

# Western SARE Extension Energy Needs Assessment

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## Survey Summary

As described in the application for the professional development Western SARE (WSARE) grant, *Equipping Extension Educators to Address Producers Needs in Energy Education*, a needs assessment survey was conducted of faculty in all Western SARE states and territories. The survey was designed to identify:

1. Current needs of Extension educators as they relate to renewable energy
2. Perceptions of educators as to availability of resources that would assist them in meeting renewable energy needs
3. Priorities of Extension educators related to renewable energy outreach
4. The methods for outreach that were perceived as most desirable by Extension educators.

The survey was conducted in April and May of 2010 and was completed by 233 Extension faculty in the WSARE states. The following report summarizes the data collected in the survey. It should be noted that both respondent comments and data indicate that Extension field offices are not being consistently contacted for energy-related information. It is unclear whether this is because Extension is not seen as a resource for such information or if there is lack of demand. Needs assessment tools may help to identify the nature of this finding.

## Question 1: State/Territory

The composition of the survey respondents by their state or territory of operation is summarized in Table 1. Graphic summarization of the respondents by state is provided in **Error! Reference source not found.**, where it can be seen that Washington, Montana, New Mexico, Arizona, and Wyoming had the highest levels of survey participation. While not all states participated equally, for purposes of this grant it is believed that the composition of respondents is sufficient to present a cross-section of Extension professional experiences and perceptions regarding renewable energy needs.

Responses by State/Territory		
Answer Options	Response Percent	Response Count
Alaska	0.4%	1
Arizona	13.3%	31
Colorado	0.9%	2
Idaho	15.9%	37
Micronesia	0.4%	1
Montana	15.0%	35
Nevada	3.4%	8
New Mexico	13.7%	32
Oregon	9.9%	23
Washington	17.2%	40
Wyoming	9.9%	23
<i>answered question</i>		<b>233</b>
<i>skipped question</i>		<b>0</b>

Table 1: Responses by Location

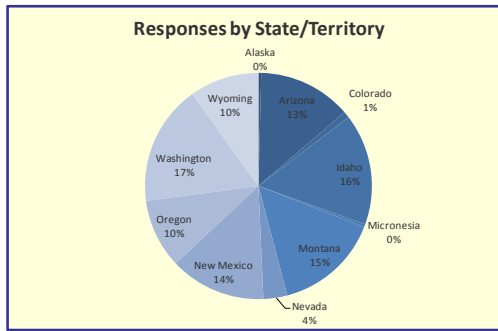


Figure 1: Graph of Responses by Location

## Question 2: Position Description

Respondents were asked to describe their position within Extension. Responses are summarized in Figure 2. 231 respondents completed the question, with 80 percent indicating that they are Extension educators in county or multi-county positions. The responses indicate that the survey was effective in targeting field faculty, which is the focus of the professional development effort in this grant.

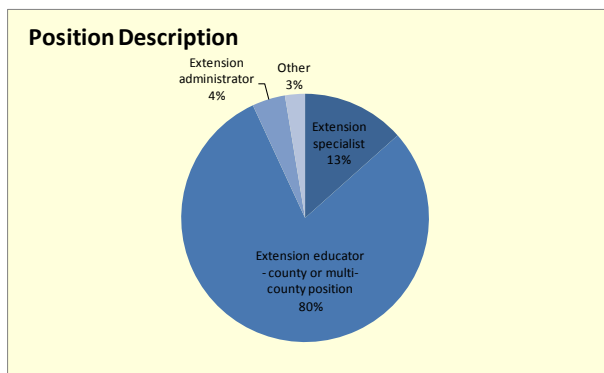


Figure 2: Position Description of Respondents

## Question 3: Primary Responsibilities

Respondents were asked to select a description of their primary responsibility area in Extension. Their responses are provided in Figure 3. Of the respondents, 67.2 percent work directly with agricultural producers as part of their primary responsibilities.

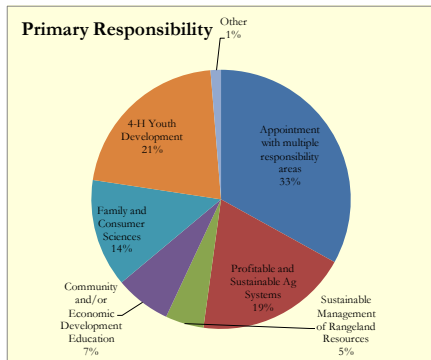


Figure 3: Summary of Primary Respondent Responsibilities

### Question 4: Frequency of Requests

Respondents were asked to indicate the frequency of requests for renewable energy information. 65 percent indicated that they receive requests “infrequently or sporadically.” Sixteen percent indicated that they “never” receive requests, and 11.2 percent indicated that they receive requests “once per month.”

