exposure of RFF was when I was on the job market for newly minted PhDs, which was in 1988. And when I went there, I think Bob Fri was

president. Paul was I think vice president and then Ray Cobb maybe he was also a vice president. I don't know. But I remember that well. Before we turn to your own scholarship, someone that I believe you probably knew very well among all these great foundational figures from environmental economics, Rick Freeman sadly passed away in February. And I wonder if you could share with us your own thoughts about Rick and his contributions.

Maureen Cropper: I would be happy to, Rob. I was saddened to hear that Rick passed away on February 6th. I interacted with Rick, as you said, through RFF. If I look back on it, I think Rick's biggest contributions really were his books. He certainly wrote important research articles, but his book on measuring environmental values, I hope I have the title correct, has really taught dozens, perhaps hundreds or more, economists...

Rob Stavins: Yes.

Maureen Cropper: ... Non-market valuation, helped them to launch benefit cost analyses of environmental regulations, which Rick himself actually undertook. He was doing benefit cost analysis of the Clean Air and Clean Water Acts in the early 1980s. I think his biggest contributions really are in the books that he wrote, primarily "Measuring Environmental Values." Also, Rick really did serve on many committees, consulted at the World Bank. He really had a huge impact on non-market valuation. And I think it's fair to say that he really helped to shape that field.

Rob Stavins: That's certainly true. I remember that book in a couple of editions. The most recent one, was it co-authored or edited with Cathy Kling perhaps?

Maureen Cropper: Cathy Kling and Joe Herriges-

Rob Stavins: Ah.

Maureen Cropper: ... Actually came on board...because I think the original version came out in 1979. It was quite a while ago. And so they helped to update some of the methods. It's still a wonderful book. It's something that I refer graduate students to. Absolutely.

Rob Stavins: Yeah, I have bookshelves on the wall and then there's a credenza behind my desk in my office, which is where books are that I would go to regularly. And that book is there and it's been there the entire time since I did my Ph.D. It is a tremendous, tremendous reference. Well, let's get into environmental economics, but before we get to some of your own work, what I'm interested in hearing about is your commentary on the tremendous changes that have taken place in the scholarly world of environmental economics, certainly since the time you were at Riverside. Are there particular changes or trends in the scholarship of environmental economics that stand out to you?

Maureen Cropper: Well, one thing that's happened in environmental economics definitely is the move towards more empirical work, towards adopting what I would say are the quasi experimental methods that have been championed and moved forward by economists. If I think about the balance, let's say, between people doing work that would be considered theory versus economists and environmental economists who are doing empirical work, I would say that the balance really has shifted. There has been a lot more attention given, especially as time has gone by, on the use of big data to evaluate environmental programs. I think that has been a trend that really is quite remarkable and is actually a good trend. It's very appropriate to answer certain questions.

Rob Stavins: Yeah. It's certainly the case that there have been spillovers of methodology and ways of thinking from environmental economics to other areas of economics. And then there have also been spillovers from other parts of economics, like a lot of use of randomized control trials into environmental economics, particularly in environmental issues in developing countries, I find, where at least a lot of our Ph.D. students, they seem to be using RCTs in developing country contexts.

Maureen Cropper: Yes, that's definitely true. It's certainly the case also, well, as you know, together with Joe Aldy, Max Auffhammer, Dick Morganstern, and Art Frost, we wrote a review piece that's going to come out in March in the *Journal of Economic Literature*, which is actually looking at the Clean Air Act after 50 years. We focus in that article really on the use of quasi-experimental methods to evaluate really the benefits and costs of the Clean Air Act. And I think that when we think about what has happened in terms of ex-post studies using newly available data sources, in some cases perhaps RCTs, although I think in the case of the papers that we reviewed it was really more using state of the art, quasi-experimental methods as opposed to RCTs. But if you think about the state that environmental economics was in, let's say even in 1980, it's hard to imagine these studies all having been written, how should we say it, back in 1980. The fact that there is this large body of literature, I think, does attest to the way that environmental economics has moved with the profession.

