

SMART Fund Projects AWARDED
2012 through 2016
(Updated October 2017)

The SMART Fund prioritizes capital projects that are strong across all factors—advancing the county's sustainability principles, implementing the Dane County Government Sustainable Operations Plan, and achieving a financial return so that we can turn those operational savings into other sustainability enhancing projects (example: High-efficiency lighting replacements significantly reduce electricity use, reduce GHG emissions, and also give a quick financial ROI to reduce operational costs and reinvest savings).

2012 PROJECTS FUNDED:

\$48,899 total award

The following three projects were selected to receive funding in the 2012 pilot of the Dane County Departmental Sustainability Fund awards:

- 1) Installation of linkageless fuel air control systems on boilers at the Alliant Energy Center = \$16,674.08
- 2) Public Safety Building Digital Controls Upgrade (for floors three and four) = \$22,225
- 3) Replace high wattage parking lot lighting fixtures with low wattage LED lighting fixtures in the Parks Department = \$10,000

2013 PROJECTS FUNDED:

2013 ROUND 1

\$44,295 total award

The following three projects were selected to receive funding in the first round of 2013 Dane County Departmental Sustainability Fund awards:

- 4) Replace 535 35W and 80 70W High Pressure Sodium lamps with 615 9W LED lamps in the Dane County Parking Ramp = \$22,500
- 5) Public Safety Building Digital Controls Upgrade (continuation and completion of 2012 project) = \$15,535
- 6) Replacement of existing washer/dryer units with energy efficient washer and dryer units at the Juvenile Detention and Shelter Home facilities (total of 4 washers and 3 dryers) = \$6,260

2013 ROUND 2

\$23,525 total award

The following projects were selected to receive funding in the second round of 2013 Dane County Departmental Sustainability Fund awards:

- 7) Lyman Anderson Building Heating System Upgrade: Replace boiler, upgrade controls, and remove electric unit heater from mechanical room and replace with hydronic heater (\$13,600)
- 8) Purchase of Chemical-Free Floor Finish Remover Machine for Dane County Facilities: Eliminates use of chemical floor stripper and replaces it with a non-toxic physical stripping method (\$9,925)

2013 ROUND 3

\$24,414 total award

The following projects were selected to receive funding in the third round of 2013 Dane County Departmental Sustainability Fund awards:

- 9) Alliant Energy Center Main Marquee Lighting Replacement (LEDs):** Replace main marquee fluorescent lighting with LED lighting system (\$15,674)
- 10) Lighting Upgrade at the Juvenile Shelter Home:** Replace all existing T-12 and low-efficiency T-8 lighting with higher efficiency T-8 lighting and add occupancy sensors (\$5,940)
- 11) Courthouse variable frequency drive speed controls:** Install speed control on the VFDs for heating pump loops in the courthouse (\$2,800)

Total award for the final round of 2013 Dane County Departmental Sustainability Fund: \$24,414

INTERIM PROJECT BETWEEN 2013 ROUND 3 and 2014 ROUND 1

\$10,481.24 total award

- 12) Legacy Boiler Replacement at Fen Oak:** Replace boiler #2, upgrade controls, and remove electric unit heater from mechanical room and replace with hydronic heater. [NOTE: This request was made off-cycle because boiler #2 failed unexpectedly in the middle of the winter heating season. It was approved as it was an identical project to the first boiler replacement approved in Round 2 of 2013. It used remaining carryover funds from 2013.]

2014 PROJECTS FUNDED:

Fund name changes to SMART* Fund (Sustainable Management and Renewable Technologies)

2014 ROUND 1

\$112,137 total award

The following four proposals were selected to receive funding in the first round of 2014 SMART Fund awards:

