



# Politics, values, and morals: Assessing consumer responses to the framing of residential renewable energy in the United States

Laura M. Arpan<sup>a,\*</sup>, Xiaojing Xu<sup>b</sup>, Arthur A. Raney<sup>a</sup>, Chien-fei Chen<sup>b</sup>, Zihan Wang<sup>c</sup>

<sup>a</sup> Florida State University, University Center C, Suite 3100, Tallahassee, FL, 32306, USA

<sup>b</sup> CURENT, 555 Min H. Kao Building, 1520 Middle Dr., University of Tennessee, Knoxville, TN, 37996-2250, USA

<sup>c</sup> Shanghai International Studies University, 550 Dalian W Rd, Hongkou Qu, Shanghai Shi, 200000, China

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## ABSTRACT

Despite growing availability of renewable energy or “green pricing” programs for residential use, consumer adoption in the U.S is limited. Existing data indicate that consumer values and political orientation—both of which reflect moral considerations—are associated with interest in renewable energy policies and use. An online experiment ( $n = 317$ ) tested whether promotional messages framing renewable energy as consistent with participants’ primary moral concerns, as delineated by moral foundations theory, would indirectly lead to more positive message evaluation and greater willingness to pay for such programs. Specifically, the interactions of framing effects with participants’ political orientation were examined, as were the mediating roles of message-induced hope and personal moral norms. Results indicated political orientation was the most consistent predictor of message-induced hope, personal moral norms, and willingness to pay. Message framing did not interact with political orientation to influence mediating or outcome variables. Main effects of framing on hope were identified. Implications for promotion and adoption of residential renewable energy programs are discussed.

## 1. Introduction

Residential energy consumers around the world are increasingly able to receive some or all of their household power from renewable sources such as solar, wind, and hydro. “Green pricing” programs have been available in Australia, Canada, Japan, several European countries, and the United States for at least a decade [1]. In fact, more than 50% of U.S. consumers can now pay a small premium to receive electricity generated from renewable sources [2]. Further, many of those consumers can choose to have as little as 25% of their household energy supply come from renewable sources, making this behavior somewhat inexpensive and simple (i.e., not complex or effortful) to enact. However, data from the U.S. utilities that have been most successful in enrolling residential consumers in these programs indicate that the percentage of eligible consumers who actually sign up is low: between 5 and 15% [3]. In light of these low adoption rates, a better understanding of factors that might influence consumers to adopt green pricing programs is needed, especially given the potential positive impact of sustainable energy on the climate and environment [4,5]. Additionally, an increased understanding of factors associated with consumer interest in green pricing programs might improve the prediction of consumer adoption of such programs in countries with similarly low

adoption rates and/or countries with similar political influences on attitudes toward renewables (described below) as those in the U.S.

According to value-belief-norm (VBN) theory, environmental behaviors are driven by a moral obligation (i.e., personal moral norm) to protect cherished objects, beings, or states [6]. Personal moral norms are indirectly predicted by values, such as biospheric and social-altruistic [7]. Accordingly, residential renewable energy use, as a form of pro-environmental behavior, should be of most interest to those with high levels of biospheric concern and/or self-transcendent values [8–10]. Those values, along with a sense of environmental concern and an awareness of consequences of inaction, should lead those individuals to feel a moral obligation to protect the environment [6]. Previous research suggests such individuals are more also likely to have a liberal political orientation [11–13].

The relationship between values, environmental concern, and political orientation is of particular significance in the U.S., where political orientation is strongly associated with support for renewable energy. Perhaps as a consequence (or as a cause) of this relationship, pro-environmental messages in the U.S. often use moral or value-based arguments/appeals related to social and/or biospheric altruism, which ultimately appear to be more suited to reaching and motivating political liberals. In questioning this messaging approach, some scholars

\* Corresponding author.

E-mail address: [larpan@fsu.edu](mailto:larpan@fsu.edu) (L.M. Arpan).

have encouraged a broader exploration of the relationship between moral motivations and pro-environmental behaviors [14,15]. For instance, individuals with lower levels of biospheric concern and/or who have a more conservative political orientation might be more compelled to adopt a renewable energy program if promotional messages appeal to alternate or more fundamental moral concerns about the issue.

Moral foundations theory (MFT; [16,17]) provides a framework for considering such alternate or fundamental moral framing of messages. Matching message arguments with message recipients' salient moral concerns could enhance or activate their personal moral norms to use renewable energy, which, in turn, could enhance their willingness to pay more each month to power their homes using renewable sources.<sup>1</sup> Additionally, because messages that emphasize message recipients' salient moral concerns likely imply that their personal goals (e.g., goals of protecting the environment for future generations) can more easily be achieved, exposure to such messages could also elicit the positive emotion of hope. Because hope is an approach-oriented emotion elicited when we perceive opportunities for goal-congruent outcomes [18], experiencing hope in response to a message promoting residential renewable energy use could also lead to increased desire to engage in that behavior. Based on the propositions of research briefly described above, the aim of the current study was to examine whether message frames (i.e., moral framing of promotional messages about residential renewable energy programs) would interact with message recipients' political orientation to influence message evaluation and willingness to pay for residential renewable energy via potential influences on personal moral norms and self-reported hope following message exposure.

