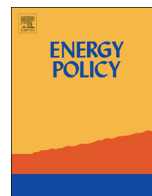




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A survey of energy policy priorities in the United States: Energy supply security, economics, and the environment



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HIGHLIGHTS

- We surveyed 884 members of professional membership organizations on how the U.S. should prioritize energy policy.
- The paper addresses direct elicitation of energy policy goal portfolio allocation for a large set of energy stakeholders.
- The majority of respondents favor policymaking balanced across multiple goals.
- We observed differences in priorities based on age and gender.
- Respondents expressed a tension in allocating across goals that are interrelated.

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ABSTRACT

Security, environment, and economic concerns are commonly identified as three major objectives of energy policy. State and federal governments have set aggressive targets for carbon emissions reductions and for alternative fuel use and increased vehicle efficiency to reduce petroleum consumption. Moreover, jobs creation and GDP growth are often cited as key drivers for energy policies. Previous studies on energy policy decision-making have examined the process for developing and evaluating options using multi-criteria decision analysis tools. In addition, energy opinion polls have either elicited preferences between two goals or whether the public supports a specific policy action. In this article, we report results from a survey of 884 members of professional membership organizations on how the U.S. should prioritize energy policy across the goals of energy supply security, environment and climate, and economics and job creation. The majority favor policymaking that is balanced across all three. Security and economic concerns increase with age for male respondents, whereas environment is the highest priority for females regardless of age. Unlike previous surveys that target the general public and focus on a particular objective or technology, these results provide an example of eliciting a portfolio allocation across multiple energy policy goals from targeted constituents.

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1. Introduction

Environment, economic, and energy security concerns are frequently cited drivers for U.S. energy policy and technology development. Rising gas prices, energy imports, and more frequent record temperatures and natural disasters have led to increasing interest in energy policy action. While several recent national reports, including the National Academies' America's Energy Future (CAEF, 2009) and the Department of Energy's Quadrennial Technology Review (DOE, 2011), have highlighted the importance of these drivers, few have examined how U.S.

energy policy could consider these priorities simultaneously. Public opinion polls on energy policy goals typically consider either preferences between two objectives or various factors that influence public support for a particular technology. In addition, the literature on multi-criteria energy policy decisions has typically focused on the decision analysis methodologies as applied to particular case studies of energy and environmental planning. While the bulk of these studies emphasize the quantitative methodologies for assessing alternatives for situations in which there are multiple and frequently conflicting objectives, a number of studies discuss the importance of stakeholder engagement and methods for gathering their input. In this paper, we provide an example of eliciting input for direct portfolio allocation across the three policy goals of energy supply security, environment and climate, and economics and job creation. We collected input from

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individuals in professional membership organizations whose members are more likely to be knowledgeable of energy issues than the general public. While the sample was not designed to be broadly representative of U.S. policymakers, our results are illustrative of how an elicitation process can be used to gather portfolio allocation input to U.S. energy policy across multiple, seemingly competing goals.

2. Literature review

2.1. Energy polls

A number of review articles have examined U.S. public opinions on energy. In 2008, Bolsen and Lomax Cook reviewed public opinion on energy policy which indicates that the U.S. public is as concerned about energy as it was during the energy crisis of the 1970s (Bolsen and Lomax Cook, 2008). Farhar (1994) reviewed trends in perceptions and preferences on energy and environmental policy. She focused on willingness to pay for environmental protection, policy preferences, and preferred energy alternatives. Reiner et al. (2006) conducted a public opinion survey to examine how people in Sweden, Britain, Japan, and the U.S. differ in their prioritization of environment and global warming. They observed that although overall public views are similar across the four countries, the U.S. public places lower value on environment and global warming. Bromley-Trujillo and Pyle (2012) focus on public opinion on climate change using the 2008–2009 American National Election Study. They concluded that climate change attitude is influenced by the core value of equality, but concluded that other values, such as social order and morality, do not provide a statistically significant correlation.

Many others have focused on U.S. public perceptions of a particular technology or category of technologies. Zarnikau (2003) examined consumer demand and willingness to pay for renewables and energy efficiency. He observed that age, education, and income influenced willingness to invest in renewables. Greenberg (2009) examined public preferences for energy sources, and specifically considered how respondents' proximity to nuclear facilities influenced the responses. Ansolabehere and Konisky (2009) further examined support for power plant siting, and observed that attitudes depended upon perception of the environmental harm and cost of specific facilities.

