

ENVIRONMENTAL MANAGEMENT SYSTEM
Project Financial Assistance Form



SECTION 1 – Applicant Identification Information

Application Date: March 07, 2019

Applicant (EMS participant): Metro Waste Authority

Contact Person: Chelsie Oxenford

Mailing Address: 300 E Locust Street, Suite 100, Des Moines IA, 50309

Telephone: 515-323-6508 Email: cox@mwatoday.com

SECTION 2 – Project Proposal (30 points)

1. **Project Title** Solar Installation on Central Office Building

2. **Total DNR \$ Grant Assistance Requested:** \$153,368

3. **Project Information**

- Check EMS Component Area(s) this project is associated with

- ☐ Organics Waste Management
- ☐ Household Hazardous Waste Collection
- ☐ Water Quality Improvement
- ☒ Greenhouse Gas Reduction
- ☐ Recycling
- ☒ Environmental Education

4. **Describe the project (short narrative) and fill out the Task/Activity information below.**

Metro Waste Authority's administrative office is in the East Village, established in downtown Des Moines in 2002. In addition to the building serving as the agency's Central Office, it is also home to a variety of tenants, serving a wide customer base. The agency proudly established roots in the East Village and understood the area's potential, before many others invested in the vision. This year, Metro Waste Authority plans to continue this investment and model sound environmental practices by proactively reducing greenhouse gas through the installation of solar array. This will be the first major solar array installation in the East Village for an office building. Metro Waste Authority is viewed as an environmental authority in Central Iowa, and is often sought for environmental input on critical issues. Expanding the agency's environmental practices with the use of solar will allow the agency to further support this practice with others.

5. **Identify how this project is directly tied to one or more Component Area.**

Installation of the solar array falls under the Greenhouse Gas component area of the EMS program. Greenhouse Gas reduction will be achieved through the installation of 299 solar panels on the roof of the Central Office building. The solar panel array installation is anticipated to meet 25% of the building's electricity needs. This is projected based on the building's past electrical use, as well as anticipated solar array electrical generation.

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6. List Project Tasks or Activities planned with tentative information:

Task or Activity	Planned Begin Date	Planned End Date	Responsible Party
Issue RFP for Solar Equipment and Installation	July 2019	September 2019	Metro Waste Authority
Install Solar Equipment	October 2019	November 2019	Selected Contractor
Launch Solar Use and Track Data	December 2019	December 2021	Metro Waste Authority and Selected Contractor

SECTION 3 – Project Impact & Monitoring (40 points)

7. Project Impact

- a. **Identify the potential long and short term environmental impacts of the project. If the project will take place inside the facility “fenceline”, identify how it will benefit the planning/service area such as residents and businesses. Examples may include: An on-site project to provide access to recycling could divert waste from the landfill, improving recycling access for planning area residents. This is where you should “make your case” for this project.**

The success of this project will be measured using the following metrics for evaluation. The initial goal will be to replace 25% of the monthly electricity needs with solar powered energy. The ongoing monitoring and maintenance of the solar panels and equipment will contribute to ongoing solar operations. Metro Waste Authority's Central Office is a three-story building with various tenants. This building has a single electrical meter that supplies the entire building; based on the simulation layout, the roof will hold 299- LG400 watt panels for a total size of 119.6 kW DC system. Based on the weather dataset information, this system will produce 1353.5 kWh/kW DC installed or 161,900 kWh annually.

According to the EPA Greenhouse Gas equivalencies calculator, this change from traditional energy sources to solar energy will result in a reduction of 114,488 metric tons of carbon dioxide equivalent per year. This is equivalent to greenhouse gas emissions from:

24,307 vehicles driven in one year, or 279,921,142 miles driven by an average vehicle. This is also equivalent to carbon dioxide emissions from: 12,882,609 gallons of gasoline consumed, or 19,965 homes' electricity use for one year.

