

Rec 2/16/18

(21)  
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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](mailto:cee@mtsu.edu) or mail to MTSU Box 57.

1. General Information	
Name of Person Submitting Request Connie Casha	
Department/Office Early Learning Programs/College of Edu	Phone # (Office) 615-898-5506
MTSU Box # <b>93</b>	Phone # (Cell) 615-545-0924
E-mail <a href="mailto:connie.casha@mtsu.edu">connie.casha@mtsu.edu</a>	Submittal Date 02/16/2018

2. Project Categories (Select One)	
Select the category that best describes the project.	
<input checked="" type="checkbox"/> Energy Conservation/Efficiency	<input type="checkbox"/> Sustainable Design
<input type="checkbox"/> Alternative Fuels	<input type="checkbox"/> Other
<input type="checkbox"/> 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. <b>Any funding request is a 'not-to-exceed' amount. Any proposed expenditure above the requested amount will require a resubmission.</b> c. List the source of project cost estimates. d. Provide a brief explanation in response to question regarding previous funding.	
3a. Project Title	LED lighting upgrade for Early Learning Programs
3b. Project Cost Estimate	\$5,696.00 + 3,000 for add'l classrooms
3c. Source of Estimate	Etrenzik Lighting (see proposal attached)
3d. If previous funding from this source was awarded, explain how this request differs?	NA

#### **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**

Replace current lighting at Ann Campbell Early Learning Center classrooms and office areas with LED lighting. See attached proposal for additional information.

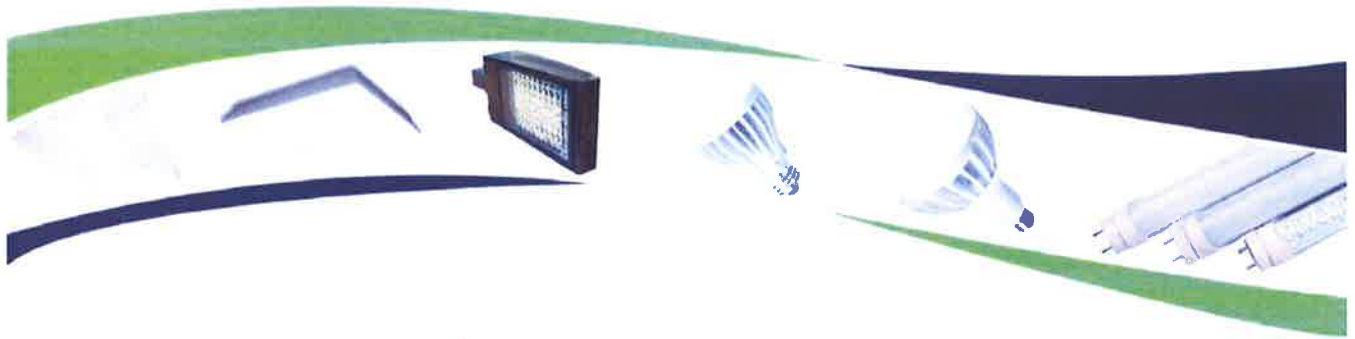
Would like to request additional work completed at Child Development Center in two classrooms and in office space of director and teachers; cost is not included in the attached proposal.

##### **4b. Scope: Benefit Statement**

This change to LED lighting will improve lighting within the facilities as well as reduce energy costs for a lifetime. The attached proposal shows a payback from savings to cover the initial costs within a two year period.