- 13) Energy and Water Savings Upgrades at Juvenile Shelter Home:** Replacement of all older bathroom faucets, shower heads and toilets with WaterSense rated models to reduce water usage; replacement of old water heater with a 95% thermal efficiency unit to reduce natural gas usage; replacement of kitchen counter and sink to comply with codes and reduce maintenance; replacement of kitchen faucet with a WaterSense rated model; and replacement of an inefficient dishwasher with a more durable and energy efficient commercial model. (Up to \$51,750)
- 14) Courthouse Static Pressure Reset:** Continued implementation of retrocommissioning report recommendations for the Courthouse. This measure will save energy by slowing down fans on air handling units during times of low zone demand and increasing fan speeds when cooling loads rise. The greatest cost of any HVAC system is the cost of fan energy, so this project focuses directly on that system component. (\$2,787)
- 15) Alliant Energy Center Zonal HVAC System:** Install a separate HVAC system for the back of house areas of Exhibition Hall, including the employee break room and staff offices, to reduce energy used for air conditioning for employee safety and comfort. (\$15,000)
- 16) LED Relighting Project for Multiple County Facilities:** Replacement of current garage and parking lot light fixtures at the CCB, DCCH, Fen Oak, and Public Safety Building facilities. (\$42,600)

2014 ROUND 2

\$941,629 total award

The following six proposals were selected to receive funding in the second round of 2014 SMART Fund awards:

- 17) Land and Water Resources Division Records Modernization:** The Water Resource Engineering Division (WRE) will transition from paper stormwater management permit records to a searchable electronic records system. (\$61,000)
- 18) Zoo Solar PV Pathway Lighting:** The goal of this project is to enhance safety for guests and animals by installing solar PV pathway site lighting inside the zoo. (\$107,000)
- 19) Highway Heated Storage Facility Insulation:** Scrape and power spray existing exteriors walls and install expanding spray foam insulation in the County Highway storage facility located on Fish Hatchery Road. (\$100,629)
- 20) Renovations for CNG Code Compliance at Highway Department Vehicle Storage Facility:** This project will bring the Highway Division's blue vehicle storage building on Fish Hatchery Road into compliance with building and safety codes for CNG vehicles, which will allow them to park the county's expanding CNG vehicle fleet in this area and perform limited maintenance on the vehicles (not to exceed \$210,000)
- 21) Veterans Services Office Desktop Scanners:** Install desktop scanners at six work stations, enabling the adoption of a paperless system of filing US Department of Veterans Affairs (VA) claims. (\$3,000)
- 22) Alliant Energy Center Parking Lot Light Fixture Replacement (LEDs):** Replace 243 existing parking lot and walkway light fixtures with energy efficient and lower maintenance LED light fixtures (not to exceed \$460,000)

2014 ROUND 3

\$180,814 total award

The following five proposals were selected to receive funding in the third round of 2014 SMART Fund awards:

- 23) Jail LED lighting replacement:** (\$50,000)
- 24) Emergency Management LED lighting replacement:** (\$7,000)
- 25) Public Works CNG weed collection dump truck replacement:** (\$76,310)
- 26) High efficiency refrigerator replacement for Treasurer:** (\$644)
- 27) Park Facilities Water and Energy Conservation Proposal:** (\$46,860)

2015 PROJECTS FUNDED:

2015 ROUND 1

\$423,189 total award

The following six proposals were selected to receive funding in the first round of 2015 SMART Fund awards:

- 28) AEC - Coliseum Building Mechanical System Upgrades and Adjustments**
This project will upgrade and program adjustments to the building mechanical systems in the Veterans Memorial Coliseum based on recommendations contained in the retrocommissioning study that was completed by Sustainable Engineering Group, LLC. **The cost of the project is not to exceed \$192,800.**
- 29) AEC - Exhibition Hall Building Mechanical System Upgrades and Adjustments**
This project will upgrade and program adjustments to the building mechanical systems in the Exhibition Hall based on recommendations contained in the retrocommissioning study that was completed by Sustainable Engineering Group, LLC. **The cost of the project is not to exceed \$84,500.**
- 30) FM – CCB Steam Convectur Controls Upgrade and Trap Replacement**

This project will involve the removal of pneumatically controlled steam valves in areas that have had Direct Digital Control (DDC) upgrades within the last eight years. Those valves will be replaced with high temperature electronic valves to complete the DDC conversion. It will also involve the replacement and upgrade of thermostatic convactor steam traps and main drips throughout the City-County building. **The cost of the project is not to exceed \$70,789.**

31) PWHT-Solid Waste – Landfill Shop Lighting Replacement

This project will replace the existing landfill shop lights with energy efficient LEDs. **The cost of the project is not to exceed \$6,300.**

32) Juvenile Court – Shelter Home Appliance Update

This project will replace the old appliances used by juvenile residents at the Juvenile Shelter Home with energy efficient appliances. **The cost of the project is not to exceed \$13,800.**