### Question 5: Types of Constituents Seeking Information

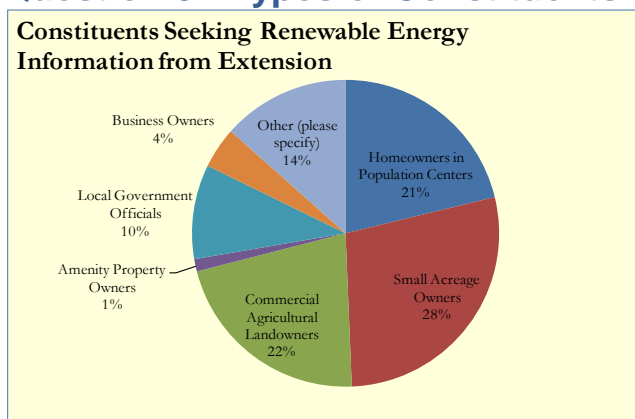


Figure 4: Constituents Seeking Renewable Energy Information from Extension

To better understand the types of constituents seeking renewable energy information from Extension professionals, respondents were asked the type of client most consistently seeking energy information in their area. The responses are summarized in Figure 4.

### Question 6: Types of Requests

Respondents were asked to rate the times per month that they receive requests for specific information on energy topics by technology/issue. It should be noted that for all energy technologies/issues identified in the question, the most common response was “Never”. To better understand the areas in which Extension resources were being sought, the graph in Figure 5 highlights request for information for all responses other than “never”.

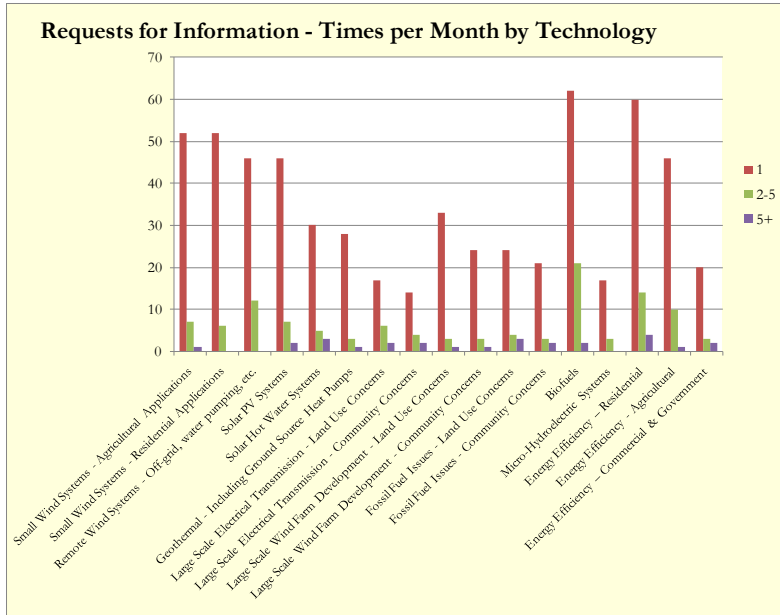


Figure 5: Requests for Information by Times Per Month by Technology/Issue

As indicated in this graph, the most common requests for information in the Western SARE states were for biofuels, residential and agricultural energy efficiency, and then small wind applications.

### Question 7: Current Resources

Respondents were asked to rate their perceptions of how well existing resources addressed constituent needs for energy technologies/issues. The responses are summarized in Figure 6.

