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25 by '25: Extension's Role in Rural Energy Development

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25 by '25: Extension's Role in Rural Energy Development

Abstract

With oil prices so volatile, Cooperative Extension agents can play an important role in the evolution of America's new power source: agricultural producers who have an entrepreneurial spirit and the resources to create renewable energy. By acting as information brokers to farmers and ranchers, we can help them learn how to create and sell energy from wind, corn, sunflowers, soybeans, manure, and more. Government agencies are urgently adopting measures to provide funding and support the renewable energy industry. Extension's contribution is a critical link in the chain of events that will lead to profitable ventures and energy independence.

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Science, Space, & Energy from Agriculture

As a marketing specialist for Colorado State University Cooperative Extension, there were moments in St. Louis during the Energy from Agriculture: New Technologies, Innovative Programs & Success Stories conference that were daunting. As one of the few non-scientists in the audience (so it seemed), I admit to being overwhelmed as the esteemed speakers shared their data.

Then again, I didn't go for the science; I attended with the intent of learning how to help farmers and ranchers tap into this newly emerging and soon-to-be-booming industry. Plus, it doesn't take a rocket scientist to realize that the renewable energy industry is dependant on space--the kind of space found throughout rural America and owned primarily by our nation's agricultural producers.

It worked. I'm now more equipped to talk with producers about what value-added opportunities are available to them. And I'm confident that some of America's greatest scientific and entrepreneurial minds have rolled up their collective sleeves so we can transition smoothly from dependence on fossil fuels to a new agriculturally based paradigm that will power our nation's future.

Increasing the Value of Renewables Through Information

"Energy from agriculture is really here," said Tom Dorr, Undersecretary for USDA Rural Development. "Agriculture producers will have a place at the table at the national energy policy. A lot of it is happening right now."

Held in mid-December, 2005, the conference was jointly sponsored by the Farm Foundation, United States Department of Energy Policy and New Uses, Natural Resource Conservation Service, and the USDA Rural Development. Vernon Eidman, professor of Applied Economics at the University of Minnesota, kicked off the event by articulating that every time the cost of gasoline increases, the value of energy generated by corn, wind, biomass, biodiesel, hydrogen, and the sun also rises. The economic sense of renewable energy, he claimed, will soon surpass the economics of oil.

I believe that Cooperative Extension agents have a growing responsibility to provide research-based data to our customers about these emerging opportunities. Farmers and ranchers trust our agents. We've proven ourselves to them in the past, and now, by arming ourselves with knowledge about renewables, we can help them manage the risks inherent to starting new ventures. We can

refer them to producers who have already built the ethanol plants, installed the wind turbines, or reaped the benefits of a biomass facility. Indeed, by linking together the pioneers who are already successful with those who seek similar opportunities, we will ultimately help them make critical decisions about how their operations can fit into the future of America's energy and produce a more robust bottom line.

The Time Is Now--Politically and Professionally

According to Undersecretary Dorr, there's no time to waste. He cautioned that there are people from other parts of the world, including the Middle East, who know where the future of energy resides, and they are already buying up America's farmlands. "If we miss this opportunity," cautioned Dorr "it will be a grievous mistake."

There is no simple track for learning the renewable energy ropes. Nor is there a one-size-fits-all option that will work for every willing producer. That's because:

- Wind energy requires consistent winds and a utility willing to buy it.
- Ethanol production depends on more corn and soybeans than many producers can grow.
- Biomass facilities can use a variety of feedstocks to create energy, but they are only profitable when transporting the feedstocks is affordable.

There are countless variables to consider when learning about the viability of renewables. A good place to start is by going to www.farmfoundation.org, clicking on the Energy from Agriculture and Energy in Agriculture conference links, and reading about what was presented.

Grants, Loans, Incentives, & Partnerships

Another approach to learning about the industry is to explore the funding that's available for ag-to-energy businesses. An Iowa farmer who bought a *single* wind turbine at a cost of \$1.6 million says he couldn't have done it without help from the USDA's Rural Development grant and loan money. That single turbine is now powering 20,000 homes and providing about \$115,000 per year for his family on top of what they bring in from their traditional farm operation.

William Hagy administers grant and loan programs for USDA Rural Development. He explained that the 2002 Farm Bill, Title IX, section 9001, was the first to include funding for biomass, geothermal, hydrogen, solar and wind projects. This year, there is \$125 billion of capital available for investing in green energy. Grant money and USDA loans can fund up to 50% of the cost of the project. To learn about projects the money will cover, go to: <http://www.rurdev.usda.gov/rbs/busp/bpdir.htm>, and click on Programs. The even-numbered programs between 9002-9010 relate to renewables.

It takes time to learn about the appropriate producer/energy matches, how the financial backing can be structured, and the basics of renewable technology. But there's an awful lot of good news blowing in the wind for America's ag producers. Jim Gulliford, from the U.S. Environmental Protection Agency, said that ethanol production in 2005 exceeded 4 billion gallons. There are 94 plants in 20 states, and 29 plants under construction that will soon yield 5.7 billion gallons of ethanol.

There are tax credits available for farmers who invest in renewable fuels, about \$12 billion in tax breaks, and government incentives currently being created to prompt participation. There's also a federal mandate that by 2013, 7% of our fuels must be generated from renewables. The vision that was floated in St. Louis was: "25 by '25," which means that agriculture will provide 25% of America's energy by the year 2025. This is an inspirational goal that, according to both scientists and government representatives, is attainable.

The Rural Energy Imperative

"Technology is ahead of politics and public perception," said Undersecretary Dorr. "Energy is a national security imperative and an environmental issue. Technology that was shelved as long as oil was cheap is being dusted off and developed. Rural American's shouldn't miss this. Rural policies are awakening. The new energy economy is going to be rural. The potential for it is unlimited."

Conclusion

Extension agents across the country are in the best possible position to both introduce this new industry to America's farmers and ranchers, and support them through the tides of change. In doing so, we'll help create a crop of entirely new possibilities.

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