

# MORRIS SUSTAINABILITY SNAPSHOT v1.0



*Photo credit to Dave Hanson (CFANS)*

# MORRIS

# SUSTAINABILITY

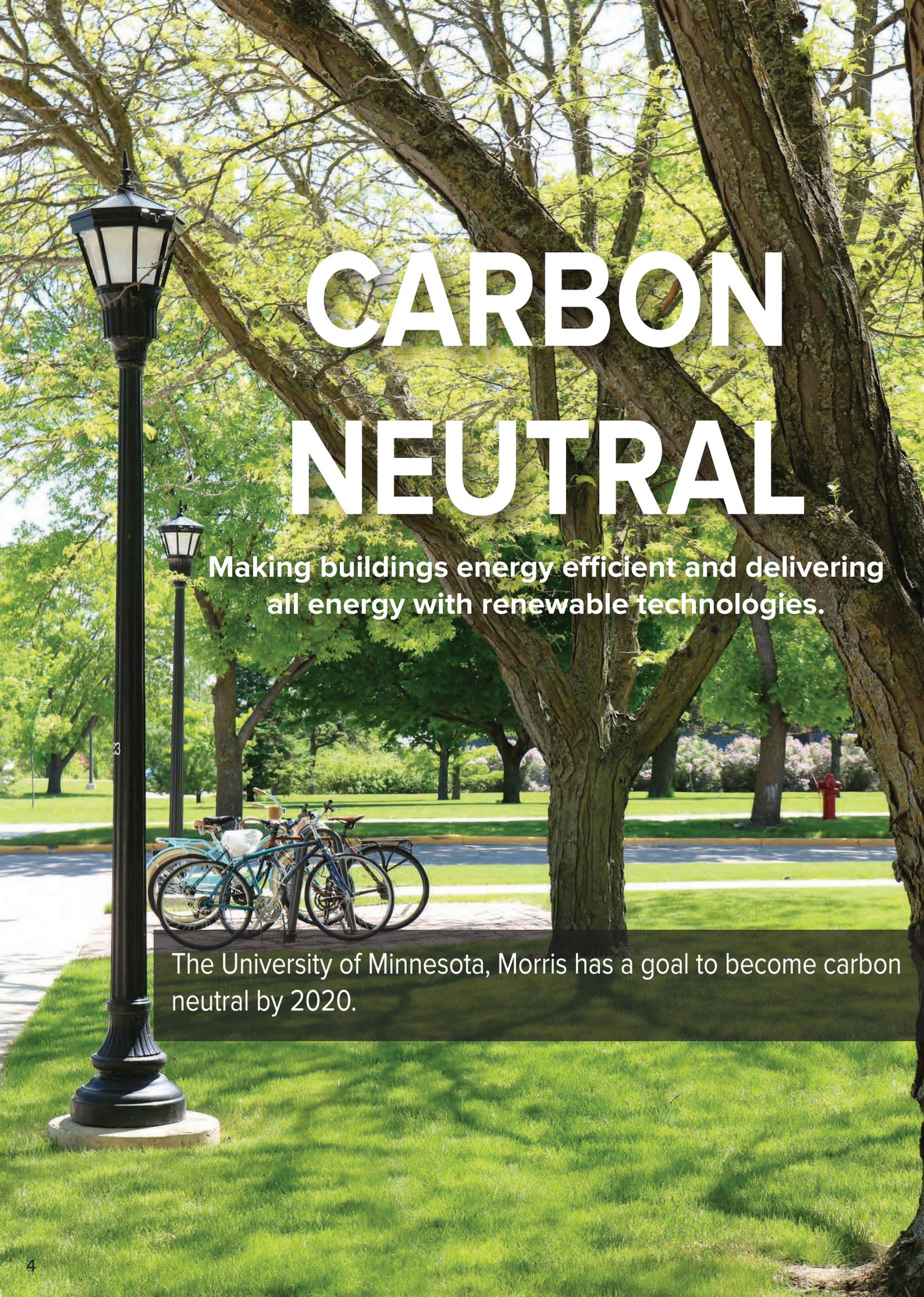
# SNAPSHOT v1.0

Summer 2017

The purpose of the Morris Sustainability Snapshot is to highlight sustainability leadership at the University of Minnesota, Morris (Morris). The Snapshot borrows ideas from Bioregional's One Planet Living methodology, organized around 10 Principles, including zero carbon, zero waste, and others. The Snapshot provides information about sustainability-related goals, progress, and next steps in several of these areas. The Snapshot is an attempt to provide a more succinct perspective of our sustainability progress. It is also intended to be a living document that will have many different versions over time.

