Politics shapes individual choices about energy efficiency

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Addressing climate change effectively will require policy actions by both government and the private sector. However, individuals' actions matter as well. Individuals' consumption decisions can significantly reduce greenhouse gas emissions (1) and political support from citizens is necessary (although not sufficient) for implementing policy. Until now, most research has treated environmentally significant consumption and political support for the environment as separate issues (2). However, as Gromet et al. make clear in PNAS, merging these robust but separate streams of research can provide useful insights (3). They show that political orientation—where one falls on the spectrum from liberalism to conservatism—influences both support for energy-efficiency policy and the decision to purchase an energy-efficient product.

Politics of Policy Support

Well-funded campaigns have questioned the toxicity of lead, the health risks of tobacco, the effects of acid precipitation on ecosystems, and most recently, the reality of climate change (4, 5). The result has been delay in adopting public policy to address these problems. Conservatives have been the most receptive to questioning the reality of climate change so that over the last decade, the link between conservatism and climate change denial has strengthened (6, 7).

Scientists are frustrated by the strong effect of politics on public views about climate change. However, we acknowledge that many lay citizens have neither the time nor the scientific background to assess climate change research. Instead, many people rely on trusted sources of information. Public trust in the scientific community remains high, although it is becoming polarized, with trust declining among conservatives (8). However, political messages signaling a lack of scientific consensus may effectively bypass trust in science; if scientists don't agree, then trust in science is irrelevant.

Gromet et al. (3) show that conservatives don't support energy efficiency when it is framed as a means of reducing carbon emissions. Survey respondents seem to be

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sending a political signal about climate change in their answers to questions about energy efficiency. When views on climate change were taken into account, conservatism actually led to greater support for energy independence and reducing energy costs. Thus, conservatives are not opposed to energy efficiency per se; rather, they are opposed to energy efficiency linked to climate change. This parallels a similar finding by Whitfield et al., whereby environmentalism leads to greater support for nuclear power, but only when mistrust of the institutions that manage nuclear power is taken into account (9).

Politics of Consumer Choice

Individuals affect the climate via their roles both as consumers and as citizens (2). About 38% of overall United States greenhouse gas emissions are from direct energy consumption by United States households (1). Additional emissions are embedded in the consumption of food, water, and other materials. Decades of research suggest that there is an energy-efficiency gap; it would be in the economic interest of households to consume less energy than they do. The gap is a result of decision-making processes that deviate substantially from standard models of utility maximization (10, 11) and from policies that are intended to promote efficiency, but that are poorly designed (12).

Gromet et al. (3) show one kind of deviation from conventional utility maximization: including political considerations in consumption choices. When a product—a compact fluorescent light (CFL) bulb in their experiment—had a "Protect the Environment" label, political moderates and conservatives were less likely to purchase it than when no environmental signal was given. Labeling did not affect the odds of a purchase by liberals. However, political orientation had an influence only when there was a substantial price difference between an energy-efficient and a conventional product. When both incandescent bulbs and CFLs had identical prices, the more efficient product was almost always preferred regardless of political orientation or environmental label.

There is a logic to these decisions. It is hard to calculate if a difference in initial price between a conventional and a CFL bulb is balanced by lower operating costs of the CFL bulb. In the equal-price situation, no calculation was needed: the more efficient product was seen as more desirable by nearly everyone. However, when there is a premium to be paid for efficiency, signaling a product as "green" may make some consumers skeptical about its economic payoff and perhaps also increase the salience of the symbolic value of the purchase.

What Next?

Gromet et al. (3) raise important questions about the interplay among values, political views, and the decisions we make as citizens and consumers. Like any initial integration of two distinct literatures, Gromet et al.'s work calls for replication and raises important questions. Do their results generalize to different sorts of environmentally consequential choices and to different political cultures? Can we develop a more integrative theory of environmentally significant behaviors? Linking the role of consumer and citizen is an initial step toward such a theory (2). Values, beliefs, norms, personal identity, trust, and

political ideology each have been shown to influence environmental decision-making (13–15). How do these factors work together in shaping decisions? How are these effects conditioned by socio-demographic characteristics, such as sex, ethnicity, and education? How do social networks influence environmental decision-making, and how are networks in turn shaped by our tendency to seek like-minded individuals and avoid those who differ from us (16, 17)?

Are there other kinds of consumer choice where political orientation and values are important? We know that ideology and gender are strongly related to views about environmental and technological risk (18). Perhaps ideology and related values, norms, beliefs, trust, and identities influence both risk behaviors and support for risk-reduction policies broadly. Smoking, dietary choices, and the use of motorcycle helmets and automobile seat belts might provide a rich test bed for examining how our roles as consumers and as citizens intersect.

The implications of Gromet et al.'s (3) results for policy are suggestive, but further work is warranted before we develop policy design principles (12). Should environmental benefits be mentioned in campaigns to promote energy efficiency? Although Gromet et al. found a negative effect of such labels for conservatives when price difference was large, they found no effect when the prices for the two alternative products were equal. Thus, sound design of energy efficiency programs and other proenvironmental actions should take into account the price differences at which environmental signaling becomes important. Price matters, but it is not all that matters (11). And although environmental labeling did not increase the purchase probability of energy-efficient bulbs for those on the left, in this case the label may not have an

impact because the environmental benefits of CFLs are well known. Perhaps green labeling would encourage purchases by liberals and others when product features are less well known (19). Then green labeling may increase purchase probability for some and decrease it for others. Effective policy design would have to assess the net impact of environmental signaling by taking into account both the sizes of the labeling effects and the sizes of the populations positively and negative affected.

Finally, Gromet et al. remind us that policy support and consumer decisions depend not only on facts, but also on values (3). Public discourse on climate change is usually framed as a debate about facts, especially about the state of the science (5, 20). But often our disagreements arise from differing values and interests. In the face of such conflict, our

best course forward is to identify actions that are acceptable to multiple—and even conflicting—interests and values. We are unlikely to come to such agreements unless we analyze and discuss the concerns that underpin our conflicts. The science of climate change cannot be limited to an understanding of the biophysical earth system; it must also examine the human concerns that drive and will be affected by climate change, and help us to find mechanisms by which we can engage both the facts and our diverse values and interests.

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