

**Environment and Natural Resources Trust Fund
2014 Request for Proposals (RFP)**

Project Title:

ENRTF ID: 129-E

Reducing Dioxin Emissions Grant Program

Category: E. Air Quality, Climate Change, and Renewable Energy

Total Project Budget: \$ 620,000

Proposed Project Time Period for the Funding Requested: 3 Years, July 2014 - June 2017

Summary:

Reduce dioxin emissions and their negative health consequences from household garbage burning by improving access to rural garbage collection and recycling sites through grants to townships and counties in Minnesota.

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Sponsoring Organization: MN Pollution Control Agency

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Location

Region: Statewide

County Name: Statewide

City / Township:

<input type="checkbox"/> Funding Priorities	<input type="checkbox"/> Multiple Benefits	<input type="checkbox"/> Outcomes	<input type="checkbox"/> Knowledge Base
<input type="checkbox"/> Extent of Impact	<input type="checkbox"/> Innovation	<input type="checkbox"/> Scientific/Tech Basis	<input type="checkbox"/> Urgency
<input type="checkbox"/> Capacity Readiness	<input type="checkbox"/> Leverage	<input type="checkbox"/> Employment	<input type="checkbox"/> TOTAL <input type="checkbox"/> %



PROJECT TITLE: REDUCING DIOXIN EMISSIONS GRANT PROGRAM

I. PROJECT STATEMENT

Exposure to dioxins in humans has shown to cause cancer, developmental and reproductive effects, changes to immune response, and hormonal effects in humans, fish, birds and other mammals. Potential human exposure comes not only from direct contact, but also the food chain. Dioxins are bio-accumulative, much like mercury or lead. They begin as an air toxin and then enter the food chain when livestock eat feed and vegetation that has been contaminated. Over time, they accumulate in our bodies through the consumption of meat, fish and dairy.

Federal and state governments have worked over the years to reduce many sources of dioxin emissions. According to the U.S. Environmental Protection Agency, backyard garbage burning is now the largest source of dioxins released each year. One burn barrel can produce as much dioxin as a 200 ton per day permitted waste combustor similar in size to the Olmsted County waste-to-energy facility in Rochester.

The Minnesota Pollution Control Agency (MPCA) will expand its efforts to reduce the amount of dioxins and other pollutants released each year from the burning of household waste and the number of annual wildfires*. It is estimated that 228,000 households, or 39 percent of all rural residents in Minnesota, burn garbage on-site primarily because convenient and affordable garbage/recycling drop-off collection services do not exist. Backyard garbage burning poses a significant health risk to Minnesotans because garbage contains plastics and other synthetics when burned at low temperatures (e.g. burn barrels) releases smoke that contains dioxin. Additionally, harmful particulates and other chemicals are released from this type of uncontrolled burning. Our goal is to further reduce the number of households that burn their garbage on-site by 30% or 68,400 households; thus, reducing state dioxin emissions by 12% or 0.0105 pounds out of 0.086 pounds of dioxins emitted from all sources in Minnesota each year.

The MPCA will issue a competitive Request for Proposals (RFP), providing townships, counties and regional authorities grants over a three year period to:

1. Educate and inform rural residents on the negative consequences of burning garbage; and
2. Establish 24 convenient but affordable rural garbage/recycling drop-off sites that will result in;
 - a. Reduced cost of rural garbage collection compared to existing practices;
 - b. Increased collection of garbage and recyclables; and
 - c. Reduced number of households burning garbage and the amount of dioxins released.

The MPCA will issue two RFPs. RFP 1 will seek competitive proposals to implement tasks under Activities 1 and 2 and result in the outcomes described. RFP 2 will seek contractor proposals to evaluate the project's success.

This project is based on a successful "pilot" grant program implemented by the MPCA from 2007 to 2010 utilizing the same grant recipients, and activities described in this proposal.

** The MN Department of Natural Resources estimates that careless debris burning was responsible for 156 wildfires (33% of total) at cost of \$4.2 million.*

II. DESCRIPTION OF PROJECT ACTIVITIES

Activity 1: Education & Outreach

Budget: \$120,000.00

To create efficiency and economy, RFP 1 will encourage townships and counties outside the metro area, to collectively coordinate the implementation of a regional education and outreach campaign on the negative health and environmental effects of backyard garbage burning, and provide information on alternative disposal options. The education and outreach media could include a mixture of press releases, print ad, brochures, radio spots, school education programs, farm events or forums, etc. from the MPCA's "Burn Barrel Reduction" webpage, as designed for region specific communication avenues.

Outcome	Completion Date
1. Measure attitude and disposal behavior changes through surveys at County Fairs.	October 2015



Activity 2: Garbage & Recycling Collection Drop-off Site Infrastructure Budget: \$480,000.00

RFP 1 will also facilitate the development of convenient and affordable rural garbage/recycling drop-off collection sites. Townships and counties will submit competitive proposals to establish 24 new drop-off sites for the collection of garbage and recyclables and/or expand existing recycling sites to accept garbage from residents, and cover site development, signage, containers and collection costs. These initial expenses will be covered in the first and second year of the grant agreements. In the third year, residents and counties will pay expenses with local funding sources.

