



The Morris Biomass Gasification Project— 4 Years & Still Gaining Steam

Joel Tallaksen, Biomass Gasification Project Coordinator

Having moved to Morris and started work as part of the biomass gasification project just over 4 years ago, I thought it might be a good time to briefly reflect on some of the research conducted, lessons learned, and ideas fostered by the project. Funded by a research grant from the USDA, the biomass gasification project was designed to study how communities could set up energy facilities that would be able to replace imported fossil fuels with locally produced biomass.

One of the first lessons learned was that though the theory and technical understanding of biomass to energy conversion had been around for years, few American equipment manufacturers had experience building large biomass gasifiers or boilers. However as the project progressed and fossil fuels prices began to climb, more conventional boiler manufacturers began to offer biomass fueled equipment. Though fossil energy costs have gone down, companies are still advertising their biomass boilers. Hopefully, community will consider biomass as an option for replacing imported fossil fuels with home grown biomass.

Another important issue examined is the difficulty in using biomass for energy. It is very easy to turn on a natural gas valve or flip an electric switch. Biomass energy requires a lot of equipment and labor to convert bulky plant material into usable energy. While standard farm equipment can often be used for biomass processing and logistics, most farm equipment was not designed for industrial scale volumes of material. A possible solution may be the creation of local businesses that can bring together the specialized equipment and trained labor to make biomass logistics efficient and economical.

The biomass project also looked at the early assumptions by the USDA about the availability and cost of biomass. The popular perception is that all the leaves and stems left on a field after harvesting grain are 'waste'. Unfortunately, some plant matter is needed to rejuvenate the soil each season. Since farmers understand this, many are reluctant to harvest biomass fearing that they may overharvest and deplete the soil. Farmers are also much unwilling to sell that biomass for the low prices predicted. They understand the labor and equip-

ment needed to harvest the material and the extra nutrients that have to be added to the soil for growing next seasons' crop. The Morris project is one of the few energy projects to begin actively purchasing biomass from farmers. We are also working on studies to help better understand soil health and nutrient replacement issues.

One of the unique opportunities for project team members, including myself, is the ability to interact with a wide variety of creative people who are committed to the challenge of finding new energy sources to replace fossil fuels. Through facility tours, workshops, conferences, and talks to community members, we have received a great deal of insight from farmers, businesses, engineers, policy makers, and the public. Both the information and enthusiasm people have share has helped us better understand the publics' support and concerns about biomass and other renewable energy options.

Nearing the end of its fifth and final year, the original project has served to demonstrate a potential technology for replacing a portion of our regions imported energy while keeping local money in our community. As a research project, we have collected a large amount of data and put together a great team of partners. The project team has identified several challenges that we feel need further research and have already begun to start investigating those topics. One of the areas that I feel we at the West Central Research and Outreach Center are well positioned to study is reducing the amount of fossil fuel needed to produce biomass. This would help farmers economically by lowering costs and at the same time have positive benefits for the environment.



Please feel free to contact me if you would like more information on energy biomass activities at West Central Research and Outreach Center: tall0007@umn.edu.



Telephonic Financial Education with Rural Low-Wage Earners

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The following is an excerpt of an article published in The Journal of Consumer Education, volume 27, 2010 written by Sara Croymans, Extension Educator, Deb Carpenter, former Executive Director of Northern Connections and Therese Perro, Counselor/Representative, Northern Connections; <http://www.cefe.illinois.edu/JCE/archives/>

When the term “distance education” is mentioned, most people picture learning opportunities involving computers and the Internet. However, distance education can simply involve the telephone. Sometimes called “educational teleconferencing,” or “telephonic education,” it involves the use of telephone technologies to bring together two or more people for education about an issue (Epstein, 1999). Using telephonic education with rural low-wage earners is an inexpensive delivery approach that eliminates many barriers, including unreliable transportation, lack of child care, and limited access to a computer and the Internet.

The state Council on Economic Education and the Extension Center for Family Development initiated the Community Educator Program in 2005 to empower individuals and families with the financial knowledge they need to survive and thrive. The program trained staff of grassroots agencies, who had access to underserved populations. After an initial 2-day training in financial management content and educational methods, the community agencies applied for funding to co-sponsor two 6-hour financial education courses. Extension professionals mentored community agency staff on teaching skills and content knowledge. In 2009, Extension Educator Sara Croymans partnered with Northern Connections, a non-profit human service agency serving 12 rural counties in a west central Minnesota which provides unique access to underserved populations by telephonically connecting low-wage families to resources in order to achieve financial independence.

Two rounds of classes were held. In the first round, one topic was covered for an hour each week for 8 weeks, for a total of 8 hours. For the second round of classes, the curriculum was modified so the eight topics were

delivered in four 1½ hour sessions over a 2 week time period, for a total of 6 hours of instruction. Of the 41 individuals recruited to participate 21 individuals completed the 6 hours of training. A multi-method evaluation was used, which included participation rates, feedback during the calls, a mailed post-workshop evaluation, and a 10-12 month follow-up phone survey.

The authors found that the telephonic delivery approach to financial education is still an effective, viable educational strategy to reach low-wage individuals in rural areas. This delivery method eliminated barriers including transportation, childcare, and job-related issues that made it difficult for participation in a face-to-face training. Despite the popularity of using computer and Internet technologies in distance education courses, the simple telephonic delivery method removed the obstacles of limited availability of adequate, affordable computer and Internet access. The telephonic delivery method allowed for effective interaction among the learners, instructor, and materials. A unique contribution of this pilot program was that long-term behavior change occurred with a 6-hour educational program conducted over the telephone. Given the wide array of technology delivery options available, the authors believe that the telephone is still a valid choice for delivering education. Although some have been dismissive of the telephone, with Finger and Rotolo (2001) calling it “a second generation technology,” it is still an effective way to reach rural communities. In this case, success was found using the telephone—a simple technology—to effectively provide rural low-wage earners with financial education.

AgCountry Auditorium

Feb. 3 PPAT
Feb 16 PQA-TQA Training
Feb. 7, 14, 21, 28 Quiz Bowl

Seminar Room

Feb. 9 WCROC Faculty Meeting
Feb. 15 Extension Meeting
Feb 16 Biomass meeting