Rec 10/11/16

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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 Melissa Shelby	
Department/Office Biology / Students for Environmental Action	Phone # (Office)
MTSU Box # 90	Phone # (Cell) 415-801-5970
E-mail mds2e@mtmail.mtsu.edu	Submittal Date 10-7-16

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 Solar Shack Remodel
3b. Project Cost Estimate $13,000 USD
3c. Source of Estimate See Attached
3d. If previous funding from this source was awarded, explain how this request differs? See Attached

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 Attached

5b. Annual Energy COST Savings ($)

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

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

MTSU Clean Energy Initiative Project Funding Request

1. **General Information**

Melissa Shelby
Biology Department/ Students for Environmental Action/ Native American Student Association
Phone (Cell) 615.801.5970 Email mds2e@mtmail.mtsu.edu 10/07/2016

2. **Project Categories : Sustainable Design**
3. **Project Information**
    a. Title: Solar Shack Remodel
    b. Estimated Cost: $13,000.00 USD
    c. Source for Estimate: Passive Solar design builder consultation (consultation, materials, and contract), Composting Toilet Supply company catalogs (toilet, exhaust fan, battery/energy system), solar panel and system installation consultant (panel, tracking mount, inverter, batteries, charge controller)
    d. Previous funding exists for building of the initial Solar Demonstration Area
4. **Scope: Project Description**
    a. Work to be accomplished: The Solar Demonstration Area is an important and useful investment of MTSU. It is undervalued and has resulted in great disrepair. Many upstanding and model universities have invested in not only a demonstration area, but created space for living sustainable design. This concept is supported by our university and reflected in the many programs that target this initiative. The Solar Demonstration area was created with technology available at the time. This proposal is for a newly constructed roof, soffits, door frames, window framing, and a northern addition to improve the passive solar efficiency and house a self composting toilet. Labeling of the components of passive solar design and mechanisms of self composting toilets will be displayed. The space will be fully inhabitable for meeting areas and short programs.
    b. Benefit Statement: Seeing the viable and usable models of sustainable energy and lifestyle is important for the student body and community. Transforming this decaying shack to a Solar Shack worth experiencing and using as a teaching tool is a tremendous benefit to the MTSU campus. Additionally, it is one step closer to the desired areas many other campuses have created for sustainable modeling.
    c. Location: Rutherford BlVD by parking lot and retention pond.
    d. Participants: Melissa Shelby will work with MTSU authorities to procure materials and toilet and solar system; Passive Solar professional will remodel and build the extension. It is expected that this project will be affiliated with the Center for Energy Efficiency and Students for Environmental Action.
    e. Student participation and benefit: Students can participate in the experience of passive solar building and design in an observation and education capacity. Students and the larger community will benefit by using this facility to understand energy supply and usage of modern sustainable living models. The composting toilet is fully functional.
    f. Future Operating and Maintenance: For low usage (similar to vacation properties) the toilet must be serviced periodically, at least once per year; this is a simple procedure. Once per year the solar panels must be cleaned. Periodic inspections are recommended to verify that further maintenance is not needed. The solar panels will provide more

than ample capacity for the ventilation fans for the compost toilet. Annually this maintenance should be less than $250. (Including Labor)

g. Additional Comments: This project proposal has been discussed with passive solar builders and experienced persons in sustainable building designed. However, at this point, MTSU offices of Planning, Construction and remodeling, and the organization Students for Environmental Action have been consulted. Connections with Linda Hardimon of the Center for Energy Efficiency have not yet happened, largely due to the timeliness of the deadlines for proposals and the onset of the initiative; however, this is intended and expected before progressing. Decisions concerning maintenance and purpose are expected during that and subsequent meetings. There are long term interests on behalf of SEA to see this area expand for usage.

5. **Project Performance Information**

a. Estimated Annual Energy savings: With the solar energy supplying the 12V needed for the composting toilet, no energy costs are expected.

b. Annual COST savings: The toilet as an example saves one person an average of 25 gallons of water per day. As a demonstration area, this will not have a significant impact; however as the area can expand, significant savings can be imagined.

c. Annual Operating Savings: Refer to 5b

d. Matching or Supplementary Funding: While this Clean Energy Initiative Project Funding Request encompasses the full budget for the remodel and expansion of the Solar demonstration area into the Solar Shack, future intentions and desires for the area will seek funding for additional sustainable models, and from various resources.

Estimated time for building Remodel is <21 days; Structural transformation being <9 of those days, Solar + toilet and finishing being the other 12.

Note: As the area can be expanded for usage and meeting space, opportunities for savings increase in the areas of usage, training Center, hosting, and guest services. With future potentials for a fully Sustainable facility model, savings in energy and natural costs evolve.