Rob Stavins: It's interesting that you mentioned you have this coauthored paper coming out on reflecting back on the Clean Air Act. My recollection is that some years ago, not very many years ago, Rick Freeman wrote an article that was in, I don't remember if it was the JEL or the JEP. I think it was one of those, but I'm not positive, in which he was reflecting back on the, I don't know if it was the benefits of just the Clean Air Act or it was broader, the benefits of environmental protection looking at the various statutes under which the federal government operates.

Maureen Cropper: I know that he did this. As I said, I actually was writing a few paragraphs in his honor the other day and was surprised to see that he had done work on the benefits and costs of both the Clean Air and Clean Water acts back in the 80s.

Rob Stavins: Yeah.

Maureen Cropper: In terms of a more recent evaluation, I'm not sure if I know exactly the one that you're referring to, but he was actually one of the first people, I think, to suggest that perhaps in the case of the Clean Water Act, that the benefits fell short of the costs.

Rob Stavins: Right.

Maureen Cropper: Which is something, of course that's been studied a lot since then and by people like Joe Shapiro and David Keiser. I'm not sure exactly the most recent piece you're referring to by Rick, but he certainly was somebody who really encouraged people to do benefit cost analyses. And when you think of this early work that I think actually was published in 1982, this really precedes the Section 812 studies that were done by EPA or any really large-scale work. I would say Rick was really in on the ground floor encouraging people to do these studies.

Rob Stavins: Well, if I can dredge up the reference that I'm thinking of, I will certainly add it to the written materials that go along with these podcasts, but for now, however, before we turn to environmental resource policy, I would love it if you could reflect on the entire body of your research and writing. Now, I know this is like asking you to identify your favorite child, but what's the one research publication that you are most proud of?

Maureen Cropper: That's a tough question. One thing I must say is that I am really proud of having combined forces with epidemiologists, toxicologists, atmospheric chemists, people in other areas who have done work to document the health effects of air pollution, other forms of pollution as well, but primarily air pollution. And actually what I look at the [Lancet Commission Report on Pollution and Health](#), which came out, I believe, in 2017, this was an effort that was started by Phil Landrigan, a well-known epidemiologist, Rich Fuller, who founded an NGO, [Pure Earth](#), with the goal actually of trying to clean up contaminated sites in developing countries. And what they put together was a Lancet Commission Report, which leaned heavily on estimates of health effects from the Global Burden of Disease Team at the [Institute for Health Metrics and Evaluation](#), but they actually saw fit to have economists, and in this case it was Alan Krupnick and myself, quantify the health costs associated with pollution.

And you may not say, well, this is not original research or something that's going to be published in the JPE or the QJE and so forth. But I think when you think of something having an impact, a lot of what I've done has been to try and measure the benefits of environmental improvements or the damage environmental damages if you don't do anything to clean up the problem. And you do this, I think, ultimately in terms of policy, to have people really take a look at these issues. And I must say that the work that I've done, I would say probably over the past five or so years, starting with the Lancet Commission Report, but also recently working as one of the state level collaborators on air pollution for India to quantify, again, the health impacts in this case of indoor and outdoor air pollution state by state in India, and looking at the economic costs of this, I think that these are things that ultimately do have an impact on

policy. And so if you ask me again about something that I think really has been impactful, that's what I would answer.

Rob Stavins: You've taken us now into the world of public policy. And so let's stay with that for the moment. Can you tell me what's your assessment? We have a relatively new US administration. It's been in place, the Biden Administration, for not much more than a year after a very different previous administration in terms of environment, the Trump Administration. What's your assessment of the current US administration's environmental and resource policy? Any aspects of it that you're particularly following?

Maureen Cropper: Well, as you know, the area that I pay the most attention to is the social cost of carbon. But unfortunately, given the ruling, which has in some sense, put the brakes on the advancement of the social cost of carbon, which of course, members of the Biden Administration have been working on very hard to update and which was supposed to be released in February or March 2022. In spite of that ruling, I do think that there has been momentum to further the cause of estimating and using the social cost of carbon. After all, on Biden's first day, he actually reinstated the Interagency Working Group, which had been disbanded by President Trump and really announced that we were going to make progress in revising the social cost of carbon. I do think that a lot has been done along those lines. Although, as I say, what we see and how it's used may be affected, is likely to be affected, I'm not a lawyer, by recent rulings.

