Project Title: **ENRTF ID:**   186-E

A Community Table: Food Waste and Climate Change

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

Sub-Category:

Total Project Budget: $ 859,216

Proposed Project Time Period for the Funding Requested: June 30, 2023 (3 yrs)

Summary:

Food waste contributes to climate change. This project will examine the experiences Minnesotans have with food and food waste to uncover more targeted, just, and effective waste prevention strategies.

Name: Jennifer   Schmitt

Sponsoring Organization: U of MN

Job Title: Dr.

Department: Institute on the Environment

Address: 1954 Buford Ave., 325 Learning and Environmental Science Bldg.

St. Paul   MN   55108

Telephone Number: (651) 270-0148

Email jenniferschmitt@umn.edu

Web Address:

Location:

Region: Statewide

County Name: Statewide

City / Township:

Alternate Text for Visual:

The visual shows packaged chicken breasts that say "best if used" and mentions that a family of four spends $1500 a year on food they don't eat.

_____ Funding Priorities	_____ Multiple Benefits	_____ Outcomes	_____ Knowledge Base
_____ Extent of Impact	_____ Innovation	_____ Scientific/Tech Basis	_____ Urgency
_____ Capacity Readiness	_____ Leverage	_____ TOTAL	_____%

PROJECT TITLE: A community table: food waste and climate change

I. PROJECT STATEMENT

Our proposed project focuses on climate change with the overall goal being the prevention of food waste. We will focus on household food waste, helping Minnesotans think creatively about shifts in their household behaviors and gathering knowledge that will meaningfully impact waste prevention and education. Our approach differs from other work on this issue in that we are asking <u>why</u> food waste happens in the first place. We will be attentive to differences of income, race, gender, and region (particularly rural vs urban Minnesota) and we will study food waste holistically- as a part of a family's cultural, social, and economic practices. This nuance matters in finding solutions for the majority of Minnesota. Expanding existing solutions, without further insight into changing household behaviors will not yield the maximum reductions in food waste. Our approach also differs in that we will co-create research and educational materials with community partners, which will enable Minnesotans to bring their perspectives to the research questions and analysis. We will consider questions such as:

- What are the potential greenhouse gas savings from household level changes in food waste?
- How has conventional wisdom been wrong about the causes of household food waste and what can we do that will more effectively address the situation?
- How does our food system distribute the benefits of food (quantity and quality) and the costs (greenhouse gas emissions and food insecurity) at the household level?

Wasted food in Minnesota annually emits the same greenhouse gas emissions as over 685,000 passenger vehicles driven for one year, more vehicles than the entire populations of Minneapolis, Rochester and Duluth combined. About 40% of food waste occurs in households, despite more than a century of household education on food waste prevention. The advice has not worked, even when knowledge of the environmental impacts are readily available. Moreover, recent research in other states indicates that many households already understand, and are experiencing, multiple pressures around their everyday diets and eating, but struggle to implement these changes. At the same time, about one in ten Minnesota households are food insecure. This duality of food waste and food insecurity is symptomatic of a food system that is failing Minnesota.

II. PROJECT ACTIVITIES AND OUTCOMES

Activity 1: Co-creation of innovative strategies to address food waste through community-based participatory research, interactive art, and citizen science.

Description: We will being our work by building a MN food waste community group. This group will go beyond those listed in this proposal to include the voices from six communities across the state. Two urban (the Twin Cities & Moorhead) two rural MN communities, and two indigenous MN communities (one Anishinaabe and one Dakota). Our project team and partners have connections to communities across the state, enabling us to connect and engage in a respectful and meaningful way. Together we will co-create the research, including the conceptualization, design, implementation, dissemination, and application, all of which strengthen the validity of our results. Creating this group, building trust among participants, and hearing their experiences with the food system and food waste is crucial for actively engaging communities in our research and outcomes. Our approach will lead to comprehensive and inclusive food waste prevention strategies that have the opportunity to reduce more greenhouse gases.

The MN food waste community group will also work with us to create an interactive art piece as well as a food waste citizen science tool. It is critical for the success of the interactive art that community members and researchers create this work together. We will use the food waste interactive art as a research and education tool in each partner community during the community events outlined in Activity 2. After these events, we will encourage households to continue connecting with the issue of food waste through the creation of a citizen science tool. With this, households can track their observations on where they see wasted food (at home and in their neighborhoods) and how this changes seasonally, by time of day, etc. The data gathered through this

1

platform will provide an unprecedented dataset on food waste that will enable targeted interventions that will decrease the total amount of wasted food and accompanying greenhouse gas emissions.