Installation and implementation of the solar panel project would result in the biggest greenhouse gas reductions undertaken by the East Village in Des Moines to-date. A transition to solar energy generation in the East Village is an important step in demonstrating to residents and businesses that live and work in the area that the agency is serious about making changes to reduce greenhouse gas footprint. The solar array will be an ongoing reminder of the agency's commitment to the area, as well as the environment.

- b. **List any partnerships that have been secured for this project and the potential benefits resulting from those partnerships.**

Through this initiative, Metro Waste Authority will be an added environmental resource in the community that residents and businesses can utilize. The use of solar will provide an impactful example of what can be done when many work

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together for the better of the environment. It will provide an education opportunity through our media outreach and marketing, as the agency discusses their environmental commitment. Specifically, the use of solar will create a unique extension to Metro Waste Authority's STEM curriculum, offering an expanded example of practical environmental application in the field, and in the classroom. Annually, the agency reaches 4,650 students and 5,370 followers on social media accounts.

A tenant at the Central Office building has been in discussion with Metro Waste Authority about partnering. They are passionate about the environmental benefit of using solar array and would be a long-term supporter. This tenant support would open the door to other tenants support as well. The agency's renewable energy company will support the project with solar installation, operations, and communications expertise and experience. The agency will work with its building management company to meter its solar-generated electricity.

c. Identify how the project will be monitored for continuous improvement. Note if metrics be utilized and how results might be shared with others such as staff, a board of directors and the public.

Monthly electricity production report will be reviewed. Metro Waste Authority staff will work with the solar installation company and building management company to adjust solar panel tilt to maximize sun exposure.

SECTION 4 – Project Budget & Sustainability (30 points)

8. Sustainability and Budget. There are three (3) parts to this section. Each will help the review committee better understand the overall costs of the project.

Budget Item	EMS \$ Assistance Request	Local Share – Cash*	Total
Total Solar Panel Installation Project Cost	\$153,368	\$98,232	\$251,600
TOTALS:	\$153,368	\$ 98232	\$ \$251,600

*Note: There must be a minimum 25% cash match, which is calculated on the **Total** for each budget line item in which EMS financial assistance is requested.

Provide at least three (3) quotes or estimates for each type of item to be purchased. If three quotes are not secured, please provide a reason in the narrative below.

Totals: EMS Project Funding Information:

Amount of Financial Assistance Requested:	<u>\$153,368</u>
Amount of Matching Cash Funds:	<u>\$98,232</u>
Total Estimated Project(s) Cost:	<u>\$251,600</u>

A. Provide a detailed budget narrative related to this project and specify how funds from the EMS Grant Program will be used. Provide information regarding who will own the property that will be purchased if it will not be the grantee.

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The agency's renewable energy company provided a quote and design layout for this system. It is a 119.6 kW (DC)/80 kW (AC) System that will produce an estimated 161,900 kWh annually. The total cost of this turnkey solution is \$251,600 or 2.10/watt installed. The agency budgeted \$100,000 in fiscal year 2019-2020 budget to support the use of solar array. Going forward, Metro Waste Authority will prepare future budgets accordingly to allow proper ongoing maintenance.

- B. **Estimate the environmental benefit or benefit compared to the cost if information is available. For example: purchase of a trailer to divert cardboard from the landfill. Opportunities: cost of trailer, cardboard airspace (estimated cubic yards), cardboard tons (estimated), and EPA's Warm Model information on greenhouse gas reduction based on tons recycled.**

The solar array project is projected to offset 114,480 metric tons of carbon dioxide equivalent per year. The agency believes this project is the most cost effective and plausible way for it to achieve this amount of greenhouse gas reductions.

- C. **Identify how the project will be supported financially now and in the future after project funds are expended. Costs may include but are not limited to labor, upkeep of equipment and systems, and technology, such as updates after web-sites are completed.**

Solar energy systems have minimal ongoing operational costs. Those costs will be absorbed into the annual operating budget and tasks will be completed by staff and/or contractors. Anticipated ongoing costs include periodic solar panel inspection and cleaning. Cleaning needs to occur every two to three years to ensure effectiveness. The Solar Panels have a 12-year manufacturing warranty and a 25 year production warranty (warranted to produce 83% after 25 years). The Inverters have a 12-year warranty and the racking has a 25 year warranty.