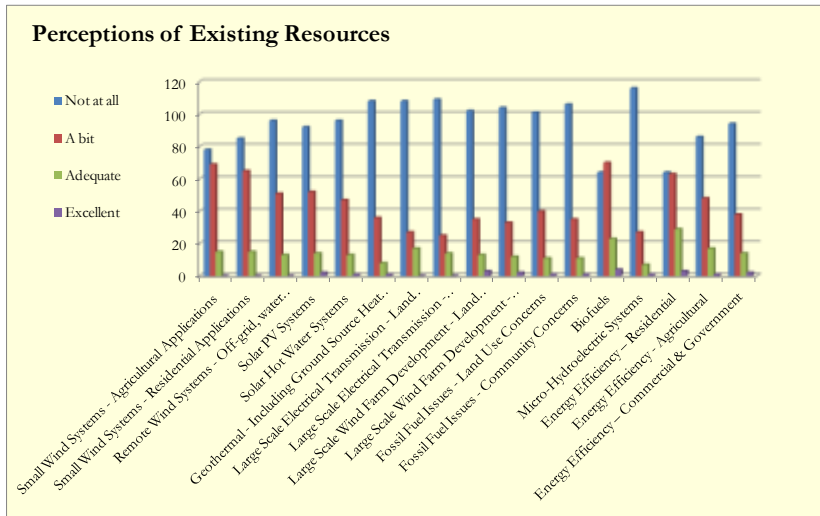


Figure 6: Perceptions of Existing Resources

The purpose of this question was to identify whether existing materials in other states might already be addressing constituent needs. Responses to this question indicate that if materials and resources are available, in most categories they are not marketed or targeted to be “adequate” in meeting the needs perceived by educators.

### Question 8: Current Sources

Respondents were asked to identify the sources of information that they use to address questions on energy. Of the 146 responses for this question, few were similar. Responses ranged from using state energy specialists to websites, to seeking information from the private sector or other agencies. The scope of responses indicates that no consistent source of Extension material is identified on most topics. With the exception of responses from Oregon, few responses indicated that field faculty search within their own institutions for energy information.

### Question 9: Additional Energy Resources

Respondents were asked to indicate whether they believed additional educational energy resources would be beneficial in education and outreach efforts. Of the 190 respondents answering the question, 63.7 percent indicated that more resources would be beneficial. 10.5 percent indicated new resources would not be beneficial, with 25.8 percent indicating uncertainty. In comments related to this question, educators indicated that Extension is not consistently being sought as a resource on renewable energy. Because they are uncertain whether the lack of requests for resources stems from lack of interest, or whether Extension is simply not perceived as a source for energy information, the professionals were unclear on whether additional resources would increase demand.

### Question 10: Programming Plans

Respondents were asked to state their programming intentions if resources, materials, and assistance were readily available on energy topics. The responses are summarized in Figure 7.

