

R027-C: ROWS - Replacing Oil with Straw  
Submitted by New Energy Spirit Biomass Refinery  
Principal Investigator: Stephan Rogers  
Request for \$500,000; Total Project Costs \$1,035,000

**Technical Advisor Comments**

- All 3 reviewers recommended fund.
- The 52% match comes from the applicant (\$335,000) and Midwest Ag Energy (\$200,000).
- Two of the reviewers felt that while the objectives may be achievable, the timeline may not be realistic. There are also concerns about quality control.
  - The applicant has acknowledged that the timeline is tight, but stated that the individuals involved have significant experience and that executives of Great River Energy have been working toward completion of this particular project since 2009, when a group from the company attended the grand opening of the first Inbicon Biomass Refinery in Kalundborg, Denmark.
- Two reviewers felt that while more details could have been provided, it appears that the project teams has a good plan on how the project will be completed and a knowledgeable background.
  - The applicant has provided more details in response to the reviewers' comments for Council members to review.
- All three reviewers were comfortable with the level of experience the project team possesses. However, 1 reviewer commented that documentation on the investigators' experiences and background would be helpful.
  - The applicant has provided additional information regarding the accomplishments of all team members.
- While all 3 reviewers felt the management plan was good, 1 reviewer would have liked more information about coordinating project activities between the multiple parties involved.
  - The applicant has responded that for coordination of project partners during Phase 2, a lead company will be appointed for each of the 11 work items defined, and the overall coordination between the work items will be handled by the project manager. Additionally, they will use a project management tool and have physical meetings.
- Regarding the budget, two reviewers felt the budget was sound. 1 reviewer had concerns that the biomass procurement plan will come up short on content and budget. The same reviewer also felt that the parent company should help cover the costs of engineering instead of asking the Industrial Commission to pay for 100% of the costs.
  - The applicant responded that as a foundation for this NDIC application, the applicant and project group has already performed a feasibility study and developed a generic FEL2 design package. One of the main objectives within this project is to develop a site specific design package. More than \$1 million has already been spent by various parties to reach the current level of engineering for the North American market.
  - The applicant, however, did not address the concerns about the biomass procurement plan. More information about this aspect would strengthen the proposal.
- 1 reviewer felt that overall, it was a good project with a good approach. However, the reviewer cautioned that there is uncertainty for government subsidies in the near and distant future, and national and international interest may migrate to other biofuels, such as biobutanol.
  - The applicant acknowledge the risk to subsidies and stated that the design of the biomass refinery is such that the sugars produced are of sufficient purity that they can be sold to produce other higher-value bio products instead of being converted into ethanol.
- 1 reviewer, overall, was impressed with the proposal stating "The project team seems to have a vigorous plan and dedicated determination for accomplishing the project, which they believe will be a successful one, from the views of both environmental and economic impact and benefits." However, because there was a lack of technical description, the reviewer was unable to make meaningful comments on that aspect.
  - The applicant provided significant additional information regarding the technical description.

**Technical Advisor Recommendations**

Fund. This project has unique aspects such as co-locating with a grain ethanol biorefinery and a power plant. If successful, it would be an excellent example for the renewable energy industry in the state and provide significant economic development to a relatively rural area. Additionally, it will provide a new revenue source for area farmers.

However, the reviewer that had concerns about the biomass procurement plan has extensive experience in that arena. It would be very beneficial if the applicant would provide additional information about this aspect to the Council.

**Suggested Contingencies If Funded**

- None.