ENRTF BUDGET: $365,476

Outcome	Completion Date
1. Establishment of a MN food waste community group comprised of 6 MN communities	9/30/20
2. 10 meetings with the MN waste community group resulting in the community connections, research plan, and research tools necessary for data collection	9/30/21
3. Completed co-creation of food waste interactive art and citizen science tool	9/30/21

Activity 2: Food waste stories, education, and data collection / analysis

Description: Our research and education are interlinked and iterative. We will travel to each community twice during the data collection phase of this project, hosting community events in each of our six research communities. At these events, which will be hosted with the help of our MN food waste community members, we will use the food waste interactive art to draw people to our "table" where they will learn more about food waste and its connections to climate change and food insecurity. This will also create a platform for capturing people's food stories, gathering information about the practices and politics that generate leftovers, peelings, spoiled food, etc. thereby creating further knowledge on how waste happens and innovative strategies for prevention. We aim to collect 10 stories at each community event and we will use these food experiences and histories to improve prevention initiatives, as the stories contextualize food waste in people's everyday lives. Through discussions, we will get better information about the kind of waste that is frustrating to people and what kinds of initiatives are most helpful. At these community events, we will also promote our citizen science tool, building a base of food waste citizen scientists.

Between these community events and after their completion we will be analyzing the food stories and incoming citizen science data. Using this data, and pairing it with the education campaigns at the community events, we will be able to measure the effects that our research activities and educational materials have on preventing household food waste. This will enable us to report on the amount of food waste (and thus greenhouse gasses) prevented throughout this project. We will also use the data and learnings from this project to provide recommendations for changes in food waste education and prevention initiatives that are specific to the circumstances, location, and lifestyles of a diverse group of Minnesotans.

ENRTF BUDGET: $493,740

Outcome	Completion Date
1. Twelve community events (2 in each of the 6 research communities)	10/31/2022
2. Recommendations for changes in food waste education and prevention initiatives	6/30/2023
3. Reporting on the total avoided greenhouse gas emissions from project activities	6/30/2023

III. PROJECT PARTNERS AND COLLABORATORS: Along with those listed in the budget and the community partnerships we plan to develop in year 1, we will also collaborate with the MN Pollution Control Agency, Second Harvest Hartland, SNAP Ed and LaDonna Sanders-Redmond, an experienced Diversity Manager with experience working in retail food and agriculture industry.

IV. LONG-TERM IMPLEMENTATION AND FUNDING:

This work, while significant, can also be thought of as a pilot. Success in this project can lead to work in other communities across the state. Due to the significant local and national interest in food waste, many local and federal granting agencies, including USDA, NSF and EPA, are funding projects in this space. Additionally, the 30+ member Sustainable Growth Coalition, a group of Twin Cities-based organizations, is considering food waste reduction project opportunities. Our team has ongoing working relationships with some of the key participants, including Cargill, General Mills, and Target Corp., who have expressed interest collaborating on projects focused on food waste.

2

Attachment A: Project Budget Spreadsheet
Environment and Natural Resources Trust Fund
M.L. 2020 Budget Spreadsheet
Legal Citation:
Project Manager: Jennifer Schmitt
Project Title: A community table: food waste and climate change
Organization: University of Minnesota - Institute on the Environment
Project Budget: $859,216
Project Length and Completion Date: 3 Years, Ending June 30, 2023
Today's Date: April 15, 2019