This Snapshot is intended to complement other sustainability-related reporting the Morris campus performs. We currently participate in the Association for the Advancement of Sustainability in Higher Education - Sustainability Tracking Assessment Rating System (AASHE STARS) and the Second Nature Climate Commitment.

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# CARBON NEUTRAL

**Making buildings energy efficient and delivering  
all energy with renewable technologies.**

The University of Minnesota, Morris has a goal to become carbon neutral by 2020.



## SUBGOALS:

Achieve a 70% reduction in Total Scope 2 Emissions by 2017.

Achieve a 40% reduction in Total Scope 1, 2, 3 Emissions by 2017.

Achieve a 70% reduction in Total Scopes 1, 2, 3 Emissions by 2018.

All new buildings will be built to LEED Gold standards.

All new buildings will be built to MN B3 SB2030 standards.

Improve energy monitoring infrastructure in all campus buildings.

## N.B. DEFINITIONS REGARDING “SCOPE”

**Scope 1** emissions are direct greenhouse gas (GHG) emissions occurring from sources that are owned or controlled by the institution (boiler plant, campus fleet vehicles).

**Scope 2** emissions are indirect greenhouse gas (GHG) emissions that are a consequence of activities that take place within the organizational boundaries of the institution, but that occur at sources owned or controlled by another entity (purchased electricity, heating, cooling, steam).

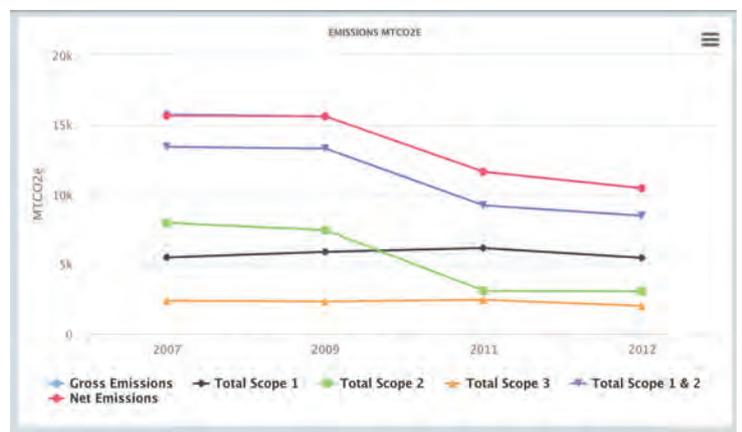
**Scope 3** emissions are all indirect emissions not covered in Scope 2 (commuting, air travel, solid waste).

\*scope refers to what type of emission is emitted.

Reporting Year	Net Emissions	Student FTE	Campus gross sq. ft
2007	15,639	1,681	960,028
2009	15,586	1,686	960,028
2011	11,607	1,932	961,804
2012	10,432	1,876	961,852

**Table 1**

Reproduced from Second Nature Climate Commitment reporting. Table 1 shows the reduction in GHG emissions across years, student full-time equivalents and campus square footage.



**Table 2**

Second Nature Climate Commitment line graph from reporting. Shows the reductions in Scope 1, 2, and 3 GHG emissions.

## Progress to Date:

- **2005** Construction of the first U of M wind Turbine (1.65 MW)
- **2008** Dedication of the biomass-gasification combined-heat-and-power (CHP) plant.
- **2010** 3kW solar PV array installed outside of Science Building
- **2010** 32-panel flat-plate solar thermal array installed for heating the recreational pool.
- **2011** Construction of second U of M wind turbine (1.65 MW)
- **2012** Renovation of the Welcome Center and LEED Gold certification
- **2014** Construction of Green Prairie Residence hall and LEED Gold certification
- **2014** 20 kW solar array installed outside of the Green Prairie Community Residence Hall.

