Updated January 2017

2017 Dane County Departmental SMART Fund

Funding Opportunity Description

The Sustainability Subcommittee of the Public Works and Transportation Committee is responsible for distributing grant money to county departments from a $2 million fund in the county's capital budget. This fund helps support the county's goal of becoming more sustainable. For example, it supports initiatives that fulfill the county's desire for reducing greenhouse gas emissions by implementing systems that result in more efficient energy use and investments in renewable energy production at our various facilities. This fund is a part of the county's continued efforts to ensure that important natural resources and ecosystem services are maintained for current and future generations. The fund can be used by your department to help you implement strategies identified in the Dane County Government Sustainable Operations Plan, to supplement current budget items that do not have enough funds to incorporate additional sustainable measures, or to fully fund projects that are not in the current budget, but that will improve the sustainability of county operations and reduce long-term costs. The committee will select projects to fund based on their consistency with the sustainability principles adopted by the Dane County Board (on October 18, 2012) to guide county government management, operations, and policy making, as well as based on their ability to further implement the Dane County Government Sustainable Operations Plan.

Benefits of this fund:

- Alignment of departments and staff toward a common understanding of sustainability
- Clarity and consistency in assessing and organizing actions and programs for sustainable government operations
- Enhanced policies and programs incorporating a sustainability perspective
- Enhanced reputation as a proactive contributor to a more sustainable community
- Reduced operating costs

Dane County's Sustainability Principles:

Dane County strives to operate in a sustainable way that will:

- Reduce and eventually eliminate county government's contribution to fossil fuel dependence and to wasteful use of scarce metals and minerals;
- Reduce and eventually eliminate county government's contribution to dependence upon persistent chemicals and wasteful use of synthetic substances;
- 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
- Reduce and eventually eliminate county government's contribution to conditions that undermine people's ability to meet their basic human needs.

Eligible Applicants:

Dane County Departments

Award Information:
Application Deadlines: There are 3 application deadlines for 3 rounds of funding. Solicitations for applications will go out via email about 1 month before each deadline.

1. Feb 6, 2017 — At this time up to 50% of the funds will be awarded.
2. July 7, 2016 — At this time up to an additional 25% of the funds will be awarded.
3. October 9, 2016 — At this time the remainder of the funds will be awarded.

The subcommittee generally makes award decisions within a couple of weeks of the application deadline depending on complexity of the proposals and the subcommittee meeting schedule.

Examples of types of projects that would be eligible:

- Renewable energy or energy efficiency improvement investments for county facilities, such as solar lighting, LED lighting upgrades, energy efficient boilers, etc.
- Water conservation improvements
- Covering the cost differential between conventional and fuel-efficient vehicles to purchase more fuel-efficient fleet vehicles or convert existing vehicles to more fuel-efficient and lower-emission vehicles
- Purchase of new or upgraded equipment that will improve the overall efficiency of facilities and reduce greenhouse gas emissions, reduce the use and disposal of toxic products, reduce maintenance costs and/or staff time using the equipment, and/or facilitate better tracking, measurement, and verification of sustainable outcomes in county operations

Application and Submission Information:

Apply electronically to Lisa MacKinnon at Mackinnon@countyofdane.com and Carlos Pabellon at Pabellon@countyofdane.com.

Please include the following in your application:

1) A detailed description of your proposed project
2) How the project, if carried out, will meet the county's sustainability principles
3) How the project, if carried out, will implement specific goals, objectives, and strategies identified in the Dane County Sustainable Operations Plan. Indicate which goals, etc.
4) How the county might build upon the sustainability outcomes of the proposed project
5) How your department intends to track and measure the outcomes of the project, if funded, such as cost savings, energy reductions, maintenance reductions, etc. and who will be responsible for measurement and verification.
6) Budget Sheet: Include all costs of achieving the objectives of the project.
7) Estimated cost savings to the county due to implementation of the project and the payback period. Include here information on estimated Focus on Energy incentive savings if your project is eligible for FOE incentives (see https://focusonenergy.com/business or contact Lisa MacKinnon for assistance in getting this information).