Please Note:

Ineligible costs: Financial assistance shall not be provided or used for costs including, but not limited to, the following:

1. Taxes.
2. Vehicle registration.
3. Legal costs.
4. Contingency funds.
5. Proposal preparation.
6. Contractual project administration.
7. Land acquisition.
8. Office furniture, office computers, fax machines and other office furnishings and equipment.
9. Costs for which payment has been or will be received under another federal, state or private financial assistance program.
10. Costs incurred before a written agreement between the applicant and the department has been executed.
11. Passenger vehicles

For information about EMS project applications that have not been funded in the past, contact Becky Jolly:

becky.jolly@dnr.iowa.gov or 515-725-8308.

SECTION 5 – Signature

I affirm the information provided on this Application is true, and that I will provide all other information requested for further substantiation. I agree that if awarded financial assistance for a project(s), I will execute the contract the DNR provides for conveying those funds, which contract will include but not be limited to conditions for expending those funds, and for making reasonable accounting of those expenditures and matching funds or in-kind expenses.

In order to determine funding eligibility, the Department reserves the right to verify any information presented in the application and to determine the applicant's compliance status with applicable Local, State and Federal statutes and

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regulations. If an applicant is selected to receive financial assistance, an offer of financial assistance may be rescinded if the applicant is determined to be out of compliance with applicable Local, State and Federal regulations.

Ch. [Signature], Business marketing coordinator
Signature, Title

4-1-19
Date

Note: Applications may be emailed, but a signed copy (electronically, scanned or original) must be on file at DNR.

SECTION 6 – Forms

New: Include signed copies of required forms with your application. Forms may be found on the EMS website:

<http://www.iowadnr.gov/Environmental-Protection/Land-Quality/Waste-Planning-Recycling/Solid-Waste-EMS/EMS-Participants>

- W-9 Form
- Minority Impact Statement

Minority Impact Statement

Pursuant to 2008 Iowa Acts, HF 2393, Iowa Code Section 8.11, all grant applications submitted to the State of Iowa which are due beginning January 1, 2009 shall include a Minority Impact Statement. This is the state's mechanism to require grant applicants to consider the potential impact of the grant project's proposed programs or policies on minority groups.

Please choose the statement(s) that pertains to this grant application. Complete all the information requested for the chosen statement(s).

- ☐ The proposed grant project programs or policies could have a disproportionate or unique **positive** impact on minority persons.

Describe the positive impact expected from this project

Indicate which group is impacted:

- ☐ Women
- ☐ Persons with a Disability
- ☐ Blacks
- ☐ Latinos
- ☐ Asians
- ☐ Pacific Islanders
- ☐ American Indians
- ☐ Alaskan Native Americans
- ☐ Other

- ☐ The proposed grant project programs or policies could have a disproportionate or unique **negative** impact on minority persons.

Describe the negative impact expected from this project

Present the rationale for the existence of the proposed program or policy.

Provide evidence of consultation of representatives of the minority groups impacted.

Indicate which group is impacted:

- ☐ Women
- ☐ Persons with a Disability
- ☐ Blacks
- ☐ Latinos
- ☐ Asians
- ☐ Pacific Islanders
- ☐ American Indians
- ☐ Alaskan Native Americans
- ☐ Other

- ☒ The proposed grant project programs or policies are **not expected to have** a disproportionate or unique impact on minority persons.

Present the rationale for determining no impact.

I hereby certify that the information on this form is complete and accurate, to the best of my knowledge:

Name: Chelsie Oxenford

Title: Business Marketing Coordinator

Definitions

“Minority Persons”, as defined in Iowa Code Section 8.11, mean individuals who are women, persons with a disability, Blacks, Latinos, Asians or Pacific Islanders, American Indians, and Alaskan Native Americans.