Outcome	Completion Date
1. Estimated 0.0105 pounds of dioxin reduced.	June 2016
2. Estimated 2,917 tons of garbage and recyclables collected at each site.	June 2016
3. Estimated monthly collection service costs of \$1.54 to \$3.00 per household.	June 2016

Activity 3: Evaluation of Emission Reductions, Waste Collected and Recycled, Behavior Changes, Attitudes, Availability of Service and Disposal Costs Budget: \$20,000.00

The MPCA will evaluate the overall effectiveness of Activities 1 and 2 to determine reductions in emissions, waste collected and recycled, and behavior changes among rural residents with respect to garbage burning. The MPCA will require respondents to RFP 1 to collect information on waste collected and recycled costs and other management functions. RFP 2 will seek to answer behavior questions using current methodologies, which may include the development of a questionnaire, conducting random telephone interviews in each of the five MPCA regions, use of social media to engage the community in a dialogue and generate a report with the findings.

Outcome	Completion Date
1. Number of households no longer burning garbage by each region.	June 2016
2. Demographic characteristics (age, sex, household size, education) by region	June 2016
3. Knowledge level of health and environmental consequences of burning by region	June 2016
4. Attitude changes on garbage burning by region.	June 2016
5. Availability and costs of disposal services by region.	June 2016

III. PROJECT STRATEGY

A. Project Team/Partners

The MPCA proposes to award grant funds through a competitive RFP process to solid waste agencies, counties and townships to implement tasks described in Activities 1 and 2. The Agency will issue a second RFP seeking a contractor to perform tasks under Activity 3. This effort will be led by Hank Fisher who coordinates MPCA’s burn barrel reduction efforts.

B. Timeline Requirements:

- MPCA develops and issues RFP 1, reviews proposals and awards grants: July 2014 – October 2014
- Grantee develops and implements tasks under Activities 1& 2: November 2014 – June 2016
- Grantee submits periodic and final reports for review with invoices for payment Nov 2014 – June 2016
- MPCA develops and issues RFP 2, reviews proposals and awards contract: October 2015 – January 2016
- Statewide survey developed & implemented: April 2016
- Analysis & final report on findings submitted: June 2016

C. Long Term Strategy & Future Funding Needs

This proposal is part of the MPCA’s long term commitment within its Strategic Plan to reduce the number of households burning garbage on-site and resulting dioxins and wildfires by 75 percent.

To reach these goals, the MPCA will need resources to support local government efforts to educate, inform and create convenient but affordable waste disposal and recycling services for rural residents that would otherwise not happen on their own.

2014 Detailed Project Budget

Project Title: REDUCING GARBAGE BURNING AND DIOXIN EMISSIONS GRANT PROGRAM

IV. TOTAL ENRTF REQUEST BUDGET: Three (3) years

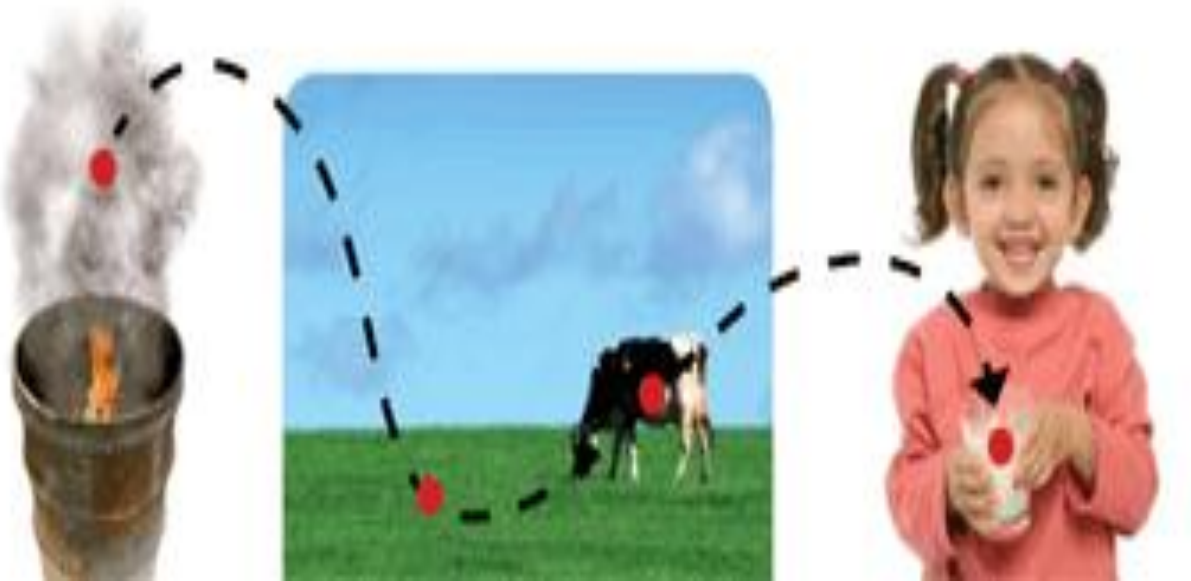
<u>BUDGET ITEM</u>	<u>AMOUNT</u>
Contracts: 1. The MPCA will issue an RFP to select a research and statistical analysis contractor to develop a questionnaire, conduct a statewide random telephone interviews and analysis to determine behavior changes among rural residents, farmers, cabin owners with respect to garbage burning.	\$ 20,000
2. The MPCA will issue a competitive RFP providing "pass-thru-grants" to counties and townships, not to exceed \$25,000.00 per drop-off site, to implement education, outreach activities and establish convenient but affordable garbage collection and recycling drop-off sites. A 25% match and a 3 year contract agreement will be required per award.	\$ 600,000
TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND \$ REQUEST =	\$ 620,000

