Rec 2/16/16

15

MTSU Clean Energy Initiative Project Funding Request

There are five (5) sections of the request to complete before submitting. See http://www.mtsu.edu/~sga/cleanenergy.shtml for funding guidelines. Save completed form and email to cee@mtsu.edu or mail to MTSU Box 57.

1. General Information	
Name of Person Submitting Request Matthew Wade	
Department/Office ABAS	Phone # (Office) 2431
MTSU Box # 5	Phone # (Cell) 615-566-1468
E-mail matthew.wade@mtsu.edu	Submittal Date 2/16/16

2. Project Categories (Select One)			
Select the category that best describes the project.			
☐	Energy Conservation/Efficiency	☐	Sustainable Design
☑	Alternative Fuels	☐	Other
☐	Renewable Energy		

3. Project Information
a. Please provide a brief descriptive title for the project. **b.** The project cost estimate is the expected cost of the project to be considered by the committee for approval, which may differ from the total project cost in the case of matching funding opportunities. **Any funding request is a 'not-to-exceed' amount. Any proposed expenditure above the requested amount will require a resubmission.** c. List the source of project cost estimates. d. Provide a brief explanation in response to question regarding previous funding.
3a. Project Title Alternative Fuel (Biodiesel) Project
3b. Project Cost Estimate $11,500
3c. Source of Estimate Matt Roberts, VP Marketing, Springboard Biodiesel, LLC
3d. If previous funding from this source was awarded, explain how this request differs? The previous request was for supplies to run the old manual unit. This request is for a new more automated unit with more advanced technology and efficiency.

4. Project Description

(Completed in as much detail as possible.)

a. The scope of the work to be accomplished is a detailed description of project activities.
b. The benefit statement describes the advantages of the project as relates to the selected project category.
c. The location of the project includes the name of the building, department, and/or specific location of where the project will be conducted on campus.
d. List any departments you anticipate to be involved. Were any departments consulted in preparation of this request? Who? A listing may be attached to this form when submitted.
e. Provide specific information on anticipated student involvement or benefit.
f. Provide information for anticipated future operating and/or maintenance requirements occurring as a result of the proposed project.
g. Provide any additional comments or information that may be pertinent to approval of the project funding request.

4a. Scope: Work to be accomplished

The scope of this project includes students collecting waste vegetable oil, delivering it to the processing area and then processing it into usable fuel. Unlike previous fuel usage, this fuel would be used power tractors and equipment associated with the ABAS Farm Laboratories. Currently, these Labs use approximately $20,000 of diesel fuel annually. Although current prices are at a 12 year low, they are expected to increase in the near future. Using data from previous processing, we know we can produce biodiesel for around $1.38 per gallon. Which is still less than current prices.

4b. Scope: Benefit Statement

Using this new more advanced unit, calculations indicate we should be able to produce bio-fuel for $1.01 per gallon. Assuming we would use a 50% mixture with regular diesel. This could save the University $1150 per year in fuel cost at current prices ($1.44 campus price). However, if prices were to climb back up to $2 per gallon (which off-campus prices are reaching again), University savings would be over $2500 per year. At $3 per gallon, the University could save $5170. Using the first figures mentioned the payoff of this project would be 46.49 months. As fuel costs rise again, the payoff will be faster. Currently, 82 other colleges and universities are using Springboard biodiesel units.

4. Project Description (continued)

4c. Location of Project (Building, etc.)

It is currently housed in the TN Livestock Center. If we are able to upgrade this unit, we would move it to the ABAS Farm Laboratories which offer greater space for the operation.

4d. Participants and Roles

ABAS students, faculty and staff will be the primary stakeholders. Although, instructions on use and technology of this unit will be available to any other Departments with interest.

4e. Student participation and/or student benefit

Students will benefit through experiential learning of every aspect of biodiesel production. Including chemistry, molecular makeup of vegetable oils, processing procedures and safety compliance. They will learn ASTM quality standards. They will be involved in transportation scheduling, production, quality control development and oil crop production.

4f. Future Operating and/or Maintenance Requirements

This is a base unit which may be easily added to with other processing equipment for future expansion of the operation.

4g. Additional Comments or Information Pertinent to the Proposed Project

Funding this project will provide a safer, more efficient processor for students to interact with. It will help the ABAS Farm Laboratories become a more sustainable operation.

5. Project Performance Information

Provide information if applicable.

a. Provide information on estimated annual energy savings stated in units such as kW, kWh, Btu, gallons, etc.
b. Provide information on estimated annual energy cost savings in monetary terms.
c. Provide information on any annual operating or other cost savings in monetary terms. Be specific.
d. Provide information about any matching or supplementary funding opportunities that are available. Identify all sources and explain.

5a. Estimated Annual Energy Savings (Estimated in kW, kWh, Btu, etc.)

In trials involving the TN Livestock Center, over 1000 gallons of biodiesel were produced which marks one third of its' annual fuel usage. Our estimation is to cut the ABAS Farm Laboratory regular diesel usage by one third as well.

5b. Annual Energy COST Savings ($)

As described above, depending on current fuel costs, the ABAS Farm Laboratories could save anywhere from $1150 per year, $5170 per year or even more if fuel prices reach $4 per gallon again.

5c. Annual Operating or Other Cost Savings. Specify. ($)

Same as above.

5d.Matching or Supplementary Funding (Identify and Explain)

N/A