<b>4. Project Description (continued)</b>
<p data-bbox="266 258 846 289">4c. Location of Project (Building, etc.)</p> <p data-bbox="266 300 1203 365">Ann Campbell Early Learning Center, Baird Lane and the Child Development Center located in the Fairview Building.</p>
<p data-bbox="266 506 667 537">4d. Participants and Roles</p> <p data-bbox="266 548 1317 613">An outside entity was approached for this project as part of another project that they offer almost exclusively.</p>
<p data-bbox="266 846 1000 877">4e. Student participation and/or student benefit</p> <p data-bbox="266 888 1312 953">Students will benefit from better lighting in the classrooms to reduce glare.</p>
<p data-bbox="266 1199 1114 1230">4f. Future Operating and/or Maintenance Requirements</p> <p data-bbox="266 1241 1338 1306">Operational and maintenance will actually see a savings due to energy savings and replacement costs for current lighting needs.</p>
<p data-bbox="277 1518 1292 1583">4g. Additional Comments or Information Pertinent to the Proposed Project</p> <p data-bbox="261 1593 1338 1734">The actual cost of the project is \$5,696 with rebates and incentives of \$3,171. This company is reputable and comes highly recommended by Murfreesboro City Schools. Again, the costs do not include updates to Child Development Center.</p>

<b>5. Project Performance Information</b>
<p>Provide information if applicable.</p> <ol style="list-style-type: none"> <li>Provide information on estimated annual energy savings stated in units such as kW, kWh, Btu, gallons, etc.</li> <li>Provide information on estimated annual energy cost savings in monetary terms.</li> <li>Provide information on any annual operating or other cost savings in monetary terms. Be specific.</li> <li>Provide information about any matching or supplementary funding opportunities that are available. Identify all sources and explain.</li> </ol>
<p><b>5a. Estimated Annual Energy Savings (Estimated in kW, kWh, Btu, etc.)</b>  Based on information attached we would reduce our kWh usage by 49%. (current kW 7,424 and proposed watts 4,253)</p>
<p><b>5b. Annual Energy COST Savings (\$)</b>  Based on information attached, we would see a 49% reduction in costs for energy and maintenance ( current annual \$3,541 and projected annual cost \$1,259)</p>
<p><b>5c. Annual Operating or Other Cost Savings. Specify. (\$)</b>  Based on information attached (p. 10) maintenance savings for one year is estimated at \$604.</p>
<p><b>5d. Matching or Supplementary Funding (Identify and Explain)</b>  NA</p>



*Building Name*

**Project Help/Ace Learning Center**

*Proposal Name*

**Etrenzik LED Lighting Upgrade**

*A Proposal For*

**Connie Cashe**

Director Early Learning Center  
Office of Early Learning Center

*Tuesday, May 2, 2017*





## Executive Summary

With our sole objective being making your business more profitable by reducing your costs, streamlining the processes and generating new source of revenues, we have performed a lighting audit and assessment to identify ways to meet these profit improvement objectives following which we have created the proposal of our recommendation for improving the areas and spaces examined during the survey of your facility with a new lighting solution.

### Project Overview

#### Cost of Project

Total Project Cost	\$5,696
Less Rebates and Incentives	\$(3,171)
<b>Net Cost of Project</b>	<b>\$2,525</b>

#### Annual Operating Savings

Energy Savings	\$1,211
Maintenance Savings	\$467
<b>Total Annual Operating Savings</b>	<b>\$1,678</b>

#### Operating Savings Over 10 Years

Energy Savings	\$12,111
Maintenance Savings	\$4,672
<b>Total Operating Savings Over 10 Years</b>	<b>\$16,783</b>

<b>Payback Period (years)</b>	<b>2.0</b>
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### Financial Summary

Total Cost	Net Cost	10 Year Operating Savings	Payback (years)	NPV	IRR
\$5,696	\$2,525	\$16,783	2.0	\$9,955	72.86%

## Cash Flow

We understand that finalizing a project like this often takes time. But each day you delay your upgrade to the energy efficient lighting we have recommended, you are missing out on the opportunity to reduce your operating expenses. As shown below, the lost opportunity continues to compound over time.