33) Sheriff – Hostage Negotiations Team Van Replacement

This project will replace the existing 2005 van with a 2015 Ford Transit Bi Fuel van capable of operating on CNG to reduce emissions and fuel costs. **The cost of the project is not to exceed \$55,000.**

2015 ROUND 2

\$339,460 total award

All six of the following submitted proposals were selected to receive funding in the 2nd round of 2015 SMART Fund awards:

34) Printing and Services CNG Vehicle Conversion:

The 2015 Capital Budget approved a project to replace Printing and Services pickup truck and full size van with newer, more efficient models. The cost to convert the replacement vehicles to CNG was not included in the budget. This project would fund the cost difference to convert the replacement vehicles to CNG. The estimated cost of the project is \$17,600. Estimated fuel savings are \$815 per year, based on current fuel prices. The payback period is expected to decrease as fuel prices increase in the future. **The subcommittee approved funding for this project up to \$18,060.**

35) Job Center Lighting Replacement:

This project will replace all of the existing interior fluorescent and exterior HID lights at the Job Center with energy efficient LEDs. The estimated cost of the project is \$152,400. Estimated energy savings are \$29,863 per year. **The subcommittee approved funding for this project up to \$152,400.**

36) Public Safety Communications (PSC) LED lighting replacement: This project will replace all of the existing interior fluorescent lights at the Public Safety Communications (911 Call) Center in the City-County Building with energy efficient LEDs. The estimated cost of the project is \$15,000. Estimated energy savings are \$695 per year with an additional estimated lifetime savings of \$45,000 for maintenance and bulb replacement. **The subcommittee approved funding for this project up to \$15,000.**

37) Solid Waste Construction and Demo Facility LED Lighting: This project will substitute energy efficient LED lighting fixtures for 29 metal halide lighting fixtures in the high bay area of the new Construction & Demolition Material Recovery Facility. The estimated cost of the project is \$20,000. Estimated energy savings are \$1,839 per year with additional maintenance and replacement savings. **The subcommittee approved funding for this project up to \$20,000.**

38) Public Safety Building (PSB) Garage CNG Code Compliance: This project will create code complaint parking for up to 18 CNG vehicles at the Public Safety Building garage. The estimated cost of the project is \$100,000. It was noted that a CNG code compliant parking space is needed even for short-term parking. It was also noted that other county CNG vehicles could also use this parking space if the Sheriff's office staff moved in the future. **The subcommittee approved funding for this project up to \$100,000.**

39) Public Safety Building (PSB) LED Lighting Conversion: This project will replace the existing interior fluorescent lights in the stairwells and on the first floor of the Public Safety Building with energy efficient LEDs. The estimated cost of the project is \$34,000. Estimated energy savings are \$7,644 per year. **The subcommittee approved funding for this project up to \$34,000.**

2015 ROUND 3

\$204,770 total award

The following four proposals were selected to receive funding in the 3rd round of 2015 SMART Fund awards. Please note that in a few cases the subcommittee approved the project with conditions or a change to the proposed scope (items 1 and 2 below).

40) Sheriff's Freeway Service Team CNG System:

This project will purchase and install a CNG bi-fuel system on the Sheriff Office's new 2016 Ford F250 Freeway Service Team truck. The vehicle uses an estimated 5,000 gallons of fuel per year. Estimated fuel savings are \$4,477 per year, based on current retail fuel prices. The estimated fuel savings would increase to \$8,827 per year if bio-CNG from the Dane County Landfill is used. (NOTE: Because Public Works recently received a lower quote for a similar CNG system from Madison Truck Equipment, *the subcommittee requested that the DCSO get at least another quote from Madison Truck Equipment and/or ask Barnes to meet the lower bid.*) **The subcommittee approved funding for this project up to \$13,595.**

41) AEC Restroom Fixture Upgrades:

This project will replace all of the existing toilets, urinals, and sinks at the Alliant Energy Center Exhibition Hall and AEC Administration building with high efficiency water saving fixtures. The estimated cost of the project is \$107,475 (71 sinks, 105 toilets, 37 urinals in Exhibition Hall and the Admin bldg.) Estimated water savings calculated by AEC staff are \$6,398 and 1.3 million gallons per year. (NOTE: Replacements for the fixtures in the Coliseum were also proposed but subcommittee members expressed concern with spending on improvements at the Coliseum with no long-term plan in place yet for that facility. It was suggested that better data could be obtained by conducting meter readings before and after events. **The subcommittee approved funding for this project up to \$107,475.**

