Greed may be good when it comes to solar power



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Based purely on economics, there should be a lot more solar panels on roofs in the United States. With the dramatic plunge in the price of panels, solar systems have become competitive with the cost of electricity in a growing number of states, leaving the question of sun exposure to be the primary driver of whether adoption makes sense. Yet photovoltaic-equipped houses remain a rarity in the US, despite many states pushing for the adoption of renewable energy.

So why isn’t that push working? To try to find out, a small team of researchers worked with a non-profit that promotes solar installs, helping test out two different message. One message focused on self-interest and emphasized the economic benefits of installing panels. The other was what’s termed “pro-social,” meaning it emphasized that installation of solar would bring benefits to the community. As the researchers found, self-interest was king—even after the promotion was over. But self-interest did have a side benefit in that the systems that were installed tended to get the most energy out of their panels.

Scripting Solarize

The work relies on a program called Solarize. Solarize runs town-level programs that include a single installer that provides the entire town with a group rate. Program ambassadors also run pro-solar programs within the town, encouraging adoption. These programs were the ones targeted by the researchers, who arranged an experiment based on the message delivered by these ambassadors. Some towns received messages that focused on self-interest, like “save thousands by installing solar.” Others were more community-focused—“Our community is doing something together to have more clean energy,” for example. The researchers worked with the program in Connecticut (one of the researchers is at Yale), which has expensive electricity.

Previous surveys of Solarize participants suggest that either message could resonate. Of the top three reasons people were in the program, two involve economics (cheap pricing and saving on utility bills), and the other was concern for the environment.

To turn this into an experiment, the researchers identified sets of three towns that were roughly matched demographically. Those towns were then split up so that one received a self-

interested message, another received the pro-social message, and one didn’t participate in the Solarize program. Due to some financial glitches, one of the planned programs didn’t occur, leaving the experiment done with 29 towns and a total of just under 700,000 people participating. Data on existing trends and households were obtained by using Connecticut data on all state solar installs, as well as US Census Bureau data. Participants also received follow-up surveys.

Overall, the Solarize program was effective, driving more installations than occurred in the control communities, as well as higher than the prior trends in the towns that participated. And, during the campaign, the self-interest messaging resulted in higher total installs than occurred in the towns that received pro-social messaging. While towns that received pro-social messaging did see a higher rate of install than control towns, the difference wasn’t statistically significant.

Better economics

In addition, the self-interest messaging resulted in more productive installs. Using Google’s solar calculator, the authors estimate that the panels installed in response to these messages receive more sunlight on an average day, producing an extra 4.4 megawatt-hours over the lifetime of a typical system. That’s consistent with the fact that the people who had received the self-interested messaging reported money as their foremost reason for installing solar. In addition, they were more likely to pay for their systems upfront, rather than taking loans, which increased the rate of return for the purchase.

Not surprisingly, this sort of message also worked better in high-income communities. There’s some hints that pro-social messaging worked better in low-income communities, but the results weren’t statistically significant. The one thing that

was consistently true for those who received the pro-social message is that they reported they were more satisfied with their installs and more likely to recommend solar to their friends and neighbors.

Overall, the researchers suggest that there's no one-size-fits-all message that is likely to induce people to install solar power. For those with the means to pay for installations upfront, appealing to financial interest appears to be the way to go. Meanwhile, the community-focused messaging may draw in consumers who may not be in the strongest financial position but are primarily motivated by environmental concerns—and are willing to install panels in less productive locations.

The value of getting the message right isn't restricted to the campaign itself. The researchers also had data from after the campaign had wrapped up, and they found the impact of the self-interest messaging persisted for nearly two years afterwards. Rather than being a result of exposure to the campaign, the researchers suggest it's exposure to the panels themselves—now present on more of their neighbors' houses—that drives further interest in the technology. Which drives home the importance of getting the message right if we're going to continue to expand renewable energy.

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