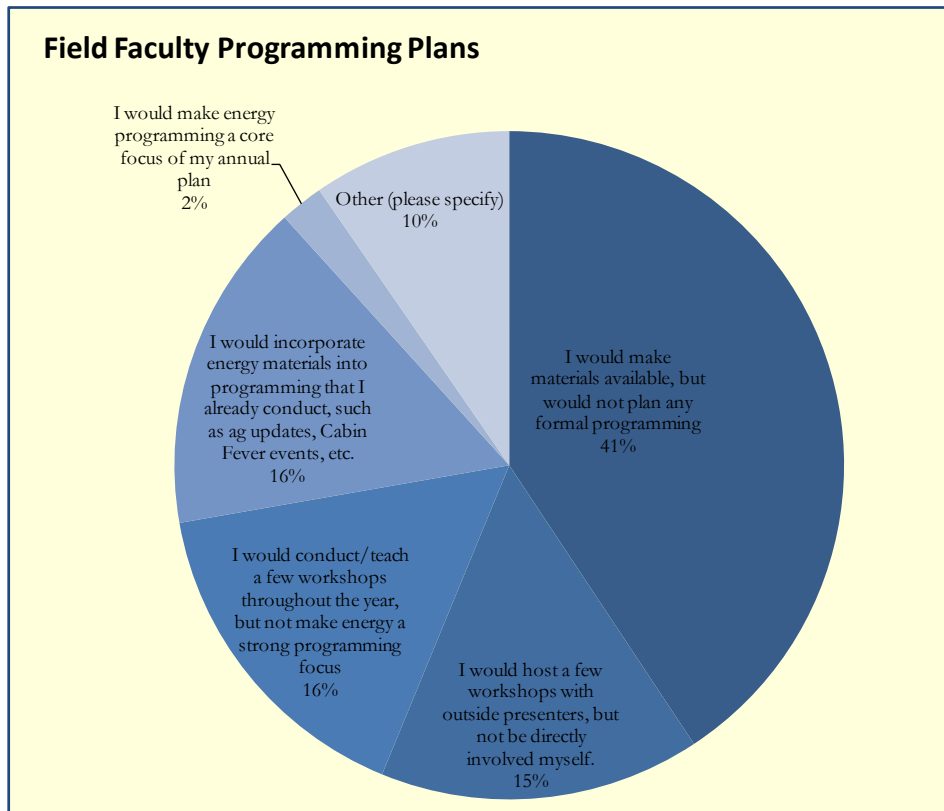


Figure 7: Field Faculty Programming Plans Given Energy Resources

## Question 11: Prioritization of Resource Development

Respondents were asked to provide a timeline of their resource needs by technology/energy issue. For all issues the most common response was “Not Applicable”. However, in order to better understand the timelines that were identified, Figure 8 depicts priorities for all other responses.

The priority issues identified by respondents as needing resources “Within the Next 3 Months” included energy efficiency for residential applications, remote wind for water pumping or off-grid applications, biofuels and solar hot water systems.

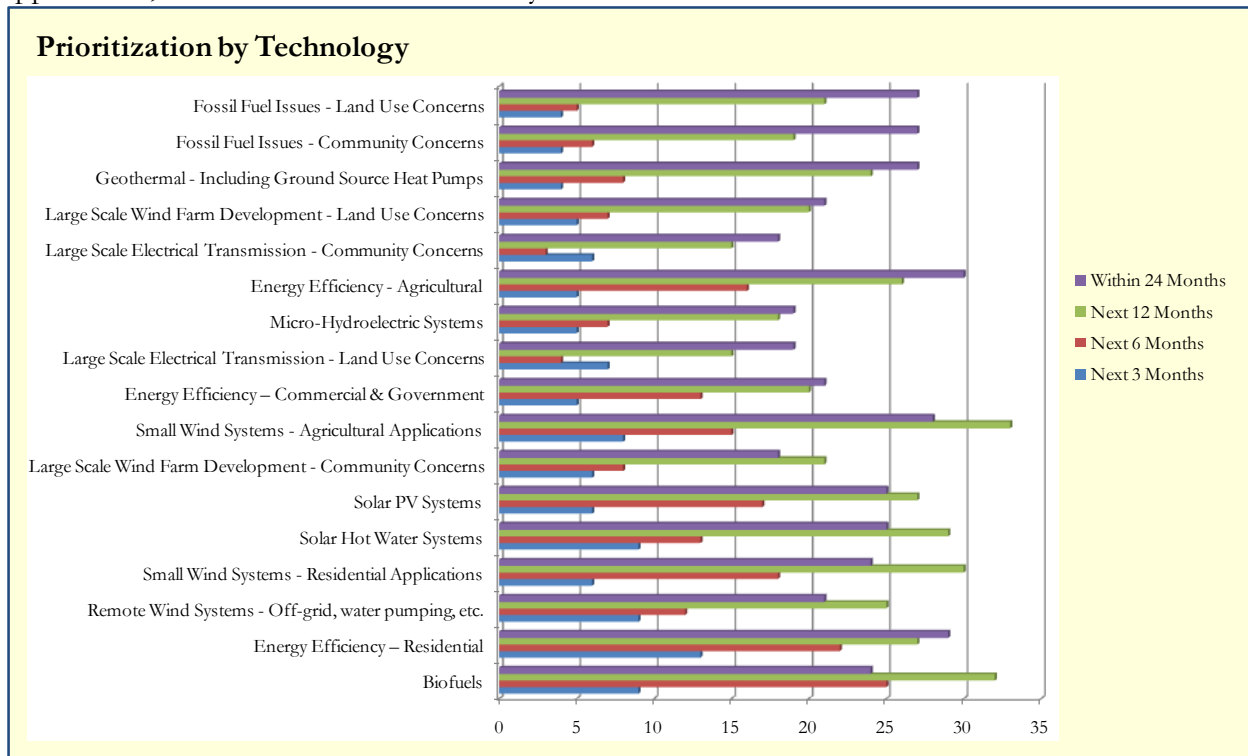


Figure 8: Timeline Prioritizations by Technology/Issue

To better understand overall prioritization, Figure 9 was developed to list priorities in descending order. While this figure does provide an indication of priority, it is important to note that most educators did not indicate a timeline or preference.

