

## TRANSCRIPT

### Environmental Insights

**Guest:** Hunt Allcott

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- Hunt Allcott:** We live in a country that is very unequal, in a world that is very, very unequal. And so as we think about policy design and policy evaluation, it feels crucial to think about equity and really put that at the highest part of the list of considerations we're interested in.
- 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 program. When examining environmental energy and climate change policy, the methods and the topics of behavioral economics sometimes arise. And in this podcast series, we've had an opportunity to talk about such research in regard at least to energy efficiency policies with Michael Greenstone and a few others. And today I have an opportunity to talk about this with someone who is very much a behavioral economist, and now on the faculty of a school that's focused on environmental studies. I'm referring to [Hunt Allcott](#), who is Professor of Global Environmental Policy at the [Doerr School of Sustainability](#) at [Stanford University](#), and who, I'm proud to say, is a graduate of the Ph.D. program in public policy at Harvard. Welcome, Hunt, to [Environmental Insights](#).
- Hunt Allcott:** Thank you, and it's great to be here.
- Rob Stavins:** So, before we talk about your research and your thinking about environmental and energy policy, which I'm eager to do, something that our listeners tell me they always enjoy is that I'm going to get a bit into your background. So, tell me, first of all, where did you grow up?
- Hunt Allcott:** I grew up in Eugene, Oregon, track capital of the world.
- Rob Stavins:** So, does that mean that your parents were faculty members? I think of Eugene in terms of the university, but maybe...
- Hunt Allcott:** We have a great university in Eugene, but my folks are actually not professors. My dad's a physician. My mom is a retired psychologist, clinical psychologist. What I have attempted to inherit from them is a practicality of the world in thinking about the world, which came from my dad being a doctor, and also caring about making the world a better place for other people, which I think comes from both my dad and my mom and their Quaker background, Quaker religious background. And so, I think those two things transformed me into being interested in environmental economics.

**Rob Stavins:** So, does that mean primary school and high school in Eugene?

**Hunt Allcott:** Correct.

**Rob Stavins:** And then you went south to Stanford, where you studied energy engineering. Do I have that right?

**Hunt Allcott:** You have that exactly right.

**Rob Stavins:** And now you did it simultaneously. With receiving the bachelor's degree, you also got an MS degree, and I think it used to be called, what was it, Energy and Engineering Economic Systems? A program that doesn't still exist, but I remember it well.

**Hunt Allcott:** That's right. It used to be called Engineering Economic Systems and Operations Research. It merged, actually, I think right before I did the master's degree there, and it's now called Management Science and Engineering.

**Rob Stavins:** So, from there you went on to graduate school. Was that right away, or was there something in between Stanford and Harvard?

**Hunt Allcott:** There was something in between Stanford and Harvard. I worked for two years as a consultant for Cambridge Energy Research Associates.

**Rob Stavins:** Oh, I know them well. Yeah.

**Hunt Allcott:** Yeah. It is what it sounds like. It's a consulting company that does energy market modeling and strategy consulting. It was founded by Dan Yergin. And I spent two years there writing the models that we use to simulate electricity prices in the future, and in particular how those prices could be affected by environmental policy. So, I was there between 2002 and 2004, and we were thinking through the longer-run implications of the Clean Air Act Amendments of 1990, and how the sulfur dioxide permit prices would evolve, thinking about NOx permit prices. And then we had these different scenarios about what would happen with climate change policy. And I remember we had a scenario in 2002 that there was a carbon cap and trade starting in 2005. That was our shades of green scenario.

**Rob Stavins:** Indeed.

**Hunt Allcott:** But then we went less green from there, and turned out the less green scenarios would've been correct.

**Rob Stavins:** So, Dan Yergin himself is also a past guest on this podcast series. I don't know if you know this, but Dan Yergin actually, long before I was at the Kennedy School, he was a faculty member. I think he was a lecturer at the school when he coauthored "Energy Future," which was a best-selling book at the time. In any

event, so after being at CERA, then you made your way to Harvard for the Ph.D. in public policy. I always ask my guests, so I'll do it this time as well, about your dissertation topic and your committee.