Literature from the 1970s and 1980s examined public opinions on tradeoffs across environmental and economic factors that influence air pollution. Enloe (1975) observed that many U.S. surveys asked respondents to choose between environmental and economic security. Winham (1971) concluded that while the public, on average, supported both economic development and pollution control, individuals emphasized one of the two goals. Rosen (1981) focused on addressing the prevailing sentiment that the public is divided into one of these two factions. His survey results illustrated that although there were small populations who championed one or the other exclusively, that this was not true for the public generally. This was consistent with a more progressive view of the time, in which both economic and environmental interests could be advanced simultaneously (Georgescu-Roegen, 1973; Lovins, 1977; Grossman and Daneker, 1979; Stobaugh and Yergin, 1979). However, little data exists to probe public opinion on this view.

Although the relative importance of security, environment, and economic concerns for energy policymaking has been a topic of many public opinion polls, more recent polls continue to consider only one or at most two of these factors simultaneously. Several recent surveys have captured public opinion about energy policy, asking voting age respondents to select their policy goal

preference from two choices, typically environmental protection and either energy production or something more specifically related to the economy. As part of their annual Environment poll, in 2010 Gallup noted a shift in U.S. public preference for energy production over environmental protection for the first time in the question's 10-year history. Fifty percent of those surveyed indicated a preference for energy production, whereas 43% preferred environmental protection—this was down from 2007, when Americans' prioritization of environmental protection was at its peak of 58% compared to 34% for energy production (Jones, 2010). These preferences reversed again later that year and, most recently, in March 2012 saw a slight preference of 47% for production over 44% preferring environmental protection (Jones, 2012). This same annual Gallup poll also examined preferences for energy production versus conservation. Since 2001, this poll has consistently found that Americans favor U.S. emphasis on conservation over production of fossil fuels. However, the most recently reported preference for conservation (51%) over production (40%) is much lower than the historical average gap of 30 points from 2001 to 2008.

A June 2010 poll from the Pew Research Center for the People and the Press revealed that when asked which priority is more important, 56% of respondents chose "protect the environment" while 37% chose "keep energy prices low" (Pew, 2010). The same poll probed public support for various energy policies, and found that 87% favor energy legislation to produce more energy from renewables, 78% favor higher efficiency standards for buildings and appliances, 68% favor expanded exploration for coal, gas, and oil, 66% favor limits on greenhouse gas emissions, and 50% favor incentives for nuclear power. These numbers suggest that a significant number of respondents favor seemingly competing goals. For example, there is significant overlap between those who favor protect the environment (56%) and exploration for coal, gas, and oil (68%), and between those who favor keep energy prices low (37%) and produce more energy from renewable sources (87%).

An April 2012 Gallup poll revealed similar tensions between U.S. preferences among policy actions intended to accomplish energy production and environmental protection (Newport, 2012). This poll showed 70% support for "Setting higher emissions and pollution standards for business and industry," 69% support for "Spending more government money on developing solar and wind power," and 65% support for "Opening up land owned by the federal government for oil exploration." It is worth noting that respondents were not required to select or balance priorities across these policy proposals, but simply indicated whether they support each policy action. This most recent poll examined the differences between Republicans and Democrats in supporting the various proposals, with clear breaks along party lines.

These recent Gallup and Pew polls examined partisan splits among the responses. They found that overall, more Republicans than Democrats favored production and development of nuclear power. They also observed that Democrats viewed development of alternative energy much more favorably than Republicans. The Pew poll also reported impacts of gender and education, and found that men and college graduates view nuclear power development less favorably than women and those without college degrees.

Leaving aside omissions of the security consideration of energy policy, these polls appear to reveal tensions between preferences for policy goals when given only two options, and preferences for the policy actions that would work toward those goals. They do not provide a view of how respondents would balance across priorities, and have required respondents to report whether they prefer one goal over another, or whether they are in favor of or opposed to a specific technology, such as nuclear power, or a specific action, like offshore drilling.

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