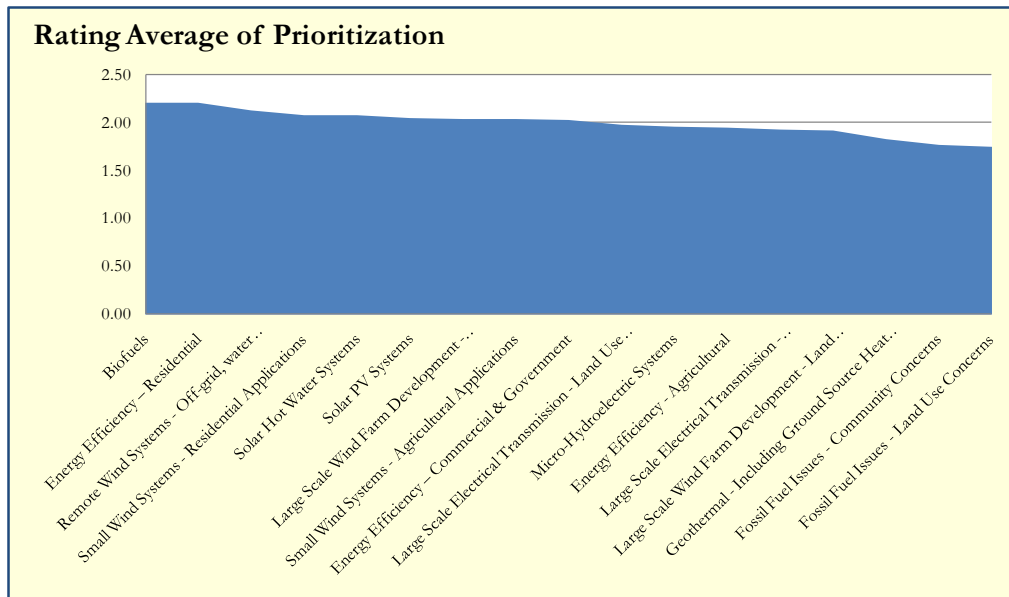


Figure 9: Average Ratings of Timeline Prioritization

### Question 12: Needs Assessment Resources

Respondents were asked whether they desired assistance in conducting needs assessments on energy education in their area. Of the 191 respondents to the question, 64.6 percent indicated that they did require assistance in assessing energy education needs in their area. 35.4 percent did not. Some comments indicated that those who did not desire needs assessment resources either felt that the utility or another organization in their area had this information, or identified that they did not intend to conduct energy programming, and therefore, did not wish to assess needs.

### Question 13: Evaluation Resources

Respondents were asked whether they desired assistance in programming evaluation on energy education efforts. 66.3 percent of those who responded to the question (185) indicated evaluation assistance would be desirable. 33.7 percent were not interested in assistance with evaluating energy programming.

### Question 14: Comfort in Teaching Energy

Survey participants were asked to indicate their level of comfort with teaching and delivering energy programming, given their current level of knowledge. Those results are summarized in Figure 10. While some respondents took exception to the use of the term “intimidated”, 33 percent indicated being intimidated by teaching at least some concepts of energy. An additional 21 percent indicated a need for in-depth training and skill development. Thirty-four percent felt that they could become comfortable with quick training. Only 12 percent indicated a current level of comfort.

