

2/24/12



# 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](mailto:cee@mtsu.edu) or mail to MTSU Box 57.

1. General Information	
Name of Person Submitting Request: Stephan Foust	
Department/Office: College of Mass Communication - Center for Innovation in Media	Phone # (Office): 615-898-2337
MTSU Box #36	Phone # (Cell): 615-293-8729
E-mail: <a href="mailto:Stephan.foust@mtsu.edu">Stephan.foust@mtsu.edu</a>	Submittal Date: February 24, 2011

2. Project Categories (Select One)			
Select the category that best describes the project.			
<input type="checkbox"/>	Energy Conservation/Efficiency	<input type="checkbox"/>	Sustainable Design
<input type="checkbox"/>	Alternative Fuels	<input type="checkbox"/>	Other
<input type="checkbox"/>	Renewable Energy	<input checked="" type="checkbox"/>	XX

3. Project Information
<ul style="list-style-type: none"> <li>a. Please provide a brief descriptive title for the project.</li> <li>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. <b>Any funding request is a 'not-to-exceed' amount. Any proposed expenditure above the requested amount will require a resubmission.</b></li> <li>c. List the source of project cost estimates.</li> <li>d. Provide a brief explanation in response to question regarding previous funding.</li> </ul>
3a. Project Title: WMTS-FM 88.3 Solar Power Supply
3b. Project Cost Estimate: \$12,000
3c. Source of Estimate: <a href="http://Wholesalesolar.com">Wholesalesolar.com</a>
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: Install a complete solar power system (solar panels, batteries, charging control unit and power invertor). The system will be installed at the WMTS/Campus police radio tower east of the main campus. Electrical finish wiring will be completed by campus electricians and the WMOT radio engineer. The System will be installed in a building layout that would allow student training.

4b. Scope: Benefit Statement: This project will allow WMTS, the student-run campus radio station, to operate on solar power for a part of its 24-hour broadcasting schedule. The system will provide emergency pack-up power should there be an outage of commercial power. Because WMTS participates in the EAS national emergency alert system, the MTSU campus and surrounding Murfreesboro community will benefit by having WMTS on the air during power outages. Participating MTSU students will benefit from training and acquired knowledge of solar power operations, efficiencies, and costs. Additionally, MTSU would lower electric powers costs.

**4. Project Description (continued)**

4c. Location of Project (Building, etc.): MTSU campus radio tower. Panels will be located inside the existing fenced area. Controllers will be located inside the building.

4d. Participants and Roles: Internet connections will allow control of the system from a classroom. Class projects will involve monitoring the solar panel output, the condition of batteries and the hours WMTS radio is operating on solar power. Studies could be conducted regarding upgrade potential. WMOT engineers will oversee all work.

4e. Student participation and/or student benefit: Students will participate as assistants in the maintenance of the system by cleaning solar panels and other related preventive maintenance tasks. Students will also analyze cost projections, leading to increased knowledge about solar energy implementation that could be shared university-wide.

4f. Future Operating and/or Maintenance Requirements: A system of 12 batteries at \$375.00 each. Battery replacement as required. The life expectancy of a battery is two to three years.

4g. Additional Comments or Information Pertinent to the Proposed Project: In addition to this electronic submission, a hardcopy will be sent that will include manufacturer's information.

**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.): The WMTS transmitter is rated at 1.6 kVa (approximately 1500 watts).

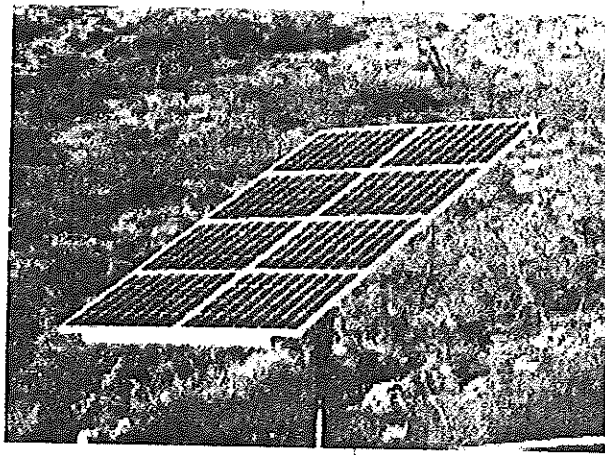
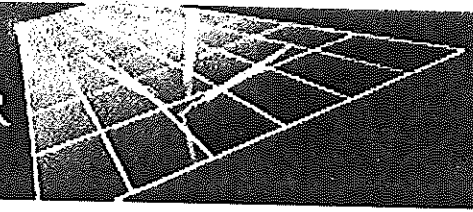
5b. Annual Energy COST Savings (\$): an annual savings of @73.00, estimated from five hours of operations per day (7.5 kwh at \$.1019 per kwh).

5c. Annual Operating or Other Cost Savings. Specify: (\$5000+) The system also eliminates the need to purchase a gas generator or a large UPS system, plus fuel.

5d. Matching or Supplementary Funding (Identify and Explain): Once the new solar system is in place and functioning, federal emergency management upgrade funds for the new system may be available for a system expansion.

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8	1121351	Kyocera KD135GX-LPU 135 watt solar module
1	6901043	IronRidge UNI-TP/10LL Top of Pole Mount
8	6999910	Lay-in Grounding Lug with Stainless Screw (1)
2	9902032	MC4 10 AWG - 30' cable extension
1	8910239	MidNite MNPV-3, 3 Position Combiner Box
2	8500322	CBI OBPV-15 15 amp DC Breaker 150 VDC din-rail mounted
1	2930460	Outback FM60 & Breakers installed on Magnum E-Panel
1	2014010	WSS Magnum Power Center MS4024/1, 4,000 watts 120VAC
1	9925942	Magnum ME-BMK Battery Monitor installed on Magnum E-Panel
1	9901208	4/0 - 120" UL Cable, Battery/Inverter (black)
1	9911208	4/0 - 120" UL Cable, Battery/Inverter (red)
9	9850022	2/0 - 12" UL Cable, Battery Interconnect (black)
4	9850012	2/0 - 18" UL Cable, Battery Interconnect (black)
12	9996646	UPG UB-GC2 AGM 200 aH 6V Battery
1	9000020	System Discount

At Wholesale Solar we have assembled hundreds of these systems. Call us today and let us design your new renewable energy system!

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