ENVIRONMENT AND NATURAL RESOURCES TRUST FUND BUDGET	Budget	Amount Spent	Balance
BUDGET ITEM			
Personnel (Wages and Benefits) Wages are based off of each employee's current / estimated salary and increased by 2% each FY. Fringe rates are consistent with UMN policy for each job code.	$ 762,390	$ -	$ 762,390
Jennifer Schmitt (All Years: 25% FTE, 36% Fringe) $98,224: Dr. Schmitt will be the research manager, environmental scientist, participant in the community-based co-creation of the research. She will also assist in the development of the interactive art and citizen science tool, seek out additonal funding, and oversee the project coordinator and postodctoral researcher.			
Project Coordinator (All Years: 100% FTE, 29.5% Fringe) $217,949: Project Coordinator will be responsbile for coordinating the many partners and researchers on this project, logistics of the community partnerships, and managing project timelines and deliverables.			
Post Doc (All Years: 100% FTE, 24.3% Fringe) $211,099: Post Doc will participate in the community-based co-creation of research process, be responsible food waste research, including answering community food waste questions, and assit in the development of the citizen science tool.			
Tracy Deutch (Yr 1: 1 summer month, Yr 2: 1 course buy out, Yr 3: 1 summer month, 36% Fringe) $68,964: Dr. Deutch will participate in the community-based co-creation of research process, lead the methodology, execution, and analysis of food stories, and contribute to final oral and writen outputs.			
Hikaru Peterson (All Years: 1 summer month, 36% Fringe) $67,636: Dr. Peterson will participate in the community-based co-creation of research process, assist in developing the citizen science tool, advise on the methodlogy, execution and anlayis of the citizen science data, and contribute to final oral and written outputs.			
Michelle Garvey (Yr 1: 1 course buy out, Yr 2: 25% FTE, Yr 3: 25% FTE, 36% Fringe) $73,621: Dr. Garvey will help lead the community-based co-creation process, assist with the interactive art development, bring her extensive community partner network to the project, assist in managing project community relationships, contirbute to data analysis, and contribute to final oral and written outputs.			
Noelle Harden (All Years: 10% FTE, 36% Fringe) $24,897: Ms. Harden will assist with research coordination, especially in relation to parnters outside the Twin Cities. She will also coordinate collaboration with UMN Extension efforts, participate in the community-based co-creation of research process, and contribute to final oral and written ouputs.			
Professional/Technical/Service Contracts	$ 16,000	$ -	$ 16,000
Consultants (Yrs 1&2) $16,000: As the project will be a co-creative process with community partners, the exact direction of the project will determine who and what type of consultants are required.			
Travel expenses in Minnesota	$ 47,926	$ -	$ 47,926
Team Travel to Communities (All Years) $32,876 : Research personnel will travel to 5 locations across Minnesota (plus locally in the Twin Cities) to cover all 6 research communities. Trips will include inital community engagement, food story and data collection, and final reporting back to the community. Destinations are budgeted for Moorehead, Fergus Falls, Silver Bay, Leech Lake, and Granite Falls but may change to similar, but different, locations. Estimates based on UMN policy for mileage and per diem.			
Participant Travel to Twin Cities (Yrs 1 & 3) $15,050: Community participants will travel to UMN-TC at the end of yrs 1 & 3 to partipate in end of year events. In year 1 this in person event will launch the transition from co-creating the research to moving forward with the research, showcasing our interactive art and citizen science tool as well and talking about how the community partners can connect us to different areas of their community for the research visits in the upcoming year. The trips in year 3 are for our final project event to discuss the results of our work and any next steps we have been able to identify and fund. Estimates based on UMN policy for mileage and per diem.			
Other	$ 32,900	$ -	$ 32,900
Participant Costs (All Years) $28,500: Because we value community members' time and expertise, and because their consistent, high quality participation is essential to the overall strength of this project, we propose to compensate them for their input based on the number of hours and the method of contribution. Estimates include $50/ person for in-person or hour long on-line meetings and $25/ person for on-line meetings of 30 minutes. Participants will be provided an additional $100/ person for attending the final project event.			
Community Meals (Yrs 1&3) $4,400: An introductory Community Meal will be held at each of the 6 locations with approx. 30 ppl in attendance. The purpose of this meal will be to hear from local members about the questions and experiences with food waste in their area, introduce our team, and identify five local individuals willing to particpate in the co-creation process with us. In the final year of the project, there will also be a closing Community Meal at the final project event, where participants will travel to UMN-TC. We will present and discuss project outcomes and results, and discuss about any next steps we as a group will continue or begin working on.			
COLUMN TOTAL	$ 859,216	$ -	$ 859,216

SOURCE AND USE OF OTHER FUNDS CONTRIBUTED TO THE PROJECT	Status (secured or pending)	Budget	Spent	Balance
Non-State:		$ -	$ -	$ -
State:		$ -	$ -	$ -
In kind: Unrecovered ICR. UMN has a federally negotiated ICR of 54% of total allowable costs. As State of MN funding does not allow for ICR recovery, UMN is providing the services and resources typically paid for by ICR.	Secured	$ 463,977	$ -	$ 463,977
Other ENRTF APPROPRIATIONS AWARDED IN THE LAST SIX YEARS	Amount legally obligated but not yet spent	Budget	Spent	Balance
		$ -	$ -	$ -

Boneless Skinless Chicken Breast

BEST IF USED.

ITEM #020213

TOTAL PRICE
$1,500.00

A FAMILY OF FOUR SPENDS $1500 A YEAR ON FOOD THEY DON'T EAT

COOK IT, STORE IT, SHARE IT.
JUST DON'T WASTE IT.

SAVETHEFOOD.COM

Ad Council

NRDC

Dr. Jennifer Schmitt is the principal investigator and manager of the proposed project titled "A community table: food waste and climate change". Dr. Schmitt's responsibilities will include overall research management, participating in the community-based co-creation of the research, assisting in the management and development of the interactive art and citizen science tool, seeking out additional funding, and overseeing the project coordinator and the postdoctoral researcher.

Dr. Schmitt is the Program Director and Lead Scientist for the NorthStar Initiative for Sustainable Enterprise (NorthStar), a research program at the University of Minnesota's Institute on the Environment (IonE). IonE strives to confront sustainability challenges and accelerate the application of solutions. It uses the interdisciplinary tools of academia, brings thought-leaders together, and reaches outside the University to play a critical role in creating a sustainable future for Minnesota and the world. IonE is an unusual space in academia where a team such as the one on this proposal, with a sustainability scientist, historian, applied economist, gender and women's studies scholar, and extension educator can be supported.

Dr. Schmitt's research focuses on engaged scholarship in the area of sustainability science. This includes collaborating with practitioners in the private, governmental, and non-profit sectors on sustainability research questions. Her research spans many topic areas as it is often based on the sustainability questions facing the practitioner community. This has included such wide-ranging topics as supply chains, resource mapping, food waste, carbon reporting, energy efficiency, corporate sustainability, the sharing economy, resource flows, ethanol production, community conservation, and sustainable development. As a practitioner focused researcher, Dr. Schmitt has often acted as a conduit between the University and external partners. This has included research discussions with numerous corporations, presentations to practitioner communities, and engagement with the local community. One project to note included an 11-organization effort titled "Open Feasts" that brought education and awareness about food waste to over 3,000 people in the Twin Cities.