**Hunt Allcott:** Well, my dissertation committee chair is someone who is also on this podcast named Rob Stavins. I also studied with Sendhil Mullainathan, the behavioral economist, Bill Hogan, the electricity market expert at the Kennedy School, and Erich Muehlegger, who has since moved to University of California Davis, but is an industrial organization specialist.

**Rob Stavins:** Tell us about your dissertation.

**Hunt Allcott:** So, my dissertation, if I recall correctly, was titled "Consumer Behavior and Business Strategy in Energy Markets." And really, the key part of it was a model of how real time pricing would affect market equilibria. And so, as you know well, Rob, since the 1970s, at least people have been interested in having electricity prices that retail consumers would be exposed to that reflected the hour-to-hour or minute-to-minute wholesale market price. And despite the economic efficiency benefits of that, when I was doing my dissertation, and still to this day, it remains true that most consumers are paying a flat tariff that doesn't depend on the wholesale market price. So, then the question is, if you went to real-time pricing, how would that affect and potentially increase market efficiency?

And so part of that calculation was a randomized experiment that I evaluated where some consumers were exposed to real-time prices and you can estimate the demand elasticity, and then we connected that to a model of wholesale markets that incorporated several factors. One is if demand becomes more elastic, then the power plants that are bidding into wholesale markets have less market power, and so they bid closer to marginal cost. That's an improvement in efficiency. Second is just given the bids and the plants that are in the market, if you have more demand response, that generates short-run efficiency. And then the final aspect of the dissertation was as you have real-time pricing, that means you don't need as many power plants to enter to supply electricity at those peak times. And so my work was intended to basically, in one coherent framework, calculate all those benefits from real-time pricing.

**Rob Stavins:** And so, you completed your work and graduated in 2009, and then you moved a short distance as a postdoc to MIT. Is that right?

**Hunt Allcott:** That is correct, and two years at MIT.

**Rob Stavins:** And did you actually defer, you had already had an offer and accepted an offer, assistant professorship at NYU, and then you deferred for two years? Am I right about that? I don't remember now.

**Hunt Allcott:** That's exactly right.

**Rob Stavins:** It is, yeah. Which has now become... I may have been surprised at the time you did it, but now it has certainly become the standard practice. People go on the market sometimes just for a postdoc, but typically they'll go also for assistant professorships and if they get one, an offer that they like, they'll accept it, and then request a deferral, which makes a lot of sense, of course.

**Hunt Allcott:** Exactly. Exactly. And it was a great situation because I got to spend two years at this other place learning from folks at MIT before I moved on to my teaching job.

**Rob Stavins:** And then so at NYU, you were there, let's say 2000, I guess the appointment starts in 2009, but you joined in 2011, something like that?

**Hunt Allcott:** I joined in person in 2011. That's right,

**Rob Stavins:** 2011. And then you stayed there, assistant associate professor with tenure. And you stayed until what year?

**Hunt Allcott:** Roughly 2020. I transitioned over a period to working at Microsoft Research back up in Boston, as you know.

**Rob Stavins:** Now that I want to hear about because that's... So listeners to this podcast, they're familiar with someone talking about various colleges or universities at which they taught, but not about someone being at a research laboratory like Microsoft Research. So can you tell us about that?

**Hunt Allcott:** Yeah. It was a tremendous experience. So, Microsoft Research, as it sounds like, is the R&D division of Microsoft, but it is more academic than the R&D divisions of pretty much any other company that I can think of. I think one model for it could be Bell Labs. So hire people who they think are exceptional, and then point them in the direction or give people the incentives to work on things that could make money for the company, but in practice from day to day, there's a feeling that there's a lot of flexibility in terms of what to work on. And so I arrived at Microsoft, and like everyone else in that lab, continued really trying to focus on producing academic research.

**Rob Stavins:** It's interesting you mentioned Bell Labs. Before you even mentioned it, I was thinking this sounds like Bell Labs. And the reason that strikes me as interesting or ironic is that Bell Labs is often held up as an example of how it is that monopolies, in this case AT&T and Western Electric, can have the luxury of taking some of their profits instead of returning them to shareholders or putting them into lower prices for products. Instead, they can simply, as monopolies, spend them on something else, whether it's funding the ballet or it's funding research. And Bell Labs, which in fact did research in astrophysics quite remarkably and made some important breakthroughs. So I don't know what that says about Microsoft Corporation, but that's the story that's often told about Bell Labs.

