WOOD to ENERGY

Gainesville Report

Using Wood for Energy in Gainesville, Florida

Summarized for the Gainesville City Commission and Gainesville Regional Utility

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The Wood to Energy Outreach Program is coordinated by the School of Forest Resources and Conservation, IFAS, at the University of Florida through a cooperative agreement with the USDA Forest Service – Southern Center for Wildland-Urban Interface Research and Information and the Southern States Energy Board. The program is developing outreach materials and procedures to help southern communities learn about and discuss the possibility of using wood for energy.

To test and improve our draft materials and procedures, the outreach team explored public perceptions in Alachua County and conducted community forums. Our activities included:

1. Interviewing several Gainesville city commissioners and GRU representatives to understand the diversity of issues surrounding using wood to generate electricity in Alachua County.
2. Creating a supply curve and conducting regional economic analysis for Alachua County. The supply curve provides a broad sense of the abundance and cost of wood obtained locally (at 15-minute interval haul times) based on current harvesting rates.
3. Conducting a random survey of Alachua County single-family and mobile homeowners about their perceptions of using wood for energy in general and specifically at Deerhaven.
4. Conducting seven community forums between November 2006 and January 2007 to provide information to interested members of the public, to answer questions, to learn what concerned them, and to share their thoughts with community leaders.

This report summarizes our findings from these four exercises. The team would be happy to answer any questions you might have; please contact Dr. Martha Monroe at mcmonroe@ufl.edu.

Summary of Findings

Activity 1: Gainesville community leaders acknowledge that more electricity will be needed within the next 10 to 12 years to meet growing demands. Several leaders also express concerns about the environmental costs of using fossil fuels. Because wood is a carbon-neutral fuel and because the emissions are less than coal, leaders are willing to consider this possible source of fuel. They are concerned about the cost of wood, the competition for wood, and the possibility of a dedicated wood supply that would continue through the life of the facility. They are interested in providing more local jobs, particularly if the economic impact of using wood improves employment opportunities for lower income populations.

Activity 2: We analyzed the wood supply and economic impact of using wood in 28 counties across the South, including Alachua. Our results involve a variety of assumptions about supply and price, and therefore are most useful in comparison. Alachua County is among the most promising and suitable counties for wood-to-energy facilities. Our research suggests that at least 300,000 dry tons of wood (enough to produce 40 megawatts (MW) of power daily) could be available per year at a cost of about $2.75 per million British thermal units (MMBtu), delivered to Deerhaven. This supply includes wood from several sources: 460 MMBtu from urban trimmings, 2.85 trillion Btu from forest harvesting waste, and 240 MMBtu from pulpwood per year. The annual operation of a 20 MW wood-burning power plant would enable the community to employ 196 people in a variety of positions and provide $22.9 million to the local economy. The annual operation of a 40 MW wood-burning power plant would increase the local economic impact to include 413 jobs and $17 million. This economic activity results directly from the purchase of wood and indirectly from additional business activity. Please see the *Community Economic Profile: Florida*.

Activity 3: Our random survey (see the *Citizen Energy Survey* in this appendix) of 298 residents suggests that despite newspaper articles and community discussion, only 18% of the respondents are familiar with the possibility of using wood for power generation in Gainesville. Over half (54.5%) admit to knowing very little about using wood for energy. This lack of knowledge means that community discussions may be based on opinions and assumptions rather than informed judgment.

A substantial minority of the respondents have negative feelings toward using wood for energy in Alachua County (31%) and 23% characterize their initial reaction as very fearful. A larger portion of the respondents are either neutral (41%) or have positive feelings toward using wood for energy in Alachua County (27%). More respondents are curious, interested, and skeptical than fearful.

Respondents showed relatively high interest in participating in wood-to-energy discussions with 53% expressing a belief that the community would be influential in a proposed project and 54% describing themselves as interested in participating in the decision-making process. Such high percentages suggest it may be difficult to establish such a project without the support of the public.

The large portion of respondents who are neutral, positive, or interested in using wood for energy probably accounts for the large response (71%) who favor using waste wood

(either from urban trimmings or forest operations) as a source of fuel. A full 61% were supportive of growing trees for energy.