## Next Steps:

- **2017-2018** Complete biomass plant re-commissioning.
- **2017-2020** Assess opportunity for large-scale battery installation with wind-generated electricity.
- **2017-2019** Implement instantaneous kW measurements on both wind turbines.
- **2017-2019** Improve energy monitoring in Phase 1 buildings.
- **2017-2018** Assessment of large scale solar.
- **2017-2020** Implementation of large scale solar on campus.
- **2017-2020** Continue investment in renewable energy and divestment from fossil fuel resources.

## Milestones:

By 2016, 75 million kW hours of electricity have been produced from two U of M wind turbines.



The summer gardens outside of Green Prairie Community consist of edible landscaping, and pollinator friendly plants.



The Morris Model receiving the Clean Energy Community award.

## Recognition:

- **2015** Green Prairie Community Awarded Best of B3 SB2030 award.
- **2011** Welcome Center receives Preservation Alliance of Minnesota's Sustainable Design Award and other recognition.
- **2014** Second Nature Climate Award Winner.
- **2016** City of Morris (with support from Morris) earns Department of Commerce Clean Energy Community Award.
- **2017** Morris earns Minnesota Climate Adaptation Award for Institutions.



The Morris Model team receiving the Minnesota Climate Adaptation Award for Institutions in St. Paul, from Dr. Mark Seely, a renowned climatologist.



Morris's Welcome Center became LEED Gold certified in 2012.

**A 20kW solar PV array provides about 20% of the electricity at Green Prairie Community during summer months.**



# ZERO WASTE

Reducing waste, reusing where possible, and ultimately sending zero waste to landfill.



The University of Minnesota, Morris has a goal to become zero waste by 2025.



## SUBGOALS:

Implement systems to ensure that all on-campus student generated waste may be recycled or composted.

Assess conversion of waste vegetable oil to biodiesel.

Each year increase the campus diversion rate as compared to its three-year average.

Improve recycling and compost education to eliminate improper disposal and communicate efforts.

During project planning, identify options to divert construction debris from landfill.

Work with waste hauler to get more accurate and monthly data about waste generated.



## Milestones:

- Between 2012-2015: 250,000 lbs of compostable material diverted from landfill.
- In 2015: achieved a 39% diversion rate.



## Progress to Date:

- **2009** Implemented trayless dining at Dining Services.
- **2012** Implemented trayless dining at Turtle Mountain Cafe.
- **2012** Implementation of composting in Turtle Mountain Cafe.
- **2012** Implementation of composting in Dining Services.
- **2015** Implementation of composting in the residence halls.
- **2015** Implementation of composting at large campus events.
- **2015** Implemented composting of campus restroom paper towels.
- **2015** Implemented composting/recycling at Higbies.
- **2016** Implemented TerraCycling program to recycle chip bags and pens.
- **2016** Implemented Trex at Morris to recycle plastic bags.
- **2010 to 2016** the execution of 6 Composting Summits.
- **2017** Collection of food waste from Morris Area Public Schools.



## Next Steps:

- **2017-2019** Investigate opportunities to increase organics recycling from schools in Morris.
- **2017-2019** Work with Stevens County to increase county-wide organics recycling options.

# LAND USE & WILDLIFE

Protecting and restoring biodiversity and creating new natural habitats through good land use and integration into the built environment.

The University of Minnesota, Morris will model sustainable land management principles and best practices to improve soil health, manage water flows, improve biodiversity, and the campus tree canopy.

## SUBGOALS:

Conduct Morris campus biodiversity survey, soil health survey, and tree canopy survey.

Conduct Ecostation biodiversity assessments.

Develop the Ecostation.

Implement additional rain gardens on campus to capture rainfall.

Continue maintenance of wetlands and wet prairie west, south, and north of the baseball diamonds.

Earn yearly recognition as a Tree Campus school.

Earn yearly recognition as a Bee Campus school.

Map water flows on campus.

Minimize the use of fertilizer on campus and use composted soil as fertilizer.



Rain gardens at Green Prairie Community help preserve water.

The bee hives on campus are entirely student run.

## Progress to Date:

- Implemented integrated pest management.
- Continued effort to minimize the use of road salt on campus.
- 2014 Installation of rain gardens at Green Prairie Community.
- 2014 Installation of edible gardens around Green Prairie Community.
- Installation of labeling on campus flower beds with native plantings.
- 2015 Approximately 24,000 bees (2 hives) on campus for pollination of the surrounding area.
- 2015 The University acquired a new property, called the Ecostation--near Ashby, MN.
- Increased native grass and flower plantings on campus.