Rob Stavins: You mentioned the social cost of carbon, just for those who are listening and who are not familiar with it, that's referring to essentially the present discounted value of the future stream of damages discounted back to some specific year of emissions that are released in that given year. Apparently it may be increased as a result of the new interagency task force. They may lower the discount rate from three percent to two percent and make some other changes as well and take it from its current value. I believe the interim value is 52 dollars a ton, Maureen, is that right?

Maureen Cropper: Correct.

Rob Stavins: And double it. It could come out at 100 dollars a ton or considerably more than that. No?

Maureen Cropper: Well, it certainly could come out at more than that. If you took the analysis that was done, and essentially this was done before President Trump took office, and you change the discount rate from three percent to two percent, it would raise the 52 dollars to 120 some dollars.

Rob Stavins: Right.

Maureen Cropper: Okay. And if you were to also make other changes in the bottling of emissions to temperature and other impacts on climate, if you were to change the damage

function, you certainly could raise this. There's a Brookings paper actually by colleagues at RFF. I was not part of them, so I'm just citing their results which I think are important, which actually by updating certain components of the analysis came up with a value that was, I believe, something like 179 dollars per ton basing everything on or tying everything to a current discount rate of about two percent. Certainly I think it's very likely that a revised value could certainly approach 200 dollars. It would be something that would be much larger than 50.

Rob Stavins: Speaking of the social cost of carbon, which obviously is associated with global climate change, can you tell me, where are you in the spectrum of optimism to pessimism about progress on climate change policy, both in the United States and for that matter around the world?

Maureen Cropper: Well, Rob, I'm not sure I'm the right person to ask about what's happening with international climate policy.

Rob Stavins: Well then focus on US. That's more than enough.

Maureen Cropper: With regard to the US in terms of keeping up with, I guess, the implications of current policies, from a great distance I'm not very optimistic. I think the person really to ask these questions of would be actually somebody like your colleague, Joe Aldy. As I say, I've focused on the social cost of carbon. I've also focused a lot on Indian policies as you know, over the last few years. And well, I don't want to make too many comments there, but I guess I'm not particularly optimistic about the rate at which greenhouse gas emissions are being reduced.

Rob Stavins: No, that's reasonable. Finally, I want to ask for your personal reaction and it doesn't require any deep knowledge. And that's something that we've seen that's really changed are these youth movements of climate activism. They were striking for the first time in the US and Europe in 2019, a bit of a hiatus during the pandemic, and then came to the fore again particularly in Glasgow at [COP-26](#). What's your personal reaction? It can be as an economist or as a mother, as an individual, in any way you'd like. What's your reaction to these youth movements of climate activism that we see today?

Maureen Cropper: Well, I think it's wonderful to see people, full stop, but especially young people be interested in doing something and getting behind this. And one hopes that as they mature and as the next generation grows up, that they will indeed have different attitudes. You asked as a mother, so I have four children and a stepchild and three grandchildren. And I actually do see the attitudes that they have which really are very encouraging to me in terms of what's happening in the country as a whole. I'm really not in the position, I guess, to comment on that, except that it does seem like a very good indicator perhaps, or bellwether one hopes of things to come.

Rob Stavins: And the uncertainty you express there, I assume is associated with the question of whether this is an age effect or a cohort effect. As this group of young people

become older and move into positions of power, will they become more conservative and less focused on this issue? Or will they take forward this strong activism? And instead of being out in the streets outside of the UNFCCC negotiations, they'll be inside as the negotiators. Do you have any thoughts on the age versus cohort phenomena? What do you expect there?

Maureen Cropper: Well, I certainly hope that it is a cohort phenomenon and not just an age phenomenon, but as I say, this is a little bit outside of my sphere of knowledge. All I can say is I really hope that these young people going forward will continue to have the attitudes that they do now.

Rob Stavins: Well, that's an optimistic note of hope on which to end. Thank you, Maureen, for having taken time to join us today.

Maureen Cropper: Thank you very much for inviting me.

Rob Stavins: Our guest today has been [Maureen Cropper](#), Distinguished University Professor of Economics at the [University of Maryland](#). 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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