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The Role of Extension in Energy Education

Abstract

Access to clean, abundant, reliable domestic energy sources continues to be a primary national concern. Vast natural resources and open spaces position rural communities across the U.S. to play a central role in future energy development. Issues related to energy development are often emotionally charged, with the potential for conflict. Extension must embrace the conflict and react to the needs of our clientele by providing information to inform decisions and strengthen communities. Looking forward to the next 100 years, it is time for Extension to adapt and mobilize research and educational programming to address critical energy issues facing our nation.

Eric Romich
Assistant Professor
Ohio State University Extension
Marion, Ohio
romich.2@osu.edu

Introduction

According to the U.S. Department of Energy 2013 EIA Annual International Energy Outlook Report, global energy consumption is projected to increase 47% from 558 quadrillion BTUs in 2014 to 819 quadrillion BTUs in 2040. Meanwhile, generation in the U.S. from renewable energy technologies (excluding hydropower) is projected to account for 32% of the overall growth in the electricity generation sector from 2011 to 2040 (USDOE/EIA, 2013). Access to clean, abundant, reliable domestic energy sources continues to be a primary national concern. A prologue from the 2012 Public and Land-Grant University Conference on Energy Challenges suggests the following.

> Turn a switch and turn on what may be the most important problem facing humanity. At a minimum, by mid-century, we need to find some way of generating an incredible amount of energy, 10 terawatts, maybe more, in a sustained fashion and for worldwide prosperity, it has to be cheap (Ohio State University, 2012).

The abundance of natural resources and extensive open space enables many rural communities across the country to play a central role in the development of future energy projects. These energy development projects present new social, economic, and environmental opportunities and challenges as well. Energy challenges are critical global issues that have been festering for decades and will

impact Extension clientele and communities. Over the last century, Extension has evolved from disseminating useful and practical information related to agriculture, to addressing family issues, youth education, leadership, and community issues. Looking forward to the next 100 years, it is time for Extension to once again adapt and mobilize research and educational programming to address critical energy issues facing our nation.

Past and Present of Extension Energy Education

Past

The OPEC oil embargo in the early 1970s sparked interest in conservation, efficiency, and alternative energy sources. According to Kirby, Chilcote, and Guin (2009), "Cooperative Extension responded with educational programs that targeted consumer energy conservation knowledge" (p. 1). Amendments to the Smith-Lever Act (USC 341: Cooperative extension work by colleges) in 1977 and 1980 included a reference to diffusing to the people of the United States practical information on rural energy and the use of solar energy with respect to agriculture. The Cooperative Extension System has a reputation of anticipating and reacting to evolving issues facing our clientele and developing educational programs grounded in research to address them. Following the energy crisis of the 1970s and the newfound focus on rural energy in the Smith-Lever Act, Extension rapidly developed programs and tools to provide clientele with energy information.

Born (1980) suggested that for Extension to play a meaningful role in energy education,

> We can't be passive performers and we must get into the trenches. And if Extension institutions fail to perform this role, the need for change in attacking our energy problems will ensure that this role will be filled by someone, perhaps far less suited to the task" (p. 9).

Oftentimes issues related to energy and the environment are emotionally charged, with the potential for conflict. As Born (1980) suggested, Extension must embrace the conflict and react to the opportunities by providing research-based energy education to inform decisions and strengthen communities.

Present

In the spring of 2013, Colorado State University hosted the first National Energy Extension Summit, bringing together 68 individuals from 28 states. Through a combination of panel presentations and breakout sessions, the conference provided a platform for Extension professionals to share energy programs offered in their states and addressed topics such as energy conservation, energy efficiency, renewable energy technologies, bioenergy crop production, and shale energy. eXtension is also well suited to help disseminate energy information through a Web-based interactive learning environment that connects resources from land-grant universities across the country. Recently, eXtension has expanded its educational materials to now include three energy-focused resource areas: 1) farm energy, 2) home energy, and 3) wood energy.

