

Outreach Is Serious Fun!

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Outreach is Serious Fun!

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ABSTRACT

This paper outlines the planning and effort that goes into a successful, inexpensive outreach project. Since 1996, the National Renewable Energy Laboratory has had an educational exhibit booth and has also presented workshops on renewable energy at the two-week-long National Western Stock Show held each January in Denver, Colorado. In our exhibit booth and workshops, farmers, ranchers, and homeowners learn how solar, wind, and biomass energy systems can provide economical electricity for the agricultural community. We show how this outreach has grown to include the presentation of renewable energy exhibits at events in South Dakota and Illinois at the request of the Deputy Secretary for Energy of the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy, and our support of the U.S. Department of Agriculture in Kansas and Nebraska on the issuance of the 2004 Farm Bill.

1. Objectives

In the mid-1990s, the National Renewable Energy Laboratory (NREL) developed a series of workshops for consumers on the use of photovoltaics (PV) and wind energy, presented over several evenings at NREL's Visitors Center. It was realized that this information should go to others who could make the best use of it. By 1995, a flurry of activity resulted in obtaining space for an educational booth at the 1996 National Western Stock Show and additional space for a workshop—and we have continued to have this presence at the Stock Show ever since.

The National Western Stock Show has been the major January event in Denver, Colorado, since 1906, and it is now the largest stock animal, horse show, and rodeo in the United States. The primary purposes of the Stock Show are to educate youth in agribusiness and promote better livestock through improved practices of breeding and animal care. It is also the world's largest showcase and marketplace for some 20 breeds of cattle. For 16 days, one can see bison, horses, sheep, hogs, poultry, goats, and llamas being exhibited or auctioned. Large exposition halls house some 500 commercial and educational exhibits.

Since 2000, more than 630,000 people have gone through the turnstiles each year to attend cattle sales and seminars, horse shows, and rodeos. The Stock Show is an institution in Denver and its attendance grows each year. 4-H clubs, grade-school classes, Young Farmers Association members, and the general public make the Stock Show an annual "must see" event. Farmers and ranchers from every state of

the Union attend. And in 2004, almost 450 guests from 38 foreign countries helped to make this an international event.

2. Technical Approach

In the exhibit booth, we distribute literature on the use of renewable energy. At the workshop, we demonstrate how solar and wind energy systems can provide an economical way to produce electricity for stock watering, fence charging, irrigation, and other electrical needs in the agricultural community. In 2002, we welcomed staff from the National Bioenergy Center to the workshop presentation team and integrated biomass energy information into the exhibit booth.

The workshop presentation highlights the clear and important synergy between renewable energy technologies and how each technology has its place under the sun. The Stock Show team uses this synergy as they use a tag-team approach in the presentation. The team sets up demonstrations of water pumping using a stock-watering tank and has on display a solar-powered electric fence charger and gate opener. Small lanterns, remote lighting systems, and other small, solar-powered devices are also displayed. Small wind turbines are shown, as are the types of wood chips and pellets used to fuel small biomass gasification plants. The team displays inverters, deep-cycle batteries, and charge controllers so that the audience can see what makes up a working renewable energy system. Members of the audience can touch and see the equipment when they are invited onto the stage at the end of the presentation (Fig. 1).



Fig.1. After the formal presentation, the audience comes down to check out actual examples of the renewable technologies discussed and to pick up helpful literature.

The question and answer session is very popular, and the audience typically asks quite educated questions. In the past 5 years or so, we have noticed a great interest in off-the-grid power for new and existing homes, as well as for remote cabins. There is also interest in PV- or wind-powered units to supply back-up power in emergencies.

Separately, we staff our Stock Show exhibit booth, which occupies a 10 ft x 20 ft space in the Hall of Education. The booth reflects and complements the presentations given in the workshops. The displays in the booth are updated and improved each year with the help of NREL's Communications Office.

We print or copy literature for distribution that we think will be relevant to the Stock Show visitors. Some pieces of literature are produced specifically for use at the Stock Show. For example, the Vendor List was initially a list of renewable energy suppliers located mostly in Colorado. As we have now begun to present workshops in other states, the team has researched and listed the vendors in each state we visit. A popular publication is the Renewable Energy & Energy Efficiency Consumer Information Center. This piece lists resources such as Web sites, publications, catalogs, and books that have been developed with the consumer in mind. Although representing only a small fraction of available information resources on these topics, this publication does cover a range of practices and technologies used today. Both publications are updated annually.

