

MTSU Sustainable Campus Fee Funding Request Form

The Sustainable Campus Fee (SCF) supports projects that advance sustainability at MTSU. This form allows students, faculty, and staff to propose initiatives that contribute to a greener campus through energy efficiency upgrades, infrastructure improvements, education, research, and efforts to enhance campus biodiversity.

There are 5 sections to the application: Section I: Contact Information, Section II: Project Category, Section III: Project Description, Section IV: Project Cost, and Section V: Project Performance Information (For applicable projects).

The Sustainable Campus Fee is administered through a partnership with the Office of Student Affairs, the Center for Student Involvement & Leadership, and the Center for Energy and Sustainability (CES).

Date Wednesday, September 30, 2026

Request Number **SCFR27000095**

1. Name Robert Mogensen

Email robert.mogensen@mtsu.edu **Phone Number** (615) 708-0435

SECTION II: Project Category

Please note that all proposed projects will have to comply with MTSU campus guidelines and recommendations.

1. Select the category that best describes the project. (Select One - See Descriptions Below)

Energy Conservation/Efficiency

CATEGORY DESCRIPTIONS

Energy Conservation/Efficiency - (e.g. installing LED light bulbs, adding insulation to walls, replacing old appliances with energy-efficient models, installing programmable lighting, etc.)

Renewable Energy - (e.g. implementing projects to harness naturally replenishing sources like wind, water, and sunlight to generate electricity - like solar-powered picnic tables, etc.)

Sustainable Transportation - (e.g. installing covered bike racks, replacing fuel vehicles with electric vehicles, etc.)

Alternative Fuels - (e.g. setting up electric vehicle charging stations, implementing hybrid or electric vehicles, purchasing electric or propane power equipment, etc.)

Recycling - (e.g. purchasing recycling bins, improving signage, recycling difficult materials, etc.)

Waste Reduction - (e.g. establishing a reuseable to-go container program, reducing food waste, installing waterbottle filling stations, etc.)

Water Conservation - (e.g. purchasing rain barrels, creating a rain garden, switching to low-flow water fixtures, installing low-flow water valves, etc.)

Biodiversity - (e.g. planting pollinator garden, tree planting, installing bird boxes, etc.)

Education - (e.g. hosting a sustainability fair to raise awareness about green practices, hosting bike repair and/or safety workshops)

Research and Innovation - (e.g. researching the effects of microplastics, solar feasibility study, etc.)

SECTION III: Project Description

Please include as much detail as possible in this section. The more information you provide, the better equipped the adjudication committee will be to fully understand your request and make an informed decision.

To expand a text box, click and drag the two diagonal lines in the bottom-right corner. This allows you to adjust the size and view of your content as you type.

1. Project Title

Project: Replace existing ETC Source Four 750W incandescent Leko fixtures with ETC Source Four LED Series 3 fixtures.

2. Scope: Work to be accomplished

Purpose: Reduce electrical consumption and heat generation associated with theatrical and event lighting while providing students with hands-on experience operating current energy-efficient professional lighting technology.

The proposed project would replace existing 750W ETC Source Four incandescent fixtures with ETC Source Four LED Series 3 Lustr X8 fixtures. The LED fixtures maintain the familiar Source Four form factor and optics while providing substantially lower electrical consumption, color-changing capability, and significantly longer source life.

3. Scope: Benefit Statement

1. Measurable energy reduction

A 20-fixture conversion would reduce connected lighting load by approximately:

8.86 kW

and annual electricity consumption by approximately:

6,468 kWh/year

based on 730 operating hours.

2. Reduced cooling requirement

The project would eliminate approximately:

30,260 BTU/hr

of heat from the 20 fixtures at full output.

This reduces the thermal load placed on the facility's HVAC system.

3. Longer equipment life

The LED light source is rated for >54,000 hours L70, compared with approximately 3,000 hours for ETC's long-life HPL lamp. ETC Connect

4. Reduced consumables

The university would substantially reduce purchases and disposal associated with incandescent lamps.

5. Student education

This is particularly valuable for True Blue TV Event Productions, because students would operate the equipment as part of real university events.

Students would gain experience with:

- LED theatrical lighting
- DMX control
- Color mixing
- Energy-efficient production technology
- Professional entertainment lighting
- Sustainable event-production practices

6. Visible sustainability project

The fixtures could be identified as part of the MTSU Green Fund initiative, providing a highly visible demonstration of sustainability within university event production.

4. Location of Project

True Blue TV Event Production will directly benefit.

5. Participants and Roles

True Blue TV Event Productions – Project Lead

True Blue TV Event Productions will oversee the implementation of the project, including equipment selection, purchasing, installation, programming, and integration with existing MTSU event-production systems. Event Productions staff will also track equipment use and document energy and operational savings.

MTSU Student Employees

MTSU student employees will participate directly in the installation, programming, operation, and maintenance of the new LED lighting equipment. Students will gain hands-on experience with energy-efficient professional lighting technology, DMX control, color mixing, fixture configuration, and sustainable live-event production practices.