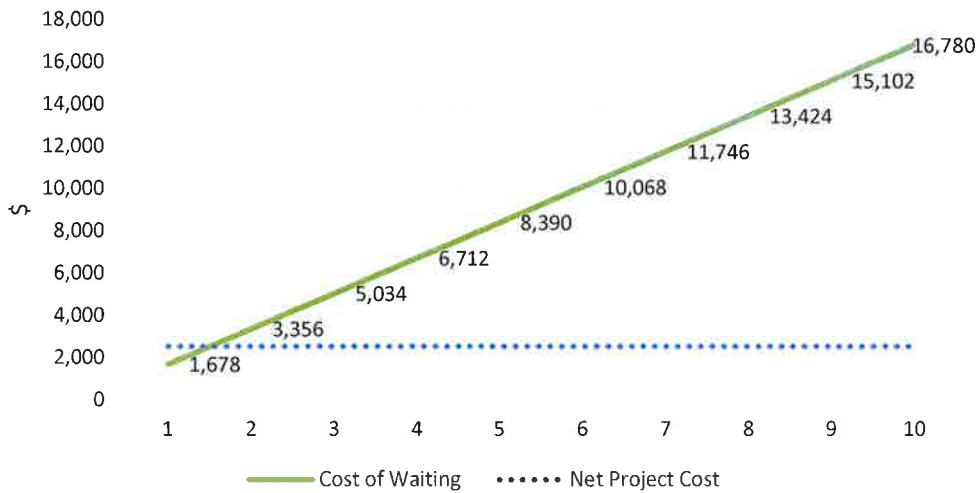
### 10 Year Cash Flow Analysis (Years 1 to 5)

	Year 1	Year 2	Year 3	Year 4	Year 5
Product Costs	\$2,731	-	-	-	-
Installation Services	\$2,965	\$0	\$0	\$0	\$0
Incentives	\$3,171	\$0	\$0	\$0	\$0
Energy Savings	\$1,085	\$1,085	\$1,085	\$1,085	\$1,085
Maintenance Savings	\$0	\$450	\$324	\$126	\$0
HVAC Savings	\$127	\$127	\$127	\$127	\$127
Net Cash Flow	\$(1,314)	\$1,661	\$1,535	\$1,337	\$1,211
Cumulative Cash Flow	\$(1,314)	\$347	\$1,882	\$3,220	\$4,431

### Cost Of Waiting

The cost of waiting shows the amount of cash your company will be losing if you do not move forward with the proposed lighting upgrade today. Each year that you do not move forward with the proposed solutions means another year of lost opportunity cost.

Monthly	Yearly	10 Years
\$139	\$1,678	\$16,780





## Operational Overview

While energy is the largest long-term cost of lighting, the cost for maintaining your lighting system can be a significant expense of your overall operational lighting expense. Maintaining your lighting system is critical to achieving the productivity you are trying to achieve with your lighting levels. And maintenance is not free. Understanding the impact of longer lasting lighting systems on your operational costs is critical.

### Operational Savings Summary

Operational Area	Current Annual	Projected Annual	Reduction	Current 10 Year	Projected 10 Year	Reduction
Energy <sup>1,2</sup>	\$2,470	\$1,259	49%	\$24,702	\$12,591	49%
Maintenance <sup>3</sup>	\$1,071	\$604	44%	\$10,714	\$6,042	44%
<b>Total</b>	<b>\$3,541</b>	<b>\$1,863</b>	<b>47%</b>	<b>\$35,416</b>	<b>\$18,633</b>	<b>47%</b>

1. Energy cost = \$0.1000/kWh; Annual energy cost escalation = 0.00%
2. Energy costs are averaged over 10 year analysis period
3. Maintenance costs are averaged over 10 year analysis period

### Operational Savings Comparison



1. Energy cost = \$0.1000/kWh; Annual energy cost escalation = 0.00%
2. Energy costs are averaged over 10 year analysis period
3. Maintenance costs are averaged over 10 year analysis period



## Environmental Footprint

The metrics below estimate the benefits the environment will enjoy if you move forward with the lighting upgrade. These metrics include greenhouse gases from current and projected calculations.

### Greenhouse Gas Analysis Summary

Current (kgCO <sub>2</sub> e)	Projected (kgCO <sub>2</sub> e)	Gases Avoided (kgCO <sub>2</sub> e)	Reduction
17,435	8,887	8,548	49%