Please provide the following information (take as much space as you need to provide details):

Department: Public Health Address: 210 Martin Luther King Jr, Blvd Rm 507, Madison, WI 53703	Total project costs:$14,076 Funding amount in current budget: $0 Funding amount requested:$14,076
Project Title: Public Health LED Lighting Retrofit	
Project Location: Park St office and clinic (2300 S Park St, 2230 S Park St) and East Washington Ave office and clinic (2705 E Washington Ave)	
Project Description: Public Health Madison & Dane County is proposing to retrofit all interior light fixtures at our South Madison, Atrium offices 2300 S. Park St. (suites 2010, 2011 & 2022), South Madison clinic space, and East office and clinic space with more efficient and sustainable lighting. These spaces house 83 staff (almost 60% of department staff) and include all of our clinic space. In total, 276 light fixtures will be converted. Ballasts will be removed from the fixtures and LED lamps will be used to replace the existing T-8 fluorescent lights. Fully lamped, the current 3 lamp fixtures use 96 watts, the new LED lamps will reduce the fixtures energy usage to 45watts when fully lamped. To further reduce consumption, where feasible, lamps per fixture will be reduced from 3 to 2. The LED lights will reduce electricity consumption from lighting by over 50% ($4,500 per year in actual cost savings) and eliminate the disposal of mercury-laden bulbs as well as reduce labor costs to change lights and ballasts. The approximate ROI / Payback time for this project is 36 months.	

Describe how the proposed project moves the county toward meeting the following Sustainability Principles. (See the guiding questions in the box below.) Responses to this section will be used to determine the relative level of sustainability for each project.

- Reduce and eventually eliminate county government's contribution to fossil fuel dependence and to wasteful use of scarce metals and minerals;

  Changing to LED lighting will reduce Co2 emissions by 28.7 metric tons per year compared to current usage. This is the equivalent of 30,628 pounds of coal burned. I have included a Greenhouse gas equivalency calculator that shows all kWh conversions.

- Reduce and eventually eliminate county government's contribution to dependence upon persistent chemicals and wasteful use of synthetic substances;

  The LED lamps do not contain mercury, so disposal is less harmful to the environment. In addition, LED lamps have a much longer life expectancy (10 years compared to 3 years).

- Reduce and eventually eliminate county government's contribution to encroachment upon nature and harm to life-sustaining ecosystems (e.g., land, water, wildlife, forest, soil, ecosystems); and

  In addition to the Co2 reductions from using less energy, the current fixtures will be retrofitted with new lamps rather than replacing the entire fixtures at a much higher cost (new fixture cost is approximately $250 each plus installation and the per fixture cost for this retrofit is $51 including lamps and labor). This also eliminates the need to dispose of the fixtures themselves. Our project will reduce energy consumption, reduce the number of bulbs going into landfills due to longer life of LED bulbs and will also minimize the amount of waste going to landfills in the process of switching from T-8 fluorescent lights to LED lights.

- Reduce and eventually eliminate county government's contribution to conditions that undermine people's ability to meet their basic human needs.

  This project will reduce energy consumption from lighting by over 50%, saving approximately 40,841 in kWh per year compared to current usage. In addition, removing ballasts and installing LED tubes will decrease maintenance significantly as the new lamps are rated for 10 years with a 5 year guarantee of full brightness, compared to fluorescent fixtures which require lamp and ballast changes much more frequently. The LED lamps also help reduce glare off of computer screens making them more comfortable for employees

Include in your description any estimated reductions of GHGs / CO2 equivalent emissions related to your proposal. Please use the following calculator to do this: http://www.epa.gov/cleanenergy/energy-resources/calculator.html