“Disability”, as defined in Iowa Code Section 15.102, subsection 5, paragraph “b”, subparagraph (1):
b. As used in this subsection:

(1) “*Disability*” means, with respect to an individual, a physical or mental impairment that substantially limits one or more of the major life activities of the individual, a record of physical or mental impairment that substantially limits one or more of the major life activities of the individual, or being regarded as an individual with a physical or mental impairment that substantially limits one or more of the major life activities of the individual.

“*Disability*” does not include any of the following:

- (a) Homosexuality or bisexuality.
- (b) Transvestism, transsexualism, pedophilia, exhibitionism, voyeurism, gender identity disorders not resulting from physical impairments or other sexual behavior disorders.
- (c) Compulsive gambling, kleptomania, or pyromania.
- (d) Psychoactive substance abuse disorders resulting from current illegal use of drugs.

“State Agency”, as defined in Iowa Code Section 8.11, means a department, board, bureau, commission, or other agency or authority of the State of Iowa.



Goldsmith, Leslie <leslie.goldsmith@dnr.iowa.gov>

Re: 2nd Round EMS Grant applications

Flagg, Scott <scott.flagg@dnr.iowa.gov>

Wed, Apr 24, 2019 at 2:39 PM

To: "Jolly, Becky" <becky.jolly@dnr.iowa.gov>

Cc: Jennifer Jordan <jennifer-jordan@iowa-city.org>, Alicia Presto <alicia.presto@ecicog.org>, Karmin McShane <kmcshane@solidwasteagency.org>, Bob George <bgeorge@vermeer.com>, "Goldsmith, Leslie" <leslie.goldsmith@dnr.iowa.gov>, "Anderson, Thomas" <tom.anderson@dnr.iowa.gov>

All,

I was looking at the Metro application and I had a few questions so I called them..

Both Chelsea and Jenny answered my questions and I have added their responses below:

1. **What is the ROI for the solar project for Metro? Chelsea told me that they were still working on the number for this, but that they are actively pursuing it and hope to have a number soon.**
2. **Has Metro heard from any neighboring building owners that are interested in trying this on their own buildings? No other building owners have approached them, but they plan on announcing it. Jenny mentioned they plan on installing some signage at both entrances to the building that announces the project and its benefits. They will also add a feature for any pedestrians that walks by the building that has a Snap chat account will be "buzzed" with a note about the solar project.**
3. **How will the education part of this project work? How does your STEM curriculum work right now? Will there be tours of the building and roof? Chelsea told me this project and the data collected from it will be incorporated into the current curriculum. Jenny explained that they host over 300 classes annually and that they noticed that most of the questions and responses were centered around the solar projects they currently have at the landfill. So this was one of the reasons they wanted to try this at the home offices. When they host a class, they focus on a message of how Metro lessens the impact on the environment and they believe the solar panels will fit into this message seamlessly. No tours of the Metro building are currently happening nor are they planned.**
4. **What sort of media and planned outreach are you planning on doing? Chelsea said they will issue a press release to all the local television and radio stations announcing the project and its benefits. They plan on paying for a "boost" to any blog post or Facebook post to spread the word to their entire planning area. And they will create videos features the solar array that will be added to their YouTube channel and will also be added to their educational tours and classes at the landfill.**
5. **The application mentions a tenant that is interested in partnering on this project, what does partnering mean? Chelsea told me that they have a tenant that is contributing to their cash match for this project and that they are in the process of seeing if other tenants wish to do the same.**
6. **How did you decide on a contractor for this project? What is Metro's plan as the panels age. produce less energy and need to be replaced? Micheal McCoy has been leading that part of the project. They looked at multiple bids before they chose a contractor. It was important to Metro that the installer will also be a part of the project in the future to help with maintenance, sell the merits of the project and be able to assist with removal and replacement when the panels reach their end of life phase.**

Thanks,

On Tue, Apr 9, 2019 at 10:28 AM Jolly, Becky <becky.jolly@dnr.iowa.gov> wrote:

See attached for review. 4 grant requests and a review sheet.

I sent out a doodle poll to set up a meeting time. We can meet in person, or by phone since there are only 4 applications.

Thanks,