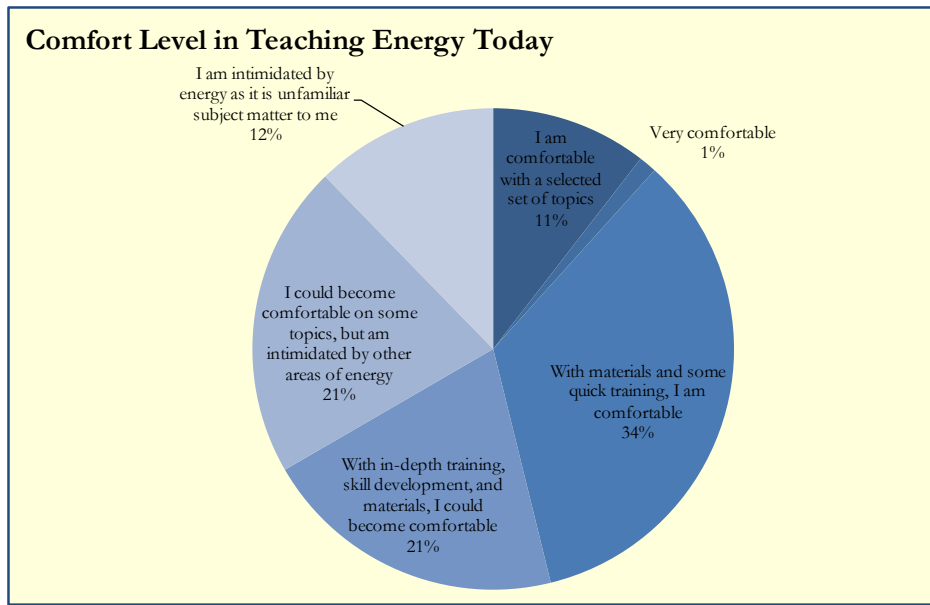


Figure 10: Comfort Level in Teaching Energy Given Current Knowledge

### Question 15: Priorities in Training

Respondents were asked to identify their priorities in expanding their own energy knowledge. Topics listed included:

- Typical terms in energy
- Basics of net metering
- Basics of off-grid applications
- Basics of carbon management
- Basics of electrical transmission

Some respondents (4) commented that they felt they already had too many job responsibilities and had no desire for training, however, of those who did respond, the highest overall rating on a 1-5 scale was for training in typical terms in energy (2.77). The highest priority (identified by 28.4 percent of respondents) was for basics of off-grid applications. This topic was also the second-highest overall rating with an average of 2.76. Other topics scored as follows: Carbon management (2.73), net metering (2.52), and electrical transmission (2.42). There were comments made by respondents that “I don’t know enough to answer this question,” and, “I don’t know these terms, so I cannot answer the question.”

### Question 16: Equipping Educators

Respondents were asked to identify their preferred method of training on energy topics. Results are summarized in Figure 11. 40.7 percent of respondents indicated a preference for face-to-face training. Webinars were the second most preferred method with 38.9 percent of respondents favoring that teaching method.



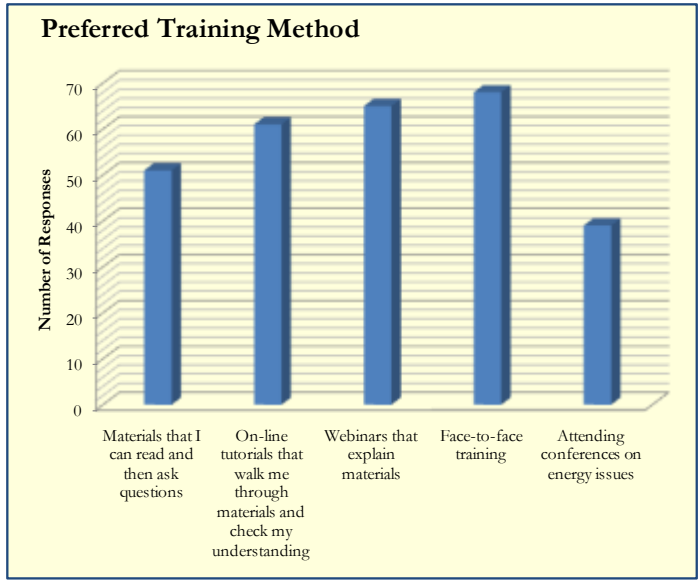


Figure 11: Preferred Training Methods

**Question 17: Types of Materials**

Respondents were asked to identify the types of materials that would be most beneficial in meeting constituent needs. Responses are summarized in Figure 12.

