MIND

The Power of the Nudge to Change Our Energy Future

A simple change, based on psychology, that increases use of renewable energy

By Sebastian Berger on December 29, 2015

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More than ever, psychology has become influential not only in explaining human behavior, but also as a resource for policy makers to achieve goals related to health, well-being, or sustainability. For example, President Obama signed an executive order directing the government to systematically use behavioral science insights to "better serve

the American people." Not alone in this endeavor, many governments – including the UK, Germany, Denmark, or Australia – are turning to the insights that most frequently stem from psychological researchers, but also include insights from behavioral economics, sociology, or anthropology.

Particularly relevant are the analysis and the setting of "default-options." A default is the option that a decision maker receives if he or she does not specifically state otherwise. Are we automatically enrolled in a 401(k), are we organ donors by default, or is the flu-shot a standard that is routinely given to all citizens? Research has given us many examples of how and when defaults can promote public safety or wealth.

One of the most important questions facing the planet, however, is how to manage the transition into a carbon-free economy. In a recent paper, Felix Ebeling of the University of Cologne and I tested whether defaults could nudge consumers into choosing a green energy contract over one that relies on conventional energy. The results were striking: setting the default to green energy increased participation nearly tenfold. This is an important result because it tells us that subtle, non-coercive changes in the decision making environment are enough to show substantial differences in consumers' preferences in the domain of clean energy. It changes green energy participation from "hardly anyone" to "almost everyone". Merely within the domain of energy behavior, one can think of many applications where this finding can be applied: For instance, default engines of new cars could be set to hybrid and customers would need to actively switch to standard options. Standard temperatures of washing machines could be low, etc.

In our main study, we conducted a randomized-controlled trial involving about 40,000 households in Germany. In collaboration with an energy supplier, we observed these households as they went through the decision screens when purchasing an energy contract online (e.g., because they had moved or they simply changed from one supplier to the next). Households made two decisions: First, they could choose to purchase a more expensive high-service contract (i.e., including phone assistance, regular billing, etc.) versus a less expensive low-service contract (i.e., only web-based assistance, e-billing, etc.). Second, households could choose whether their energy is sourced from 100% renewables or not.

Due to the energy pricing specifics in Germany, the supplier sold renewable energy at a slightly higher price (0.2 cents per kilowatt hour, about €10 (around $15 at the time)

slightly higher price (0.3 cents per kilowatt hour, about €10 (around $15 at the time) annually based on an average household) making it only minimally more expensive. Purchasing green, however, assures that the supplier changes its energy mix to reflect the consumer's preference for sustainable energy. For instance, if a consumer uses 5,000 kilowatt hours per year, the supplier will purchase this exact amount of green energy and add it to the overall energy mix.

This is where our experiment kicked in: Half of our households were guided through decision screens in which they actively had to opt into green energy. Besides their choice about the service intensity, household decision makers could click a button that said: "I would like that 100% of my energy is sustainable". Clicking and unclicking that button dynamically updated the prices. The other half of our households was guided through identical decision screens, but we had pre-selected the same button as above. The difference between the experimental conditions is minimal. Households had to actively "opt-in" in half of the cases or actively "opt-out" in the other half, simply by (un-)clicking the button.

The results were striking. Using the opt-in rule, merely 7% of households purchased a green energy contract. Using the "opt-out" rule, however, increased participation tenfold to roughly 70%. Choices were largely anonymous and cost of switching to a conventional vs. green contract is negligible. Yet, we observe drastic changes in preference suggesting that a simple change in the decision architecture is enough to boost demand of green energy.

But anyone who has ever unwillingly installed a "browser tool bar" when downloading free software from the internet must wonder now: Well, probably the majority of "green" consumers must have failed to notice that an option to "opt-out" existed. It is a reasonable objection. Therefore, in another study we tested whether participants were aware of their choice.

To do this experiment, we relied on American participants recruited from Amazon Mechanical Turk. Amazon's platform is frequently used for social science research and generally regarded as a valuable and efficient way to recruit study participants. But it is sometimes criticized as a platform with inattentive or even unmotivated study participants. In other words: Exactly what we needed. If relatively inattentive and unmotivated people can recall their decision in a fictive scenario study, then, we argued

unmotivated people can recall their decision in a fictive scenario study, then, we argued, people who are actually purchasing green energy contracts are likely to do so as well.

So, we ran another study involving 290 participants and guided them through the same decision screens as in the randomized-controlled trial. Our main result replicated well. But additionally, we asked a share of them to recall their behavior in the end. In this trial, 84 percent of the people who were nudged into green energy by the default change were able to recall their choice. (When people had to “opt-in” to the green choice, all of them recalled their choice.)

Interestingly, by matching regional election results to behavior of our 40,000 trial-participants, we could also investigate the effect of partisanship. Not surprisingly, approval of the German green party correlates with green energy choices, but only in absence of the default nudge. When consumers need to opt in, support for the greens predicted sustainable behavior. When the nudge was in place, though, there was no correlation: Almost everybody acted green and even partisanship no longer mattered.
