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10/3/14



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. Saeed Foroudastan	
Department/Office CBAS	Phone # (Office) 615-494-8786
MTSU Box # Box 83	Phone # (Cell) 615-417-2761
E-mail saeed.foroudastan@mtsu.edu	Submittal Date October 3, 2014

2. Project Categories (Select One)			
Select the category that best describes the project.			
X	Energy Conservation/Efficiency	X	Sustainable Design
X	Alternative Fuels		Other
	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 Solar Golf Cart Project
3b. Project Cost Estimate Successful completion will require \$5200
3c. Source of Estimate Cost of cart plus solar recharging accessories

3d. If previous funding from this source was awarded, explain how this request differs?

No previous funding

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

This project will phase out gas powered golf carts in our department. Replacing them with solar charged, electric golf carts. All work will be done by students in the Engineering Technology department. An electric golf cart will be purchases, and rather than charge from the grid, it will recharge solely on solar panels.

4b. Scope: Benefit Statement

This projects works to save energy, transition to alternative fuels, and implement sustainable design by completely eliminating fossils fuels in our golf cart in the department, and additionally removing the cart from the grid completely by allowing all charging for the usable life of the cart to be accomplished by solar power.

4. Project Description (continued)**4c. Location of Project (Building, etc.)**

This project will be completed in the Voohries Engineering Technology building, primarily in room 108.

4d. Participants and Roles

Dr. Saeed Foroudastan will act as faculty supervisor for this project, with Jeremy Posey, graduate assistant, acting as project manager and overseeing the work done by our students.

4e. Student participation and/or student benefit

Students in the department will be doing all of the work on this project. The design and implementation of the solar array and charging circuits will be carried out by undergraduates in the ET department. The students will use their ingenuity and creativity to solve the complex problems associated with completely removing the cart from the grid. During the process of solving these problems the students will gain invaluable experience, and also learn critical skills such as teamwork, leadership, and effective communication.

4f. Future Operating and/or Maintenance Requirements

None. Once the carts are completed their usable life will be nearly maintenance free.

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

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.)

We can expect to completely eliminate the fuel cost associated with gas carts, which should save upwards of two hundred gallons of fuel per year.

5b. Annual Energy COST Savings (\$)

Direct fuel savings costs each year will be approximately \$700

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

The largest cost savings outside of the obvious fuel cost as opposed to a gas cart, and the additional savings from using solar as opposed to traditional electric carts, is the complete lack of maintenance associated with traditional carts. There are no oil changes, no tune-ups, and no cords to replace.

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

No additional funding.