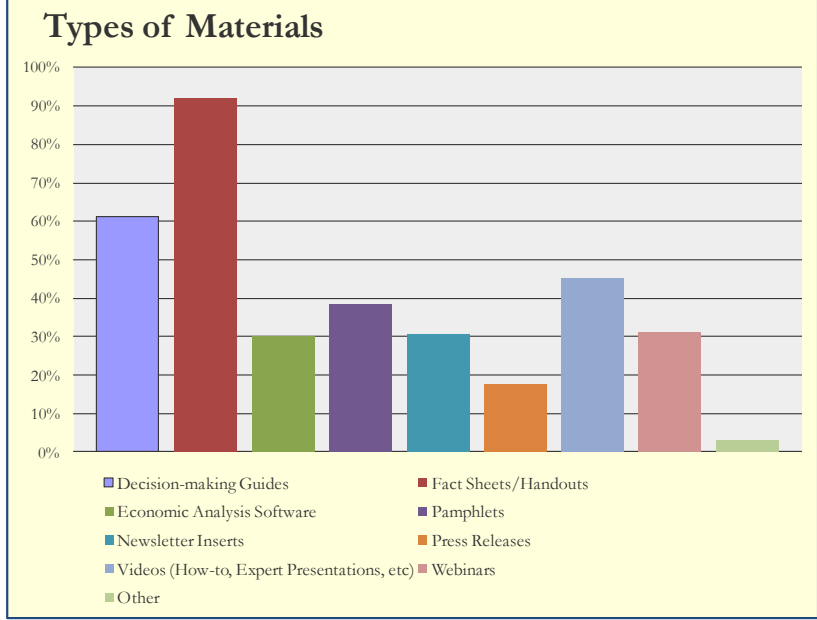


Figure 12: Types of Materials

**Question 18: Other Comments**

Survey respondents were asked to contribute any additional comments that would aid in development of energy education curriculum. Those responses are provided below:

- In the first energy crisis, there was a lot of focus on placement and kinds of trees to cool in summer and allow solar heating in winter. I've considered trying to find these resources or a person to help develop materials.
- Is there a small low interest loan program that nursery/greenhouse growers could access to convert to more efficient systems. (i.e. there's the State Revolving Fund usually used by municipalities for upgrading sewer facilities to improve water quality. A larger loan to an entity that would sub-loan to businesses to convert to new energy sources would be helpful.
- Cooling is a bigger issue in the desert for energy conservation
- I recently ran a survey of my clientele and almost all of them said they wanted some sort of energy efficiency education.
- sounds like you are focusing on adults; I focus on youth
- I don't "do" much energy, as I'm a water quality specialist (I do some safe drinking water)
- My programming in Family and Consumer sciences mostly food safety and 4-H. I don't feel I have time to add more programming to my schedule. Power companies have very good resources for consumers to answer home use questions. Thank you.
- Please add ocean energy to your categories. Of the many of these surveys that have come through, no one ever has this listed, and as I said previously, you are missing not only a big issue, but a lot of the work that sea grant extension people are doing; and looking at the list of states you included, it would be relevant.
- Is there a true demand for education in energy topics? I really haven't seen it - -
- Different subject completely but Fuel efficiency in tractors.
- I suspect we will have an issue soon with land issues and wind energy
- Hands on, face to face, is the best as people have too much to read already.
- There is no demand in my area.
- Please include youth oriented lessons.
- For homeowners and the general public, it would be nice to have short webisodes to link to our website on basic energy efficiency and inexpensive things they can do to reduce their energy consumption.
- Provide \$ for people , training and material
- It may be helpful if the energy education curriculum came in various levels (beginner=younger children, intermediate=mid level children, senior=high school youth, advanced=post high school). One topic delivered at various levels, and also it would be beneficial to the learners (for retention) if you incorporated a heavy amount of experiential learning activities and less memorization/fill-in-the-blank, crossword puzzle things that teachers assume that kids like, but they don't really and they don't learn much from them either. :-) Thanks!
- There might be funds through council available in the future for 4-H Materials. Please tie in some of the sustainability certifications for food industry, such as Food Alliance Certified: [www.foodalliance.org](http://www.foodalliance.org)
- An excellent area to develop.
- Timely in development. NMSU had a whole solar institute that I can find no information from. One pamphlet or material needs to be "connecting to the grid or working offline"
- We may be behind on this technology.
- You do not mention climate change. I hovers over everything that we do with energy. It is happening. It must be part of setting the context for energy education.

- Creating curriculum intended for low-income and minority audiences. Including Spanish materials.
- We have a \$55,000 program going with recent funding from our PUD for energy conservation and education so we can use resources.
- Make it easy to do. Information is needed, but hard to fit into already full schedules.
- Energy is not an area that I worked in but is definitely important. The starting point for me is learning about the available resources and hopefully they will be available on line, website, etc. There is a definite need for information and guidance on tidal hydro production of electricity. There is also a need especially in the island territories for information templates for desk-top publishing that highlight illustrations but have texts that can be locally translated to vernacular languages.
- Again, not a wind area so most of the current emphasis is not on systems that apply for this area
- Consider the variety of energy sources available in different parts of the state due to geography, particularly the difference between the eastern and western parts (mountains/forests vs. plains/range land )
- A tool box of resources would be a good tool yet at the same time some way of assessing the real interest out there may be of more benefit at this time.