## Next Steps:

- Build an outdoor classroom for further education about the environment.
- Continue research with nearby partners to promote a local agricultural system that supports healthy ecosystems.
- Documentation and dissemination of campus tree canopy survey.
- Become a Bee Campus USA institution.
- Build an educational trail or nature walk to the turbines.

# SUSTAINABLE TRANSPORT

Reducing the need to travel, and encouraging low and zero carbon modes of transport to reduce emissions.

The University of Minnesota, Morris is committed to encouraging and developing sustainable transportation infrastructure and programs for campus staff and students.

## SUBGOALS:

Increase the MPG of the campus fleet.

Increase the amount of electric vehicles on campus.

## Progress to Date:

- 40% of campus vehicles are electric hybrid.
- Purchasing of new fleet vehicles to reduce fuel emissions.
- 95% of students live on or within a mile of the University.
- 2014 launch of the Zimride program, allowing students to connect and carpool.
- Implemented Morris Transit bus program to pick up and drop off students.
- 2017 100% Electric vehicle added to the fleet.

## Next Steps:

- Establish an e-bike program on campus.
- Research biodiesel as possible fuel source for campus fleet.
- Add electric vehicles to the campus fleet and increase electric charging infrastructure.
- Improve fuel efficiency (possibility of electric or biodiesel) of campus equipment pieces such as: lawn mowers, gators, golf carts, hedge trimmers, leaf blowers, chain saws, and snow brushers.

# HEALTHY FOODS, HEALTHY LIVES

Supporting sustainable and humane farming, promoting access to healthy, low impact, local, seasonal and organic diets and reducing food waste, as well as encouraging active, sociable, meaningful lives.



The University of Minnesota, Morris has a goal of changing food procurement and consumption patterns to reduce the campus carbon footprint and improve health outcomes.

## SUBGOALS:

Assist in development and maintenance of the Morris Area Schools farm to school initiative.

Implement a broad, coordinated Morris Healthy Eating Communications plan.

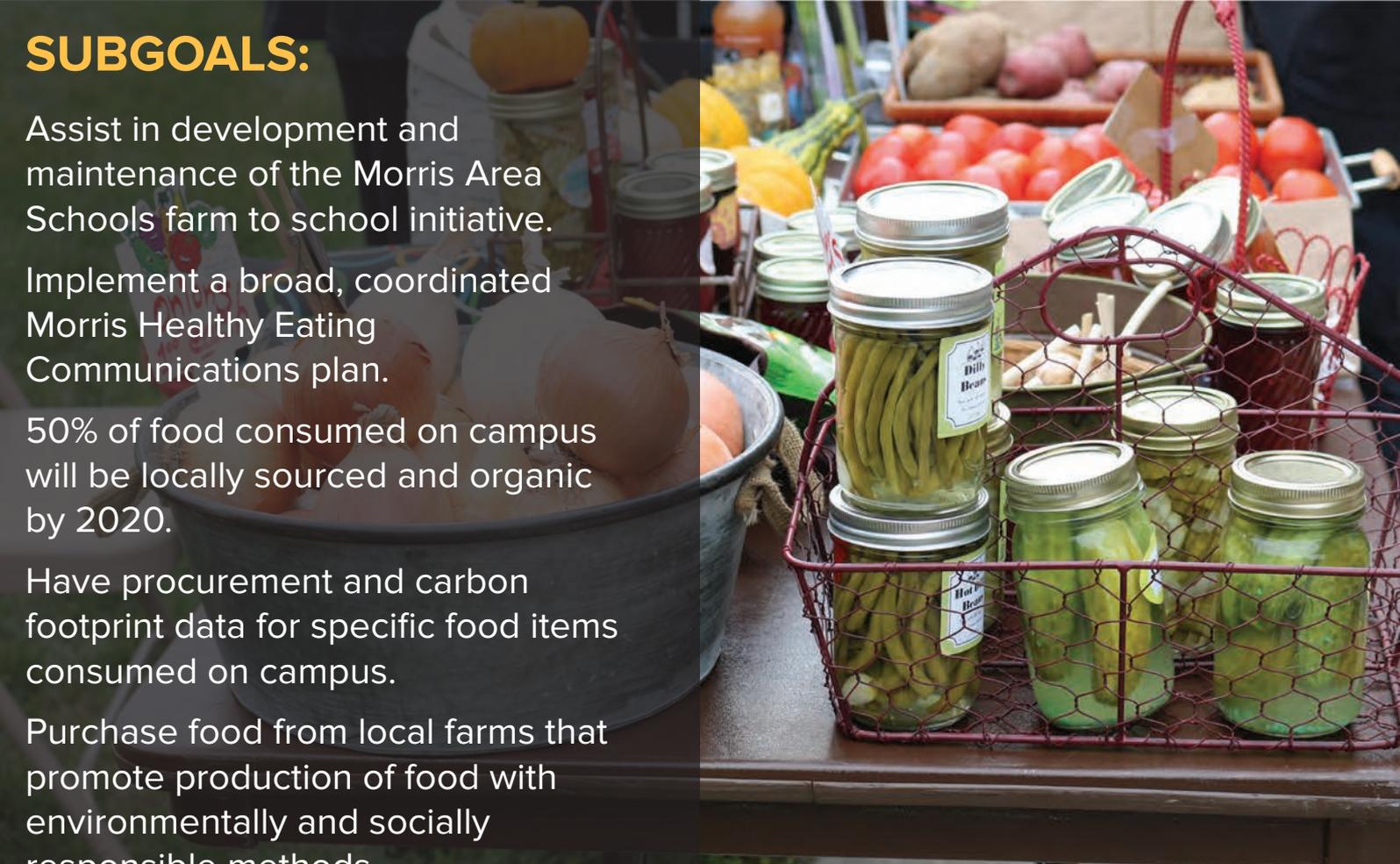
50% of food consumed on campus will be locally sourced and organic by 2020.

