

INFORMATION & RESOURCES FOR JOURNALISTS

RSDP's Deep Winter Greenhouse campaign

WHAT IS A DEEP WINTER GREENHOUSE?

A Deep Winter Greenhouse (DWG) enables small-scale farmers to grow crops year-round. DWGs use solar energy to dramatically limit the amount of fossil fuel that would otherwise be required.

The structure is built with a south-facing, angled glazing wall that captures heat from the sun. Heat is stored in an underground rock bed and dissipates into the above-ground planting area at night. Crops can be planted directly into the soil and through a system of suspended planters.

Crops well suited to DWG production include a variety of greens, herbs, broccoli, broccoli raab, kale, collards, Chinese cabbage, bok choy, and pea shoots.

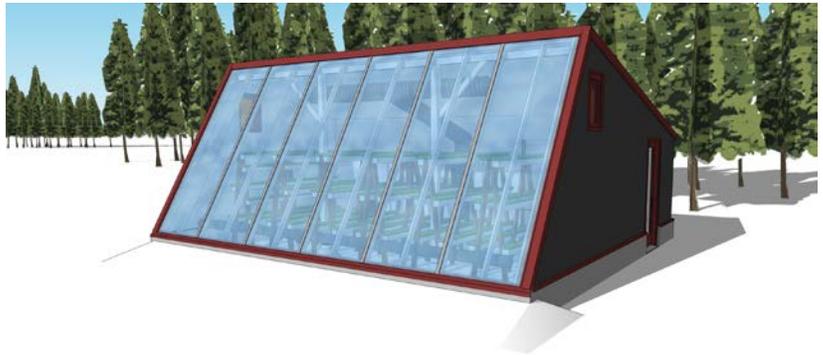


Photo credit: Prototype DWG designed by Researcher Daniel Handeen, University of Minnesota College of Design Center for Sustainable Building Research

WHAT IS THE UNIVERSITY OF MINNESOTA DOING?

In 2016, the **University of Minnesota Extension Regional Sustainable Development Partnerships (RSDP)** launched a statewide campaign to build five prototype DWGs for research and outreach. The prototype was designed by Researcher Daniel Handeen of the **College of Design's Center for Sustainable Building Research (CSBR)**. The prototype builds on earlier designs to increase insulation capacity and reduce electric use.



Photo credit: Greg Schweser

RSDP received more than 40 applications in response to the statewide DWG campaign. An advisory committee selected one partner from each of RSDP's five regions in Greater Minnesota. In exchange for support for building the DWG, partners agreed to provide access to their DWG for University research projects, public workshops, and demonstrations for a period of three years. Partners include **Bemidji Community Food Shelf**, **Central Lakes College** in Brainerd, **Organic Consumers Association** in Finland, **Alternative Roots Farm** in Madelia, and **Lake City Catholic Worker Farm**.

The statewide DWG campaign builds on RSDP's past support for research and testing of earlier DWG models and efforts to share the technology. The CSBR prototype builds on designs from farmers Carol Ford and Chuck Waibel in their pioneering 2009 book *The Northland Winter Greenhouse Manual*, which was published with support from RSDP.

WHO'S INVOLVED?

The statewide campaign to build five prototype DWGs is being led by the **University of Minnesota Extension Regional Sustainable Development Partnerships (RSDP)** and the **University of Minnesota College of Design Center for Sustainable Building Research (CSBR)**.

The campaign is made possible by support from the **University of Minnesota Institute on the Environment (IonE)** and a consortium of farm lending banks, including **AgCountry Farm Credit Services, AgriBank, AgStar Financial Services, and United FCS**.



Support for RSDP's DWG work has also been provided by the Bush Foundation, Minnesota Department of Agriculture, MnDRIVE, University of Minnesota Extension Block Grant, and Southwest RSDP.

ADDITIONAL INFORMATION

- Learn more about DWGs and keep up with the latest developments on RSDP's Deep Winter Greenhouse resource webpage: rsdp.umn.edu/statewide/deep-winter-greenhouse
- Contact Greg Schweser, RSDP Associate Director for Local Foods and Sustainable Agriculture, at schwe233@umn.edu or 612-625-9706.
- Watch Carol Ford's inspirational TEDxMinneapolis talk about her journey with DWGs: bit.ly/2cu4riX
- Greg Schweser discusses the DWG campaign on KSTP primetime news: bit.ly/2cxetkL



Photo credit: Greg Schweser