Describe how the proposal furthers implementation of the Dane County Government Sustainable Operations Plan goals, objectives, and strategies in your department and/or countywide. Please identify specific plan goals, objectives, and strategies accomplished. **Switching to LED light fixtures will lead to a more than 50% decrease in greenhouse gas emissions due to their more efficient design. They require less maintenance and need to be replaced much less often than the existing bulbs, resulting in less waste being directed to the landfill and less gasoline used to provide service calls. This purchase would also support the eco-technology field and the development of additional sustainability-related jobs and technologies.**
Describe how the county might build upon the outcomes of the proposed project to work toward greater sustainability. **If this project receives approval, two of our department's 3 locations would be 100% LED lighting. Our 3rd location, room 507 of the City-County building, will be remodeled in 2018. We plan to use LED lighting in the design of the new space ensuring our department continues to move towards greater efficiency and sustainability. Proven cost savings and greenhouse gas reduction could provide evidence to other County departments as well as other Public Health departments striving for energy efficiency and sustainability. Energy dollars saved could also be used towards further upgrades as future technologies are introduced.**
Describe how your department will track and measure outcomes of the proposed project (i.e., annual cost savings, annual energy savings, resource use reductions, maintenance reductions, etc.). Include a timeline for measurement and reporting outcomes, and the staff member contact who is responsible for conducting the tracking and measurement. **I will continue to monitor cost and consumption of electricity post lighting retrofit project by collecting and reviewing data from MGE bills (I have attached 2017 figures in the appendix). Work orders will also be monitored and tracked to analyze reductions. Melanie Jicha, the Public Health Supervisor who oversees facilities, will track monthly costs and consumption and report back on the success of the project after the first month and then after one year.**

Contact person: Melanie Jicha	Phone: (608) 242-6292 E-mail:mjicha@publichealthmdc.com

Appendix

Material Costs

Sustainability Item	Unit Cost (Parts & Labor)	# of Units	Cost
LED Lights for Park St Office	51	106	$ 5,406.00
LED Lights for Park St Clinic	51	46	$ 2,346.00
LED Lights for East Office	51	85	$ 4,335.00
LED Lights for East Clinic	51	39	$ 1,989.00

Energy Related Savings

Sustainability Item	Existing Power Use (kWh/year)	LED Retrofit Power Use (kWh/year)	Energy Savings (kWh/year)	Rate	Cost Savings
LED Lights for Park St & East	76,877	36,036	40,841	$ 0.11	$ 4,492.49
Total Savings =					**$ 4,492.49**

Payback Period

Total Project Costs	Energy Savings/year	Payback Period (years)
$ 14,076.00	$ 4,492.49	3

Month	Park St Clinic kWh	Park St Clinic $	Atrium 2010 kWh	Atrium 2010 $	Atrium 2011 kWh	Atrium 2011 $	Atrium 2022 kWh	Atrium 2022 $	East Office & Clinic kWh	East Office & Clinic $
Jan 2016	5,061	$ 844.49	3,734	$ 490.23	11,644	$ 1,296.61	717	$ 96.99	13,396	$ 1,786.03
Feb 2016	5,733	$ 832.99	3,404	$ 444.48	11,148	$ 1,228.21	3,798	$ 501.20	12,897	$ 1,716.49
March 2016	5,281	$ 808.64	3,254	$ 426.10	10,932	$ 1,183.24	3,089	412.73	14,263	$ 1,874.89
April 2016	5,064	$ 827.28	3,279	$ 431.98	11,330	$ 1,267.71	3106	427.85	13,153	$ 1,865.64
Total:	21,139	$ 3,313.40	13,671	$ 1,792.79	45,054	$ 4,975.77	10,710	$ 1,438.77	53,709	$ 7,243.05
Ave:	5,285	$ 828.35	3,418	$ 448.20	11,264	$ 1,243.94	2,678	447.26	13,427	$ 1,810.76
Total of Ave kWh /mo:	**36,071**									
Total of Ave Elec /mo:	**$ 4,778.51**									

EPA United States Environmental Protection Agency

Greenhouse Gas Equivalencies Calculator

Equivalency Results

How are they calculated?

The sum of the greenhouse gas emissions you entered above is of Carbon Dioxide Equivalent. This is equivalent to:

28.7 Metric Tons

Greenhouse gas emissions from

6.1

Passenger vehicles driven for one year

-or-

68,789

Miles driven by an average passenger vehicle

-or-

9.1

Tons of waste recycled instead of landfilled

-or-

1.3

Garbage trucks of waste recycled instead of landfilled

CO_2 emissions from

3,230

gallons of gasoline consumed

-or-

30,628

Pounds of coal burned

-or-