**Hunt Allcott:** Totally. And I think as you're suggesting, there's different ways of viewing that that are positive or negative. One view is you should have just lowered prices. Another view is given that you have these revenues, it's great that you're contributing to public goods through research and innovation. I think part of the view may be that the existence of Microsoft research and that creation of public goods also helps forestall regulatory action in various domains, gives the company a good name.

**Rob Stavins:** Right, right. Well, another graduate of the PhD in public policy at Harvard, I think it was in one of the essays, in his thesis, he actually looked at what are the factors, what are the characteristics of corporations that explain which ones go beyond the required threshold in pollution emissions reductions, and actually sacrifice profits in the social interest, as one might refer to it. And not surprisingly, he found out that the most important characteristic was the inverse of the degree of concentration in the industry. So the ones that were monopolists or near-monopolists, they could afford to do that, the others couldn't. So the producers in highly competitive markets for commodities, for example, did not. Now, so that's until 2022. And then you move on to what is a very new school at Stanford. So what's that like?

**Hunt Allcott:** It's been great. So I am in, as you said earlier, Stanford's new School of Sustainability, which started officially in September, 2022. Here's a piece of trivia. So there are 60 existing faculty members that were moved into that school as part of earth systems, energy systems, civil engineering, some other departments. I was actually amazingly the first external hire of this school to reach through the provost and actually show up on campus. And so I've been here for, I guess, 15, 16 months so far, and it's just been a great experience trying to help Stanford have an even bigger imprint in this space of impact on energy and environmental issues.

**Rob Stavins:** Now, your work, although this podcast is obviously focused on energy, environment, climate change and the like, your work as I followed it, as a behavioral economist, has been considerably broader than the environmental energy sphere, even if maybe that's where a majority of it has been, I don't know. So I want you to take a broad view when you answer the following question. And that is, what's the one piece of your research that you are most proud of, and if possible, one, not the top three?

**Hunt Allcott:** Well, that's a fun question, and thanks for asking it. I do think my work on energy efficiency and consumer protection is some of the work that I'm most proud of. And so let me give your listeners a little bit of background on how the energy efficiency and consumer protection are related. So we have a number of energy efficiency programs in the US. Fuel economy standards, and then utilities have subsidies for energy-efficient air conditioners and light bulbs and home retrofits, and then their federal government home building standards and efficiency standards for appliances, etc. So we have this whole suite of energy efficiency programs.

And one reason why we do this is because when we use less energy, that's good for the environment. But another reason that features prominently in a lot of the discourse is that it's at least partly about consumer protection. So the idea being when you go to the car lot to buy a car or you go to the store to buy an air conditioner, you're not thinking about the fact that in addition to the purchase price of this thing, you're also going to have to buy the electricity or gasoline for this good that you're buying.

And so it's like what behavioral economists call a shrouded attribute. It's a future cost that's kind of easy to forget when you're making a purchase decision. And so if it's actually true that consumers aren't thinking very hard about these future energy costs, then we're probably erring on the side of buying too many gas guzzling cars and energy guzzling air conditioners and light bulbs. And so as a result, the government can make us better off by pushing us in the direction of being more energy efficient. And so that had been in the discussion since the '70s, both in the policy discussion and in the academic discussion. It was fun for me to then work with a group of others to develop actual empirical tests of, okay, how would you substantiate those consumer protection arguments in the data? So that's some of the work that I'm most proud of.

**Rob Stavins:** And to relate that to the policy world, at least in the United States, is that recent iterations of CAFE standards and the recent CO2 emission standards, which many people call essentially standards to require electric vehicles, a substantial part of the benefits are not climate change policy benefits or even localized air pollution particulate benefits. They're precisely what you're saying, saving consumers money because of the fact that they weren't making the "right" choices otherwise.