Questions are to be directed to Lisa MacKinnon at 267-1529 or Carlos Pabellon 266-4519.

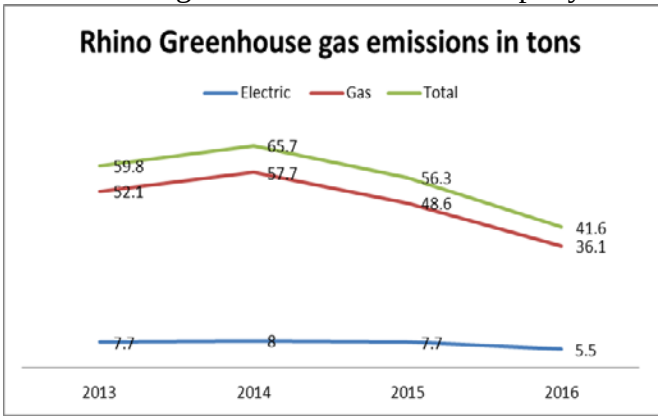
Project Information:

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

Department: Zoo Address: 702 South Randall Ave	Total project costs:$47,043
	Funding amount in current budget: $0
	Funding amount requested: $47,043
Project Title: Forced air heating, glass replacement, LED lighting	
Project Location: Rhino barn	
Project Description: Project scope is divided into three parts, 1) Forced air heater replacement, 2) Glass replacement, and 3) LED replacement bulbs.	

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.

From 2013 to 2016 we have seen a significant reduction in our greenhouse gas emission from the rhino barn. Our primary contributor is from the use of natural gas and with dramatically more efficient furnaces we can continue our trend to reduce our carbon footprint. The rhino barn current four year average is 48.6 tons of carbon emissions by natural gas. Assuming that 2/3 of the natural gas use is by the old heaters they can produce an average of 32 tons of carbon emissions per year at 55% AFUE. Increasing their efficiency could save an average of 13 tons of emissions per year.



- Reduce and eventually eliminate county government's contribution to fossil fuel dependence and to wasteful use of scarce metals and minerals;
- Reduce and eventually eliminate county government's contribution to dependence upon persistent chemicals and wasteful use of synthetic substances;
- 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
- Reduce and eventually eliminate county government's contribution to conditions that undermine people's ability to meet their basic human needs.

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.

A-108 Henry Vilas Zoo — Establish a comprehensive sustainable building and facilities policy

Rhino barn

As we refit and renovate buildings at the zoo we are making the best attempts to utilize modern sustainable practices. Focusing our efforts in one or two areas helps take a deeper look into an area instead of spreading our focus. This year we made several upgrades needed prior to getting in our new male rhino and will continue to focus our efforts there for the remainder of the year and into 2018. We are requesting funding in whole or part for the following project divided into three sections.

Glass - $12,093

The glass for this barn was installed in 1968 and is 50 years old. The glass is fogged because the seals between the 2 panes of glass have failed and in one case is missing one of the two panes. This significantly deteriorates the insulation value of the glass.

The proposal is to replace this glass with new argon gas-filled glass to restore and improve the insulation and clarity of the windows. Based on information in Table 1 from the energyguide.com I estimate the windows to have no better than a U-factor of 0.81 and potentially less. The specified windows for this project have a U-factor of .46, significantly reducing the potential for heat loss. Because these windows don't have sun exposure Low-E glass would add cost but not increase performance so we have not included that option. **Project cost $12,093**

Forced Air Heat - $32,950.00

There are three (3) heating units in the building--the two (2) forced air heaters and one (1) boiler used for in-floor heat. The forced air heaters are 40 years old. We propose to install four (4) Bryant 925SA66120 gas-fired high-efficiency warm air furnaces with ecm (electronically commutated motor) blower motors. Two are up flow configuration,(96.2% AFUE) and two are counter flow (95% AFUE). AFUE stands for Annual Fuel Utilization Efficiency (**AFUE**) and is a measure of a gas furnace's efficiency in converting fuel to energy, by projecting the average thermal efficiency for a complete heating season. A higher **AFUE** rating means greater energy efficiency. I estimate our current furnace to have a 50% to 60% AFUE at best. All will be installed to existing gas, electrical, and sheet metal distribution systems. **This work can be completed for the sum of $32,950.00**.