Responses indicate that the most important concerns with using wood for energy are the loss of local forests and air quality. The most important benefits of using wood for energy, according to these respondents, are making use of a potential waste and maintaining local forests.

The majority of respondents do not understand that wood represents a carbon-neutral energy source. Forty-six percent of the respondents believe natural gas to be better or the same for the climate than wood, and 44% do not know which is better. Also, 44% of respondents believe that solar energy is feasible to meet our electrical needs in Florida.

Activity 4: Our project team conducted seven Wood to Energy Community Forums in Gainesville between November 2006 and January 2007. Over 180 participants attended. Several were conducted during regularly scheduled meetings (e.g., Sierra Club, NAACP, Kiwanis Club) and several were held as special public discussions (e.g., Women for Wise Growth, Civic Media Center, and two at Alachua County Public Libraries). Each forum included a slide presentation by at least 4 members of our team (20-30 minutes) and a facilitated question and answer period (20-60 minutes). The presentation introduced the concept of using wood for energy; explained that wood is a carbon-neutral fuel; described the potential sources of wood, forest ownership, and sustainable forest management; and explained the Alachua County supply curve and economic impact of using wood for power generation. The question and answer period was interactive and lively, whether there were 4 participants or 40. See the *Gainesville Community Forum Questions and Answers* in this appendix.

Participants were invited to complete surveys before and after the forums that helped us understand their concerns and how we could improve the community forum itself. Surveys were completed by 108 participants. The pre-forum responses show that over two-thirds consider themselves "not at all knowledgeable" (34%) or "slightly knowledgeable" (37%). At the end of the forum these self-assessments improved markedly, with only 6% of the respondents expressing a lack of knowledge.

As an outreach strategy to engage the public in decision making, the forums were promising. Participants rated all of the following aspects of the process as very important (reported in decreasing importance):

a. credible speakers
b. an opportunity to ask questions of experts
c. an opportunity to learn about issues
d. an unbiased facilitator
e. a comfortable atmosphere for contributing ideas
f. an opportunity to share ideas with community leaders

Participants expressed interest in sharing the information they learned about woody biomass with others and encouraged the team to offer more forums. Several participants requested that the city commission receive the report of forum findings.

The post-forum survey asked participants to rate their level of concern for some of the opinions that have been expressed about using wood to generate electricity in Gainesville. Respondents were somewhat concerned about private landowners selling their forests for development, and a bit less, but still concerned about degrading local forests,

that the competition for forest products will increase, and that we won't have enough wood for a 30-year supply. Respondents were only mildly concerned about air pollution and noise from plant operations.

Respondents felt that the following considerations were essential when decisions are made about Gainesville's energy system:

- Keeping forests healthy
- Reducing the amount of carbon dioxide in the atmosphere
- Creating a locally sustainable energy system

Respondents felt the following were important, but not essential:

- Keeping dollars in the community
- Helping private forest landowners maintain nearby forests
- Giving local people jobs

The lowest ranked consideration, while good to have, was less important:

- Saving money on my utility bill

Summary

Because of the lack of knowledge about energy in general and using wood for energy in particular, public education and outreach are essential prior to meaningful discussions about Gainesville's energy future. That outreach effort should be designed to provide basic information from trusted sources, more technical information about options and choices in comparison and in context, opportunities for questions and discussion, and opportunities for a variety of perceptions to be voiced without judgment. A better understanding of the values and views of the minority of respondents who are fearful and unsupportive of using wood for energy would be helpful prior to launching this outreach effort, or the process may further activate or enflame this subgroup.

Anecdotal evidence suggests that people who are initially fearful of using wood for energy believe that this practice will destroy local forests. When presented with supply curve information that was derived from recent timber harvest data—wood production rates that they are familiar with—these participants immediately agreed this was a worthy source of energy. While others may not be so easily convinced, these data are certainly powerful.

The overriding concern for the health of local forests, however, suggests that plans to use wood for energy should include assurances of where the wood is coming from and how the forests are being managed. Issues of electricity prices appear to be less important to these respondents than environmental concerns.