The NREL Outreach and Public Affairs Office writes a press release to send to the usual media channels. Denver newspapers print a pullout section on the Stock Show events each day, and almost every year several members of the Stock Show team have been interviewed by newspaper reporters. Local television news channels also devote some time on each newscast to the daily events at the Stock Show. In 2001, we helped the Stock Show Education Department with a special display in the children's area that showed how wind power can help farmers. We also supplied pertinent literature and some eye-catching posters.

In late November, we put out a call to all NREL staff for volunteering at the Stock Show. Those who volunteer are asked to staff the exhibit booth, which requires giving a 3-hour block of their time during the three weekends and ten week nights of the Stock Show. We encourage the volunteers to wear their cowboy boots, jeans, and Stetsons, and to have fun. We fill some sixty 3-hour time slots with NREL volunteers. The Outreach and Public Affairs Office at NREL staffs the booth during the weekdays.

Volunteers come from all of the research areas of NREL, as well as from the support and administration offices. One week before the start of the Stock Show, the Stock Show team gives a tutorial to the volunteers on how to staff the booth, explains the literature that will be distributed, and also gives a dry run of the workshop presentation.

3. Results and Accomplishments

The success of the Stock Show exhibit and workshops—with 400-600 people attending the workshops each year—has led to other important outreach events. In April 2002, the team set up the Stock Show exhibit, together with the equipment for the workshops, at a Renewable Energy Fair

and Exhibit at Augustana College in Sioux Falls, South Dakota. The request came from David Garman, Deputy Assistant Secretary for Energy in DOE's Office of Energy Efficiency and Renewable Energy (EERE). Again, at the request of David Garman, the Stock Show team set up the same exhibit and equipment in Edwardsville, Illinois, for the South Illinois Energy Meeting sponsored by the U.S. DOE and held at the Southern Illinois University in October 2002.

In January 2004, the State Director of Rural Development for the U.S. Department of Agriculture (USDA) in Nebraska asked if the Stock Show Team would travel to Kearney, Nebraska in April 2004 to present the workshop. Our presence was in support of the issuance of the 2004 Farm Bill, which announced \$22.8 million in grants targeted for farmers, ranchers, and small businesses to acquire energy systems or improve energy efficiencies. Most of the 110 people who attended the meeting were farmers, ranchers, and business owners of small renewable energy companies. Tom Osborn, Congressman for the 3rd District in Nebraska addressed the meeting. At the end of April, we also presented the workshop in Salina, Kansas, where we had an audience of about 60 business people and grant writers, along with farmers and other interested people.

The workshops in both Kansas and Nebraska were very successful in reaching the heart of the agricultural community, including agricultural business owners and grant writers. We anticipate that NREL will continue to work with the USDA and state energy offices.

Plans are under way for the team to give a modified Stock Show presentation at the Peer-to-Peer Workshop sponsored by U.S. DOE and Million Solar Roofs taking place in Burlington, Vermont, in October 2004. Furthermore, at the request of EERE, the team will staff an educational booth at the 77th National Future Farmers of American Convention in Louisville, Kentucky, at the end of October 2004.

Working with NREL's State and Local Initiatives program, we also look forward to the possibility of presenting workshops at one or two of the large agricultural shows held annually in the farm states.

4. Conclusions

This outreach has been very successful at very little cost. The presentation, which is geared toward the farmer, rancher, and the general public, may appear simple, but much careful planning occurs before the first slide appears. The NREL Stock Show team—John Thornton (leader), Byron Stafford, Lorenzo Roybal, and Wendy Larsen of the National Center for Photovoltaics; Trudy Forsyth and Jim Green of the National Wind Technology Center; and Richard Bain and Philip Shepherd of the National Bioenergy Center—starts planning as early as July each year to get ready for the January event. Staff members from many different areas of NREL are contacted for their input and assistance. Some NREL volunteers have been either presenting at the workshop or assisting at the NREL exhibit booth for 8 years. We make a concerted effort to ensure that this outreach is "serious fun" for the presenters, volunteers, and audience alike.

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