LED replacement bulbs - $2,000

LED replacement bulbs to replace current florescent light bulbs. We will not need to replace the fixtures. We are looking to purchase replacement bulbs for our current florescent light fixtures. Estimates show up to a 50% reduction in energy consumption. The primary focus will be to re-lamp the rhino barn with any additional money used to replace lights in other key areas of the zoo that use florescent bulbs.

Describe how the county might build upon the outcomes of the proposed project to work toward greater sustainability. We expect to see reduction in our metrics for natural gas through better insulation, more efficient use of natural gas, and a total energy reduction for the building.
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. Currently the zoo reports on our Sustainable Operations Plan (SOP) annually in September. We track trending and reduction information in all measurable categories. This project would primarily impact natural gas consumption and secondarily reduce electrical energy consumption. We have seen reductions in consumption across all our metrics for 2014 to 2015. We reported a 22% reduction in natural gas and 0.13% reduction in electricity. We feel this project will aid in our decreasing consumption trend. We would report on these outcomes in the fall SOP update to our standing committee once we have initial measurements and findings.

Contact person: Jeff Halter – Deputy Zoo Director	Phone: 608-515-8805 E-mail: halter.jeff@countyofdane.com

Guiding questions for the project description. Applicants should include a detailed discussion of the work planned and/or the technical approach used that illustrates what the project will achieve and how it will comply with and implement the county's four sustainability principles and the Dane County Government Sustainable Operations Plan. The following questions provide a guideline to help your department frame and describe the project. Please feel free to address additional issues.

- Has this project been developed with the input of environmental and social sustainability stakeholders?
- Will this project reduce wasteful dependence upon fossil fuels, underground metals, and minerals?
- Will this project ensure that the smallest possible amount of resources is used?
- Has the proposal included green procurement standards for required goods, materials, and services?
- Will this project lead to a decrease in greenhouse gas emissions?
- Will this project reduce the need for fossil fuel-dependent transport, increase public transit use, or increase walking and bicycling?
- Will this project support businesses that emit less polluting or hazardous substances to air, water, or soil and has this project considered alternative routings to avoid damaging valuable natural sites and ecosystem services?
- Will this project raise awareness about waste prevention and recycling among industry, government, resident households, etc., and will the project help reduce the amount of waste going into the landfill?
- Will this project still be relevant when looking at the demographic changes ahead?
- Will this project consider the most up-to-date technology for recycling and waste reduction?
- Will this project use products that are non-polluting or come from an environmentally friendly source that will reduce negative impacts of your project on the environment, e.g., FSC wood, non-toxic, and non bio-accumulative chemicals?
- Will this project avoid the risks of water, air, and soil contamination?
- Will this project support the provision of environmental and social services in a certain area (e.g., flood prevention, water purification, air cleaning)?
- Will this project be beneficial in helping the county to adapt to the effects of climate change (e.g., changes in precipitation, flood and drought risks, heat emergencies, etc.)?
- Is this project avoiding negative impacts on water bodies, wetlands, etc., and is this project supporting the establishment and management of protected areas in water bodies, wetlands, etc.?
- Is this project proposing activities to raise awareness about water scarcity, water conservation, or water recycling and will this lead to an improvement of the water quality of a certain water body?
- Will this project still be beneficial once the funding is used and what, if any, public funding will need to be used for ongoing maintenance?
- Will this project support jobs in the eco-technology field and/or does this project include training for relevant stakeholders in renewable energy and other clean and sustainable technology?
- Has this project developed a strategy for measuring anticipated outcomes of the project?
- Has this project developed a strategy for how to disseminate results or best practices?
- Will this project address an identified local need that can have a positive benefit on the local community and improve equity outcomes and quality of life for everyone?
- Will this project involve young people that will encourage a new generation to positively contribute to their community and surroundings?
- Will this project improve access to community services and facilities for all people of the community?