42) Courthouse Water Heater Conversion:

This project will replace the last electric water heater in the Courthouse with a steam fired unit as well as add building automation controls for additional energy savings and improved performance of the system. Estimated energy savings are \$1,612 per year, based on 2010 electric rates and savings will likely be greater because the county's electric rate is actually much higher than the value used to calculate the energy savings, so the payback period will be shorter. **The subcommittee approved funding for this project up to \$30,600.**

43) LWR – WRE Records Modernization:

This project will transition the Land and Water Resource Department - Water Resource Engineering Division's erosion control permit records from paper to searchable electronic records. \$53,100 in SMART Funds is being requested to supplement the \$124,800 currently in the budget for this project. WRE staff estimate that the division will save over \$60,000 annually, primarily in labor costs. They also estimate that there will be substantial sustainability benefits from reduced paper consumption, as well as a more accessible and efficient system for customers. **The subcommittee approved funding for this project up to \$53,100.**

2016 PROJECTS FUNDED:

2016 ROUND 1

\$482,834 total award

The following five proposals were selected to receive funding in the first round of 2016 SMART Fund awards:

- 44) CCB 4th and 5th floor and hallway LED Relighting project** (up to \$159,500—with an expectation that it will be lower once City of Madison pays its percentage to DOA)
- 45) Stoughton DHS Office LED Relighting project** (up to \$18,500)
- 46) Consolidated Food Service kitchen LED Relighting project** (up to \$23,000)
- 47) Consolidated Food Service Dishwasher Replacement** (up to \$117,434)
- 48) AEC Exhibition Hall Loading Dock High Speed Door** (up to \$164,400)

2016 ROUND 2

\$185,400 total award

The following four proposals were selected to receive funding in Round 2 of 2016 SMART Fund awards:

- 49) AEC Coliseum LED Lighting upgrade (up to \$78,300)
- 50) AEC Coliseum Restroom Fixture upgrades (up to \$80,000)
- 51) DOA Energy Management System (up to \$17,100)
- 52) PSC Phase 2 LED Lighting upgrade (up to \$10,000)

2016 ROUND 3

\$92,750 total award

The following two proposals were selected to receive funding in Round 3 of 2016 SMART Fund awards:

- 53) Facilities Management Increased Water Softener Efficiency at City County Building; Public Safety Building; Dane County Courthouse; Badger Prairie Health Care Center (up to \$30,250)
- 54) AEC Replace Restroom Paper Towel Dispensers with Eco-Friendly Hand Dryers (up to \$62,500)

TOTAL AWARDS 2012 through 2016:

2012: \$48,899.08 (out of \$100,000 available)

2013: \$102,715.24 (out of \$50,000 plus 2012 carryover)

2014: \$1,234,580 (out of \$2 million and 2013 carryover) (Fund increased to \$2 million/yr. for 2014)

2015: \$1,002,419 (out of \$2 million for 2015)

2016: \$760,984 (out of \$2 million for 2016)

This fund has awarded \$3,149,597 million to 54 projects from 2012 through 2016.

Smallest award: \$644

Largest award: \$460,000

NOTE: The following estimates of cost and emissions reductions are based on a portion of the projects for which solid, standardized calculations were available at the time of the proposal. Therefore, these estimates are conservative and actual annual cost and emissions reduction benefits realized are likely to be higher.

Total estimated greenhouse gas emissions reductions:

The emissions avoided by implementation of these projects are estimated at 2,850 metric tons of CO₂ equivalent annually. This is the equivalent of:

- Taking 602 passenger vehicles off the road annually
- Reducing passenger vehicles miles driven by 6.8 million miles annually
- Not burning 320,693 gallons of gasoline annually
- Not burning 3.0 million pounds of coal annually
- The average annual energy use of 300 homes

(Source: the EPA emissions calculator <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>.)

Estimated operational cost savings: \$637,900 annually at minimum (or \$6.37 million over 10 years). These operational savings costs are based on energy and other resource reductions, as well as maintenance cost reductions, calculated for some projects. This is a minimum operational cost savings estimate as not all projects provided initial cost savings estimates up front.