Extension as a Trusted Source for Energy Information

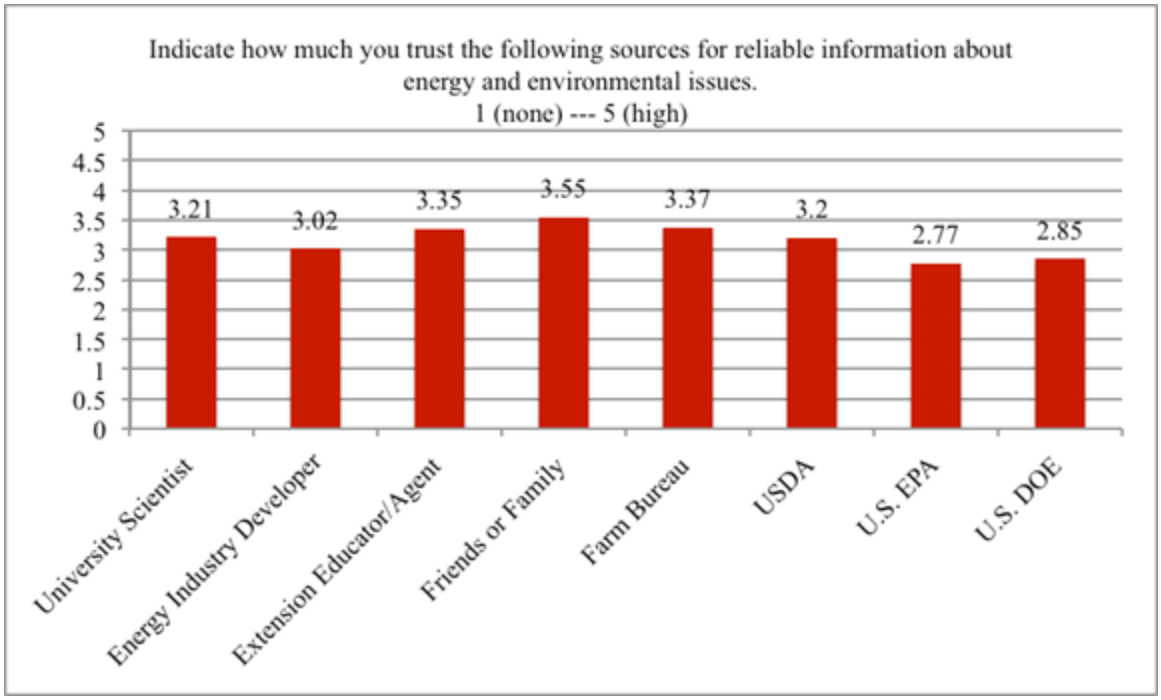
As Extension professionals we strive to be world leaders in research-based educational programming and value our credibility with clientele. Extension has built a reputation as a reliable source of fact-based information to guide informed decisions rather than promoting a specific agenda. It is essential that Extension remain a trusted source of reliable information to promote informed decision-making.

In the early 1980s, University of Arizona researchers studied how the public perceived Extension as a source of energy information relative to other sources of information. It was Extension that received the highest rating, even higher than the Arizona State Energy Office. According to Iams and Wilhelm (1984), "The results of the study provided an indication that the consumers have in the past and should in the future continue to view Extension as a leader in energy information" (p. 3).

A more recent study conducted by Campbell, McClendon, Romich, Bean, and Sharp (2013) revealed that the Extension educator/agent was the third most-trusted source for energy information (Figure 1). In this survey of households in one county in northwest Ohio Extension was not the top resource for energy information and serves as a reminder that reputations must be earned. We cannot afford to be content with past success, and we must act today to shape our future for tomorrow.

Figure 1.

Source for Reliable Information on Energy and the Environment



Future of Extension Energy Education

Extension, with fewer and fewer resources, continues to serve a growing, increasingly diverse constituency. While the number of local Extension offices has declined over the years, approximately 2,900 Extension offices remain nationwide (USDA/NIFA, 2014). To effectively address energy-focused programming opportunities in the face of declining traditional funding streams and fewer full time Extension professionals it is essential that we explore non-traditional techniques for program development and delivery. Some examples of this include:

1. Addition of state specialists focused on energy
2. Multi-state teams charged with addressing specific energy issues
3. Greater emphasis on Web-based programming
4. Development of multi-state specialist positions
5. Increased proficiency of county-based Extension professionals in areas of energy development

Furthermore, during the 2013 National Energy Extension Summit it was noted by a high-ranking USDA official that greater collaboration was necessary involving USDA and the U.S. Department of Energy to support an increased role for Extension in energy-related programming (Colorado State University Extension, Montana State University Extension, & University of Wyoming Extension, 2013). With flat or declining traditional Extension funding, now more than ever we must identify new collaborative partnership opportunities to assemble resources to address critical issues facing citizens and communities throughout the nation.

Conclusion

While we must continue to explore new partnerships and alternative ways to disseminate information, it is vital that we stay true to our values and strengthen the connection between research and our educational programming. A unique and strategic asset of Extension is its link to the land-grant system and the research it produces. Extension's program areas are also suited to seamlessly address various energy challenges such as farm energy (agriculture and natural resources), home energy conservation and efficiency (family and consumer sciences), community impacts of large-scale energy development (community development), and energy literacy (4-H youth development).

Extension was once viewed as the most reliable trusted source for energy education. It is imperative that as Extension educators we engage our communities in dialogue on local energy challenges and goals. We must better understand how energy impacts our communities and the roles Extension can play in energy education. As educators we must embrace change, build on the foundation of existing energy programming, and expand our efforts in energy research, outreach, and education. In doing so, we can support our mission of strengthening lives and communities through research-based educational programming to address one of the most critical issues facing society in the future.

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