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2014

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## Climate Masters of Nebraska: An Innovative Action-Based Approach for Climate Change Education

### Abstract

Climate Masters of Nebraska is an innovative educational program that strategically trains community volunteers about climate change science and corresponding ways to reduce greenhouse gas emissions in an interactive and action-based teaching environment. As a result of the program, 91% of participants indicated that they made informed changes in their lives to reduce greenhouse gas emissions. Approximately 500 hours of volunteer work was reported by participants as an outreach for greenhouse gas emission reduction. The program can be easily replicated to other locales with an effective planning and with small leadership team.

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### Introduction

Intergovernmental Panel on Climate Change report (IPCC, 2007) stated that approximately 50% of total greenhouse gas (GHG) emissions come from transportation, energy, and building sectors. Strategies that may be used to reduce the emissions from these sources are discussed at large scales; however, the focus on implementing programs for the community is limited. Vogt, Cantrell, Carranza, Johnson, and Peters (2008) conducted a research study on citizens of Nebraska regarding their perceptions about climate change. Approximately 83% (n= 2,267) of individuals surveyed indicated they will have to take action to mitigate or reduce the effects of global climate change. Given the lack of educational programs available to help guide the community to reduce GHG emissions, local motivation to take actions remains modest at best.

Numerous credible sources of information are available on climate change, but simply providing information does not motivate people to take action. Likewise, insufficient awareness or understanding of climate change may cause individuals to take remedial actions that are sub-optimal. There is a clear need for a community-based educational project focused on training people to take individual action in response to climate change in their daily life and to motivate others to do the same. Elliott, Hyde, McDonnell, Monroe, Rashash, Sheftall, Simon-Brown, Worthley, Crosby, and Tupas (2008) emphasized that Extension should engage communities for environmental stewardship through Sustainable Living Education. It is encouraging to learn that there are such programs out there led by Extension targeting community to learn and take actions on climate change. For

example, Kinsey and Haberland (2012) used rain gardens to promote service learning and climate science education with urban youth. Layman, Doll, and Peters (2013) used stakeholders need assessment and deliberative dialogue to inform about climate change outreach efforts.

In Nebraska, one unique action-based climate change educational program called "Climate Masters of Nebraska" was introduced. This program strategically trains community volunteers about climate change science and corresponding ways to reduce GHG emissions in an interactive and action-based teaching environment. As an outcome of this training, they become motivated to take meaningful actions to reduce GHG emissions and train others within their personal and professional networks to do so.

## Program Description

The Climate Masters of Nebraska, funded by the Environmental Protection Agency's Environmental Education program, was adopted from the Resource Innovation Group that originally started this program (Mazze & Stockard, 2013). The program's concept has similarities with the classic Master Gardener Extension program.

The first step in implementation of the program was to develop a curriculum for the program that provided locally relevant and science-based information on topics related to reducing GHG emissions. The next step was implementation of 10 week-long in-class training. During classroom training, participants were introduced to topics such as climate change basics, home-energy, transportation, green building, renewable, yards, consumption and waste, food, water conservation, and climate change consultations-outreach. Weekly sessions included guest lectures, classroom activities that motivated critical thinking and problem solving skills, and volunteer work discussions. The third step of the project involved volunteer work for at least 30 hours within 6 months from the start of the course. Participants were encouraged to be creative with their volunteer work.

The program was advertised through various venues, including various Extension list-serves, local news media, and the city of Lincoln's website. We had a great diversity in the class, including university students, state employees, retired citizens, Master Gardeners, and folks from non-profit organizations. Through two courses, we had more than 50 participants who enrolled and finished the course.

## Impacts of Climate Masters

- 91 percent of the respondents stated that the course led them to make informed changes to reduce GHG emissions. Examples of specific changes made by participants are: drive smaller cars, ride bike more often, recycling, carpool, adjusting thermostat, spreading the knowledge, replacing lights with LED lights, and home improvements. These changes demonstrate programmatic influence, and participants who chose to share their knowledge about carbon footprint reduction with others have helped to snowball the GHG reduction throughout the community.
- Approximately 500 hours of volunteer work was reported by participants. Examples of volunteer work include: assistance to Cleaner Greener Lincoln city Initiative, home consultation on energy conservation, forming Nebraska Citizen's Climate Lobby, and setting up climate masters booths at

various events.

### Figure 1.

Examples of Climate Masters activities: Volunteer Outreach at Earth Day 2012 (left) and Climate Masters Touring Robinette Farms, a Local Farm Outside of Lincoln, NE. (right)



## Comments from Participants

- "I am getting answers on what climate change is and what can be done to improve sustainability."
- "I'm more conscious of the way my choices affect my emissions. I've always loved local food and such, but it's become crucial to the way I live my life now."
- "More conscious about driving (riding my bike more), I consider where my food comes from more, wash almost all clothes in cold water, recycling EVERYTHING, seriously thinking about trying compost or vermaculture."
- "Most of all I am very happy to be learning about how to be less of a consumer and more of a person who can talk about how to reduce my carbon imprint and help others do the same."

## Potential for Replicating the Program

This program has great potential and can be replicated to other locales very easily. To start such a program:

- Most important, form a small dedicated leadership team that can administer the overall program.
- Identify collaborators such as local non-profit organizations and state agencies that can provide resources, expertise, and recruitment support.
- Identify a part-time coordinator who can keep track of logistics such as tracking volunteer hours, invite speakers, and evaluate the program with pre- and post-surveys.
- Advertise and promote the program through relevant venues

Extension can be an important player in implementing such programs because it has resources and expertise, and is trusted by the community. Climate change is a pressing issue, and teaching the public about meaningful actions that can mitigate climate change impacts, like those taught by Climate Masters of Nebraska, certainly fits with the mission of Extension.

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