Event Production Technical Staff

Professional staff will provide training and supervision to ensure that students safely operate and maintain the equipment. Staff will also evaluate the performance of the LED fixtures and identify additional opportunities to reduce energy consumption in university event production.

MTSU Green Fund / Sustainability Program

The Green Fund will provide financial support for the conversion from conventional incandescent lighting to energy-efficient LED fixtures. Project results, including energy savings and sustainability impacts, can be documented and shared as an example of sustainable event-production practices at MTSU.

MTSU Campus Events and Event Clients

Campus departments, student organizations, athletic programs, and external event clients will benefit from the improved lighting system. The LED fixtures will provide more energy-efficient event lighting while reducing heat generation, lamp replacement, and associated maintenance requirements.

Student Learning and Workforce Development

The project will provide students with practical experience using the same type of LED lighting technology increasingly used in professional theaters, concert venues, broadcast facilities, and live-event production. This creates an educational component while advancing MTSU's sustainability objectives.

6. Student Participation in the project and/or Student Benefit from the project

MTSU student employees will participate directly in the installation, programming, operation, and maintenance of the new LED lighting equipment. Students will gain hands-on experience with energy-efficient professional lighting technology, DMX control, color mixing, fixture configuration, and sustainable live-event production practices.

7. Future Operating and/or Maintenance Requirements

Over the long term, the conversion is expected to reduce maintenance activity associated with incandescent lighting by eliminating frequent lamp replacement and reducing the number of consumable lamps required for event production. The lower electrical load and reduced heat output will also reduce the thermal burden associated with lighting operations.

As the equipment becomes part of the permanent MTSU Event Productions inventory, the fixtures can be used across a variety of campus events, providing a long-term sustainability benefit while giving MTSU students continued experience with current professional LED lighting technology.

8. Additional Comments or Information Pertinent to the Proposed Project

Any supporting documents or attachments will be on the pages following the SCF Request.

Note, all projects are expected to be completed by December 31, 2026.

SECTION IV: Project Costs

1. Project Cost Estimate 56160

2. Source of Estimate

BMI Theater Supply

3. Has previous funding from this source been awarded?

No

If Yes, please explain how this request differs from previous funding request.

SECTION V: Project Performance Information

If your project is expected to reduce energy consumption (e.g. through lighting upgrades or HVAC improvements etc.), please provide an estimate of potential savings. Feel free to contact the Center for Energy and Sustainability for help making these calculations at ces@mtsu.edu.

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

Energy Savings

Existing Source	Four 750W	Source	Four LED Series 3 Lustr X8
Power per fixture	750 W		307 W
Reduction	— 443 W		
Energy reduction	— 59.1%		
Heat generated	~2,560 BTU/hr		~1,047 BTU/hr*
Lamp replacement	Required		LED source
Color changing	Filters/gels		Integrated
Rated LED life	— >54,000 hours		L70

*Using ETC's conversion of 3.412 BTU/hr per watt. ETC lists the 750W Source Four at approximately 2,560 BTU/hr. Electronic Theatre Controls Inc
The Series 3 Lustr X8 is also rated at approximately 10,889 lumens and 35 lumens/W, providing substantially more capability per watt than the traditional incandescent system.

2. Annual Energy COST Savings (\$)

Five-Year Energy Savings — 20 Fixtures

Using the 730-hour annual operating assumption:

6,468 kWh × 5 years = 32,340 kWh

At \$0.095/kWh:

32,340 × \$0.095 = \$3,072 in electricity savings

That is before accounting for lamp purchases, maintenance labor, and HVAC savings.

3. Annual Operating Cost Savings or Other Cost Savings. Specify in dollar amount, if applicable. (\$)

Heat / HVAC Savings

This is an important part of the proposal that I would emphasize.

A 750W incandescent fixture converts essentially all of its electrical consumption into heat. ETC calculates approximately 2,560 BTU/hr for a 750W Source Four. Electronic Theatre Controls Inc

A 307W LED fixture represents approximately:

$$307 \times 3.412 = 1,047 \text{ BTU/hr}$$

Therefore, each fixture eliminates approximately:

$$2,560 - 1,047 = 1,513 \text{ BTU/hr}$$

For 20 fixtures:

$$30,260 \text{ BTU/hr less heat}$$

At 730 operating hours:

22.1 million BTU/year of heat generation avoided.

That matters particularly in theatrical spaces, where lighting loads increase the cooling requirement.

Lamp and Maintenance Savings

The incandescent Source Four also requires HPL lamp replacement. ETC identifies the HPL lamp as having a typical life of approximately 3,000 hours for its super-long-life version. ETC Connect

The Series 3 LED array is rated at greater than 54,000 hours to L70. ETC Connect

This eliminates routine lamp purchasing and significantly reduces:

- Lamp replacement
- Lamp inventory
- Technician labor
- Burned-out lamps during events
- Disposal of used lamps
- Heat associated with incandescent operation

4. Matching or Supplementary Funding (Identify and explain, if applicable)

none

Acknowledgment

I acknowledge that a project summary and photo must be submitted, if I am awarded funding and upon completion of the project.

Supporting Documentation or Attachments if provided.