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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 Dr. Cliff Ricketts	
Department/Office	Phone # (Office)
Agribusiness & Agriscience/ SAG 113	898-2430
MTSU Box #	Phone # (Cell)
	615-308-7605
E-mail srickett@mtsu.edu	Submission Date September 28, 2011

2. Project Categories (Select One)

Select the category that best describes the project.			
X	Energy Conservation/Efficiency	X	Sustainable Design
X	Alternative Fuels		Other
X	Renewable Energy		

3. Project Information

<p>a. Please provide a brief descriptive title for the project.</p> <p>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.</p> <p>c. List the source of project cost estimates.</p> <p>d. Provide a brief explanation in response to question regarding previous funding.</p>
3a. Project Title- Sustainable/Renewable Solar/Hydrogen Storage System
3b. Project Cost Estimate- \$44,800
3c. Source of Estimate Norris Cylinders, Longview, Texas
3d. If previous funding from this source was awarded, explain how this request differs? N/A

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

A solar powered hydrogen storage unit will be developed so the motor pool vehicles, employees and students can run their vehicles on only sun and hydrogen from water by using hydrogen adapted vehicles. The hydrogen is separated from water by the use of an electrolysis unit powered by the sun using a solar unit in conjunction with TVA's Generation Partners, Green Power Switch Program. All of this is on the MTSU campus. A key challenge on holding back the development of the hydrogen power vehicles is infrastructure. MTSU can be the leader in the nation on providing a model on how completely clean energy is possible by using our natural resources of sun and water. The President mentions running vehicles off sun and water in the State of the Union Address. This system would make MTSU an even stronger leader in demonstrating energy conservation, renewable energy, and sustainable design.

4b. Scope: Benefit Statement

The Green Fee was established to provide clean energy. The benefit will be that a model will be created to show that producing and running vehicles on completely clean energy is a reality and not a goal or a dream. As hydrogen vehicles are added to the motor pool, a system will be in place for the university to produce their own fuel for these vehicles. Besides clean energy, this project has economic implications since money is not being spent on foreign oil. It also has world peace implications since there would not be a need to endanger the lives of young Americans to keep oil flowing in certain parts of the world.

4. Project Description (continued)

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

The location (construction) of the project would be in the Vocational Agriculture Building. This is the location of the 10 kilowatt solar unit, electrolysis unit and the alternative fuel vehicles.

4d. Participants and Roles

The construction system will involve MTSU students and staff. Students will also be involved in the solar powered hydrogen production process. Metering devices will be installed to allow for appropriate research on energy savings.

4e. Student participation and/or student benefit

See above (4b & 4d) for student participation and benefit.

4f. Future Operating and/or Maintenance Requirements

None

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

The potential global impact that this Clean Energy Initiative Project could have would be substantial. It is believed that such an endeavor could become a model for other universities with similar programs where students are making a difference.

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.)

See Below

5b. Annual Energy COST Savings (\$)

Considering a student drives an average of 25,000 miles per year and averages 25 miles per gallon, this equals to 1,000 gallons of gasoline. At \$3.00 per gallon, this equals \$3,000 per student yearly that could be saved by using a hydrogen adapted vehicle, plus the motor pool vehicles mention above.

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

See above

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

Tractor Supply Company has been a corporate partner for 20 years with matching funds from MTSU Sponsored Programs. Money from these resources will be used for labor to construct the system. Farm Credit Services will also contribute to the project.