## 2. Theoretical framework

### 2.1. VBN theory and limitations of value framing/matching of messages

When promoting pro-environmental behaviors, it can be important to tailor informational or persuasive messages to appeal to the motivations and beliefs of message recipients [19,20]. Indeed, messages that include arguments or persuasive appeals that align with audience members' existing issue-related schema, knowledge, deeply held values, or related motivations can increase message attention, message acceptance, and eventual adoption of message-recommended behaviors [15,19,21,22].

Individual values are the primary antecedent of pro-environmental behaviors in prevailing theories and models of such behaviors [6,23–25]. Accordingly, it is understandable that recent studies have investigated the effectiveness of messages about energy or environmental issues that are tailored or framed to match (vs. not match) relevant recipient characteristics addressed by those models. These characteristics include individual values (e.g., self-transcendent vs. self-enhancement) and political orientation, which is often related to values (this relationship is described in more detail below). Such studies have indicated mixed support for the utility of matching message arguments with these audience characteristics.

For example, two studies of framing of residential renewable energy programs in Sweden found no significant effects of value-matched framing. One study [26] found no differences in message response among those exposed to descriptions that framed outcomes in terms of “human health and wealth” vs. “your own health and wealth” vs. “balance of the eco-system.” The second [9], an investigation of the influence of egoistic, altruistic, and biospheric framing of outcomes associated with residential renewable energy use, found greater willingness to pay for renewables was negatively associated with self-

enhancement values and that framing outcomes to match those values (e.g., egoistic framing) did not enhance willingness to pay (i.e., no significant interactions of message framing and values). A third study in Sweden [20] found that values-matching of information about a congestion tax led to mixed results: value matching did not influence policy support and had only a weak effect on attitudes toward the message.

Two other studies examining the matching of message arguments to general values or concerns held by political liberals vs. conservatives also found mixed results. A study of framing of sustainable energy policy in Great Britain [21] found that, compared to a “response to climate change” frame, an “energy security” was associated with slightly greater support among conservatives, but framing the policy as an “economic opportunity” was not related to greater support. Regardless of framing, strong differences in policy support between liberals and conservatives remained, with liberals generally more supportive of renewable energy and related policies. Finally, Myers et al. [22] found more positive responses to messages about climate change risks among conservative, American participants when climate change was framed as a public health threat than when it was framed as an environmental threat. However, when climate change risk was framed as a national security issue, conservatives responded negatively to the messages (the authors speculated that this result was due to those participants feeling the message was trying to “co-opt” their values).

The studies described above suggest that a “values-matching” approach to message design might have limited effects on pro-environmental attitudes and behavior. Two of them [21,22] also point to the need to consider the relationship between political orientation, values, and environmental behaviors.

Political orientation—the continuum from liberal to conservative—is often associated with values and moral motivations for engaging in pro-environmental behaviors. Specifically, those on the liberal end of the political spectrum tend to be more concerned about environmental problems and express greater motivation to prevent or mitigate problems than those on the conservative end [11–13,27]. Further, self-enhancement values (e.g., power, achievement), which are often held more strongly by political conservatives [13,28,29], have been found to be negatively correlated with interest in renewable energy programs [9].

In the United States, political orientation has been associated with differences in motivations for reducing energy use [30,31], with interest in purchasing eco-labeled energy products [32], and with support for development of alternative energy sources [33,34]. Indeed, some have suggested that, early in its development, renewable energy took on “a strong ideological cast in the U.S., one that made it anathema to most political conservatives” [35]. Therefore, it is reasonable to expect that, just as political orientation tends to correlate with environmental concern and behavior, political orientation should influence motivation to choose renewable energy for the home, perhaps strongly so in the U.S.

However, some scholars suggest that greater interest in general environmental protection among political liberals is a function of how that behavior has been framed in past promotional messages and in news content [14,15,36].<sup>2</sup> In particular, some argue that pro-environmental behaviors have typically been framed in a manner that appeals to values and associated moral motivations held more strongly by liberals, even though many pro-environmental actions could be considered as consistent with values and related motivations typically held by conservatives [14,15,19,32,36]. However, as discussed above, the recent body of work examining values-matching approaches to promotion of pro-environmental behaviors produced mixed findings. We

<sup>1</sup> Willingness to pay can be considered as a type of pro-environmental behavioral intention [5], and we employ this as a primary outcome variable in the current study.

<sup>2</sup> Framing of an issue can be defined as placing greater emphasis on a given attribute of a phenomenon while limiting emphasis on or ignoring additional attributes of the phenomenon that might be at least as important or definitional [89,90].

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