Have procurement and carbon footprint data for specific food items consumed on campus.

Purchase food from local farms that promote production of food with environmentally and socially responsible methods.

Promote healthy lifestyles.

Promote disease prevention education and services.



## Progress to Date:

- Installation of student-led Crocus Valley organic garden.
- Installation of the student-led Native American garden.
- First Pride of the Prairie local foods meal.
- Continued celebration of the Pride of the Prairie local foods meal.
- Farmers market showcase on campus every fall.
- Development and implementation of Morris Healthy Eating Initiative with Blue Cross-Blue Shield funding.
- Completion of Morris Community Food Assessment.
- Peer health educators help students make healthy choices.
- The Regional Fitness Center is open to all students.

## Next Steps:

- Identify local sources of sustainably grown fruits and vegetables available for purchase by the University.
- Identify local sources of sustainably and humanely raised livestock (including beef, pork, chicken, and turkey) available for purchase by the University.
- Increase low-impact dining options on campus.
- Plant more fruit and nut trees on campus for consumption.
- Continue to work with Sodexo to improve purchasing power from local food producers).
- Implement education about “Meatless Mondays” or “Mindful Mondays”.
- Continue to build community partnerships to promote healthy eating among different demographic groups.
- Maximize on-site food production.
- Evaluate potential for deep winter greenhouse on campus.

## Milestones:

The largest harvest from Crocus Valley organic garden was 2,000 lbs of food in 2015.

# SUSTAINABLE MATERIALS

Using sustainable and healthy products, such as those with low embodied energy, sourced locally, made from renewable or waste resources.

The University of Minnesota, Morris is committed to using sustainable materials for campus operations.

## SUBGOALS:

Redesign and remodel buildings to be the most efficient so they require less energy.

## Progress to Date:

- Compostable packaging for “to-go” food from TMC (including utensils and boxes).
- Implemented reuse system of “to-go” boxes in TMC.
- Discount at the campus coffee shop if you bring your own cup.
- Beginning steps of biodiesel research.

