3 Questions: Hunt Alcott on behavioral economics and the energy crisis

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Behavioral economist Hunt Allcott

Behavioral economics is used to examine how consumers make decisions about everything from their life savings to which brands of jam they select in a supermarket. Hunt Allcott, a behavioral economist with a two-year appointment as the Energy and Society Fellow in MIT's Department of Economics and the MIT Energy Initiative, wants to apply his field's insights to the realm of energy use.

In the latest issue of *Science*, Allcott and co-author Sendhil Mullainathan, of Harvard, advocate passage of a bill currently in Congress that would fund more behavioral research about energy consumption. The authors also note initiatives like that of OPOWER, a Virginia company, which has found that the user-friendly energy reports it sends to consumers can

influence behavior enough to reduce household energy use by 2 percent, at minimal cost (OPOWER is an affiliate of Ideas42, an MIT-linked think tank to which Allcott also belongs). MIT News spoke with Allcott about how behavioral economics addresses our energy needs.

Q. Why should we invest in behavioral research pertaining to energy efficiency*, and what are the specific kinds of research we can do right now?*

A. It's an economic argument. There are lots of different technology-centered R&D investments that we can and do make: Fuel cells, hybrid vehicles, wind power. But we can also invest in new social science research that can inform policies and programs that encourage people to consume energy differently. The argument Sendhil and I make is that we have to compare across all of these classes and say, "What's cost-effective in terms of achieving our goals?" We use the results from recent large-scale energy conservation programs that were motivated by behavioral science to show that behavioral science R&D is an underexplored and potentially cost-effective approach.

Let me give you two examples of how economics can inform energy efficiency policy. First, much of the policy-oriented research in behavioral economics has been about identifying barriers in individual decision making that keep us from making the choices that, in a perfect world, we would have wanted to make for ourselves. Perhaps the leading example of this has been helping people to make better choices about how much to invest in their retirement plans, and what funds to hold. One of the things I'm interested in is to document whether consumers make similar types of mistakes when they go to buy air conditioners, or cars. It's a complex decision, and the benefits of energy efficiency occur incrementally and in the future, so those benefits are not very salient. Depending on the types of mistakes that consumers are making — if we conclude they are indeed making mistakes — we can design policies to

nudge them in ways that they would find helpful.

Second, economists tend to think of energy consumption as driven primarily by prices. Indeed, in many domains, I think we reflexively focus on price at the expense of failing to model other important drivers of consumer choice. There's a lot of research in behavioral economics that suggests we can influence people to conserve energy, or do other things, in many ways other than raising prices. I think an important research area is to document whether policies and programs based on these sorts of insights can increase welfare or be cost-effective in reducing carbon emissions.

Q. To what extent will consumers make different choices if they simply have the facts about energy explained to them in a clear manner?

A. The effect of clearer information is an empirical question that often has surprising answers. One example of this is from OPOWER, a company that our research group interacts with a lot. OPOWER sends home energy use reports to households that compare those households to their neighbors and give energy conservation tips. The information in these reports is very similar to what's already on a utility bill: How much did you spend this month, how much did you spend this year, here's where you can get compact fluorescent lightbulbs. But something about the way they're presenting it — presumably the way they use comparisons to neighbors — seems to be very powerful. I'm not sure it would have been obvious to any of us 10 years ago or three years ago that this program would have large effects in the real world.

There was an academic study by psychologist Bob Cialdini and co-authors that helped provide the proof-of-concept for the OPOWER program. In this study, the researchers left door-hangers at a group of households in California. Some of the door-hangers said, "Save money by saving energy," some of them said, "Save the environment," and some

said, “Here’s how much your neighbors are using.” And the ones that said, “Here’s how much your neighbors are using” had a much stronger impact on energy consumption. In the last couple of years that study in particular has had a lot of influence.

Q. Okay, so why is it that referring to neighbors is effective?

A. Psychologists have been great at documenting that if you tell people what the social norm is, people will converge to the social norm. In my mind there are two leading economic hypotheses for why this works in energy consumption. One is called “conditional cooperation.” People may be altruistic, and they view conserving energy as contributing to the public good of reducing climate change. People are typically more willing to contribute to a public good if they are informed that other people are contributing more than they are.

The other explanation is just social inference. It could be that I couldn’t care less about the environment, but I do want to save money. And if you tell me that I’m using twice as much energy as my neighbor, that lets me know that maybe I’ve been leaving a window open or that my furnace is inefficient. So that’s purely a self-interested, informational story. Testing between these two explanations is one of the research questions we’re interested in.

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