V. OTHER FUNDS

<u>SOURCE OF FUNDS</u>	<u>AMOUNT</u>	<u>Status</u>
Other Non-State \$ Being Applied to Project During Project Period: Counties in-kind matching funds required at 25%.	\$ 150,000	Secured (at grant execution)
In-kind Services During Project Period: MPCA matching funds for personnel to manage project over the 3 years.	\$ 140,000	Secured
Funding History: In 2005, the MPCA initiated a base-line study (e.g. Phase I Burn Barrel Study) at a cost of \$12,000 to determine the severity of the backyard garbage burning problem, where and why it occurs, and what efforts would help change the behavior. That effort found that: 45% of rural residents burn their garbage; convenience, habit and price ranked as primary drivers for burning; and adequate disposal options such as the availability of drop-off sites and or their distance were issues in some areas. In 2005, the Agency established a "Burn Barrel Reduction" web page at a cost of \$200,000 providing the public and others information on the health and environment problems caused by backyard garbage burning while also providing some tools to educate and inform others of options that may be taken to abate the practice. From 2007-2009, the MPCA provided \$150,000 in grants thru its "Burn Barrel Reduction Campaign" to 24 counties throughout the State for the purpose of educating, informing and establishing garbage/recycling collection infrastructure for rural residents. To gauge campaign success, the MPCA implemented a statewide follow-up study (Phase II Burn Barrel Study) in 2010 at a cost of \$12,000 to determine the effectiveness of the education, outreach and garbage drop-off collection infrastructure programs. The study found that garbage burning fell 12% statewide or 30,657 households, farmers burning garbage had fallen 17% and 47% of survey respondents either reduced or changed their disposal practice because of information they had seen or heard. All projects above were funded through the Agency's Environmental Fund (e.g. tax collected on garbage disposal). The total funds expended, (excluding staff technical assistance) from 2005 to 2010 = \$374,000.	\$ 374,000	

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Garbage Burning & Dioxins Entering the Food Chain



Redwood County Township Garbage/Recycling Collection Drop-off Site





Environment and Natural Resources Trust Fund (ENRTF)

2014 Main Proposal

Project Title: REDUCING DIOXIN EMISSIONS GRANT PROGRAM

Project Manager Qualifications/Organization Description

Project Manager

Henry Fisher is a principal planner with over 12 years experience in various Minnesota Pollution Control Agency (MPCA) solid waste management programs. Among his duties, he is responsible for administrating the Agency's statewide "Burn Barrel Reduction Initiative" that will reduce the number of households who burn their waste on-site by 75 percent in accordance with the MPCA Strategic Plan. Past efforts have included management of the statewide Phase II Burn Barrel Study in 2010 to determine whether backyard garbage burning had decreased, increased or remained the same compared to a baseline study completed in 2005. That effort involved securing a contractor to perform those services, monitoring contractor performance and coordinating the review and analysis of the study results with a "work group" consisting of members the Minnesota Solid Waste Administrators and others in developing a comprehensive set of recommendations for potential action in meeting the Agency's Strategic Plan. Prior to this evaluation, he assisted in coordinating the implementation of the MPCA's "pilot" Burn Barrel Reduction Campaign that provided counties grant funds to educate, inform and implement garbage/recycling drop-off collection services for rural residents. He is also responsible for maintaining and expanding the Agency's "Burn Barrel/Backyard Garbage Burning" web site providing the public new information and tools to assist them in developing and implementing successful garbage burning abatement initiatives. He can be reached at henry.fisher@state.mn.us or at the MPCA, 525 Lake Avenue, South, Suite 400, Duluth, MN 55802 and (218) 302-6630.

Organization

The MPCA is an Executive Branch state agency with a mission to protect the environment and enhance human health.