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Bargaining for biomass

Summary: Area farmers met at the University of Minnesota, Morris in September to discuss the details of supplying biomass for the biomass gasifier that is currently under construction on the Morris campus.

(October 26, 2007)-Area farmers met at the University of Minnesota, Morris in September to discuss the details of supplying biomass for the biomass gasifier that is currently under construction on the Morris campus. Included in the discussion was the stipend the University will be paying farmers to deliver biomass to campus and what biomass products are acceptable for burning at this particular burner.

Biomass is any living material that can be used for fuel, but commonly refers to plant material. The plant material is burned in a gasification process that produces heat energy, which is used to create steam. The material that UMM will burn will be a combination of six types of plant products hybrid poplar, wheat straw, soy straw, corn earlage, corn stover and native grasses.

“Corn stover is light and the challenge is to obtain enough to heat the campus buildings,” said Joel Tallaksen, biomass gasification project coordinator. Tallaksen works at the West Central Research and Outreach Center (WCROC) in Morris.

According to Tallaksen, storage issues are numerous: “There is not much space on campus to store the entire amount of biomass, although a temporary storage site is located at the WCROC. The problem with the storage is that biomass is quite flammable lightening strikes are a concern as well as spontaneous combustion if it is not stored properly.” Tallaksen maintained that, currently, bales of biomass will be kept outdoors with farmers until they are needed for gasification and then are delivered as needed. “Outside storage of the biomass is fine as long as only the outer layers are exposed to the water,” said Tallaksen.

Tallaksen said that the burning of biomass does not contribute to global warming.

“Carbon from plants is released into the air and then absorbed by plants the next season we are simply repeating a natural process. There could be problems with sustainability in the soil, like erosion, loss of soil carbon and nutrients taken out of the soil by the crops, but that is a focus of our research,” said Tallaksen.

Nearly $9 million dollars in funding from the USDA/Department of Energy, a State of Minnesota legislative appropriation (in 2005), IREE (Initiative for Renewable Energy and the Environment), Minnesota Corn Growers Association, AURI (Agricultural Utilization Research Institute), the University of Minnesota and the University’s Morris campus will fund biomass construction and research.

“Part of our research grant is to test the ash from burning the plants to see if it is safe to use as fertilizer,” added Tallaksen. Another feature of the research grant is to test the emissions from the biomass plant to see what is emitted from the plants during gasification. “The DNR is allowing us to harvest native grass hay in order to test emissions from
the native grass so that they can look at replacing controlled burns with harvesting to manage prairies,” said Tallaksen.

Currently UMM is spending approximately $800,000 on natural gas for heating. By using biomass as fuel, Tallaksen maintained the campus would be able to replace most of that cost with approximately $400,000 in biomass. The UMM campus will be heated primarily by biomass and natural gas will only be used in the coldest temperatures to aid in heating the buildings. In order to adequately heat campus buildings it would take 8,000-9,000 tons of biomass or the equivalent of about 4,000 acres of left over crop material.

On November 15, the University of Minnesota Morris and the West Central Research and Outreach Center will co-host an Advanced Biomass Workshop in the UMM Student Center, located in the center of the Morris campus. Pre-registration deadline for the workshop, geared to educate participants in current and near-term (activities within the next five or so years) biomass use in energy production, is November 8. Speakers will provide pertinent information to farmers, business and homeowners, public officials, students and other citizens interested in their role in biomass energy.

For more information about the workshop or to register call Jean Spohr or Joel Tallaksen at (320) 589-1711. On November 16 a wind conference, sponsored by the WCROC, will be held in Morris.

To learn more about the renewable energy initiatives at the University of Minnesota, Morris, visit Green Campus.

Photo by Kim Melchert: Biomass gasifier facility is under construction at UMM.

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