**Hunt Allcott:** Indeed, and it's really amazing, as you know well, Rob, to read the regulatory impact analyses of these fuel economy standards. Because they run the models, and they show all these benefits, and some of the benefits are environmental benefits, but then some of the benefits are net benefits to consumers. And then they sort of walk through, okay, what are the reasons why the market is not already making the cars that we, the EPA, think that consumers should want? And a prominent explanation that they put forward had been that consumers were not paying attention to gas cost savings.

**Rob Stavins:** Right. The answer to why are consumers not paying attention to those prices, that's sort of almost a definition of what numerous publications of yours are really about, which leads me to ask you a question because it's something I skipped over, and that is, remember, not all of our listeners are economists, and so this phrase, behavioral economics, which I introduced into our discussion in the first minute, I think we ought to define it. So I'd like to ask you, what's your definition, for a non-economist, of behavioral economics?

**Hunt Allcott:** There are various definitions. A definition that I would propose is relevant for this podcast is just people who don't act in their own long-term best interest.

And so just to give a couple examples, we've already talked about one, a consumer who doesn't think about the future energy costs from an air conditioner or a car and thus buys a gas guzzler that she wouldn't have bought if she were thinking fully about the future gas costs. So that's one example, but there are many other very familiar examples. We might not exercise as much as we should because it's hard to motivate ourselves to think about the future benefits of exercise, or we might eat too much dessert or too much steak. Smoking cigarettes, getting addicted to various kinds of drugs. Social media addiction would be another example, a potential example of doing something in the moment that, upon reflection, with full information and fully thinking about those long-term costs, something that we might not actually.

**Rob Stavins:**

So I think probably Dick Cooper, in the economics department, international economist, was probably alive and well when you were at Harvard, and I remember standing with him, you may have been in the conversation, but standing with him at the Harvard Faculty Club having a glass of wine before a dinner, and somehow the topic of behavioral economics came up. Now, Dick was very much, given his age profile, he was from a much earlier era of economics, and yet what he said is, well, behavioral economics is going to disappear. It won't exist as a field in 20 years, because behavioral economics is simply good economics, which I found that quite remarkable that he said that. I've retained that in my mind, and I wonder at what point is behavioral economics so integrated into first year microeconomic theory, into every field course, that there is no reason to have a separate course which you call behavioral?

**Hunt Allcott:**

Yeah, it's a good question. And there's a flip side to that, which is I most recently taught behavioral economics, I guess a couple of years ago at MIT. I was an adjunct there while I was working at Microsoft Research. And the way that we structured that class was to talk about the ways in which consumers or people might make mistakes or fail to make decisions in their own best interest. But then, through a series of lectures on crossovers with different domains of economics, and so there's a crossover with behavioral consumers in markets, there's a crossover lecture with environmental economics that has the sort of stuff we just talked about with energy efficiency, crossovers with labor economics and other things. And so that's one structure of the class. But then another way to have our field teach behavioral economics is just get rid of that class. And then each separate field class has a week on behavioral factors.

**Rob Stavins:**

There's probably, I would think, a continuous spectrum from, at one end, I would call the oldest style and the most almost simplest and simplistic economics of treating human beings, decision agents, as essentially economic rats going through a maze in terms of the simplest kind of optimizing behavior. But then it's a continuous spectrum from that to a whole series of innovations and different kinds of policy work and natural experiments and then unnatural experiments, and then looking at what you could really call the behavioral frontier. And that word frontier is what I want to ask you about. What would

you characterize as the frontier going forward in behavioral economics within the environmental and energy realm?

**Hunt Allcott:** I'm going to give you a perhaps unexpected answer to this. So as I have come to Stanford and been here, as I said, the last 16 months or so, this has been an opportunity to step back and rethink what is the right research direction for the next five to ten years. And perhaps interestingly, all the topics that our group is now working on are what I would call non-behavioral topics. There's not really a behavioral economics angle to them. Upon arriving at Stanford and saying, "Okay, I'm in the sustainability school. What are the most important environmental economics topics?", I think energy efficiency and behavioral economics is still on that list, but there's so much other stuff. There's the Inflation Reduction Act, there is electricity market design, and then within each one of those two, there's a lot of different sub-areas that we're actually focusing on. So I'm actually not doing behavioral economics work-

**Rob Stavins:** Oh, that's interesting.

**Hunt Allcott:** ... [inaudible 00:23:06] this year at Stanford.

**Rob Stavins:** That strikes me as a positive development, that intellectually you're flexible, and you do react to the institutional environments. Otherwise, one's not participating with colleagues, one's not learning from colleagues, one's not helping colleagues. So I think that's great. That leads me to think about a development that is taking place in the policy world, and I think you've seen the change and being in California, this has been happening for a while, and that is that both in the policy world and in the scholarly world of economics, certainly, there's been a tremendous increase in attention to what economists have long referred to as distributional concerns, as opposed to the questions of efficiency or cost effectiveness, looking in the aggregate.

And as you well know now in the climate change context and in the policy world, this gets labeled as environmental justice, particularly in terms of pollutants that are localized and correlated with CO<sub>2</sub>, and then just transition referring to like coal miners in Appalachia losing their jobs. What's your reaction to this increase in attention to distributional issues in both economics, which I assert that there's been, I don't know, and in the policy world?

**Hunt Allcott:** At a high level, it feels like a really good thing. We live in a country that is very unequal, in a world that is very, very unequal. And so as we think about policy design and policy evaluation, it feels crucial to think about equity and really put that at the highest part of the list of considerations we're interested in. Then I think the question is how exactly do we do that? And let me just give you one example from some work that we're doing. Looking at part of the Inflation Reduction Act that has some of the many environmental justice-type or just transition-type issues in it, which is the electric vehicle tax credits. The new electric vehicle tax credits are means tested. You can't get them if you're too rich. You also, as the vehicles are not eligible for them, if the price is too high,



we don't want to be subsidizing the most luxurious cars. Let's focus on mass market EVs and subsidizing those.

**Rob Stavins:** Or if they're assembled without unionized labor, I think.

**Hunt Allcott:** Yeah. Yeah, that's right. So there's sort of the...

**Rob Stavins:** At least it's a little bonus. It changes the magnitude of the subsidy, I guess.

**Hunt Allcott:** And that's especially true for some of the other sections of the-

**Rob Stavins:** Yes. Yes.

**Hunt Allcott:** ... of the IRA.

**Rob Stavins:** Yeah.

**Hunt Allcott:** But then the other thing is the used electric vehicle tax credits. And so the idea there was, well, let's not just have tax credits for new vehicles that are mostly bought by rich people, but let's also have tax credits for used vehicle buyers who buy electric vehicles, because used car buyers are lower income. And that one, I think in particular, is quite interesting because you subsidize a new electric vehicle, that's a new EV on the road, that's good for the environment in most places. You give somebody a tax credit to buy a used EV, that's just trading an electric vehicle from one person to another, and so there's no new net vehicle on the road, at least directly.

And so then the question is, "Okay, why are we doing this?" Is the incidence really on the used vehicle buyer, in which case there's no environmental benefit, or maybe the prices of used electric vehicles are going up because they're worth more upon resale. That's not as good for the buyers, but then it might induce more new electric vehicle sales because when you buy a new EV, you then recognize that the resale value might be higher.

**Rob Stavins:** But given where you started, I thought you were going to say, well, so it's essentially a welfare payment to lower-income people. A transfer.

**Hunt Allcott:** It may indeed be a welfare payment to buyers of used electric vehicles. So that's the question. How much of that is going on? How much have used vehicle prices changed? And then I think to this earlier point about is this an efficient way to redistribute, we have lots of ways to redistribute money to lower-income people in this country. More progressive taxes, income tax credit, food stamps, etc. And so then I think we need to be asking, is subsidizing used electric vehicle purchases an efficient way to redistribute money away from the wealthiest? And in this case, I think it's not clear that that'll be the case.

**Rob Stavins:** Yeah, and you're warming my heart, and probably that of every economist who's listening to this. Well, I'll tell you something. This has been the fastest 30 minutes, for my mind, that I've ever enjoyed in one of these podcasts. So thank you very much, Hunt, for taking time to join me today.

**Hunt Allcott:** Thank you, Rob. It's been a pleasure.

**Rob Stavins:** My guest today has been [Hunt Allcott](#), professor of Global Environmental Policy at the [Doerr School of Sustainability](#) at [Stanford University](#). 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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