## Next Steps:

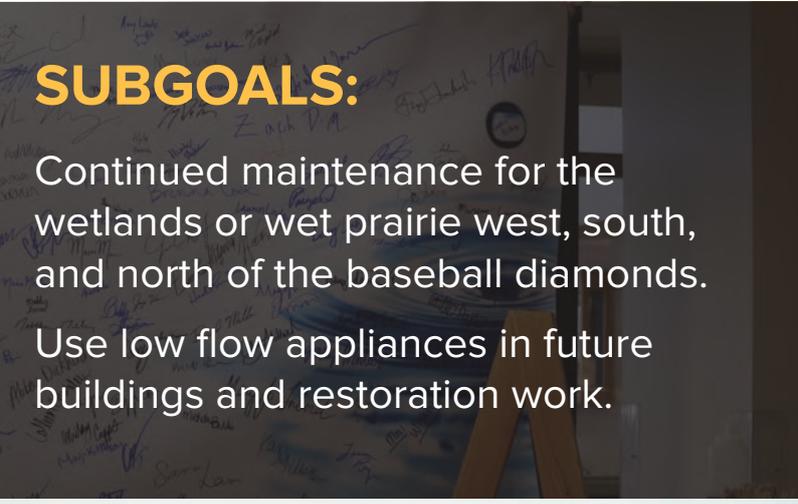
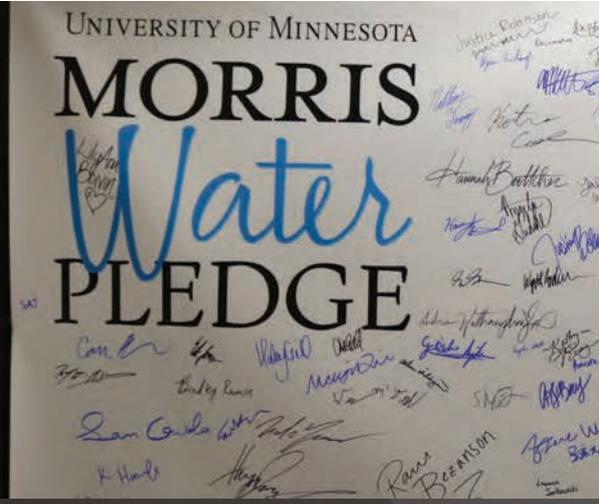
- Obtain bulk food items (such as produce) in reusable or recyclable containers.
- Increase usage of recycled materials on campus.
- Purchase paper products with high recycled content.
  - Office paper
  - Toilet paper
  - Paper towels
- Utilize low fume paint when repainting on campus.
- Increase use of green cleaning products.
- Increase research on campus biodiesel production.
- Increase green printing for students on campus.
- Reduce wasted paper and toner by 10% by 2018.

# SUSTAINABLE WATER

Using water efficiently in buildings, farming, and manufacturing. Designing to avoid local issues such as flooding, drought, and water course pollution.

The University of Minnesota, Morris is committed to improving water efficiency on campus, and working to avoid local water-based issues.

day, April 22, 2019  
Registration, Student Poster/Visual Display Welcome, Professor URS Co-chair and Chancellor, Oyat  
... TMC (or on your own)  
... Bart Finzel, Vice Ch...  
... Dean: John Q. Imholte  
... John Q. Imholte H...  
... Feminist and Musical Anal...  
... Denise Odello, Associate P...  
... avaso, Professor of Philos...  
... Presentations, John Q. Im...  
... 99, 112, 113, 114  
... the Office of the Vice Chancellor for...  
... Graduate Research Opportunities (L...  
... and Social Science



## Progress to Date:

- We use natural vegetation to help reduce water needed for landscaping by: Science Building, Imholte Hall, Student Center, the Multi Ethnic Resource Center, and Green Prairie Residence Hall.

## Next Steps:

- Use natural vegetation to help reduce water needed for landscaping by the bike path on the north side of campus, the HFA, Welcome Center, Humanities Building, and residence halls
- Use a more pervious concrete or tar options to prevent urban runoff.
- Reduce chemicals, fertilizers, road salt, and other pollutants used on land surface of University.
- Continued involvement to try new water use reduction technologies and practices.
- Rainwater harvesting on Big Cat field and rooftops.
- Increase greywater recovery and reuse.
- Increased low water consumption appliances in campus housing and buildings.



To Governor Dayton's  
**Town Hall**  
**Water Summit**  
At University of Minnesota, Morris!  
#MNWaterSummit

# PUBLIC ENGAGEMENT

Respecting and reviving local identity, wisdom and culture; encouraging the involvement of people in shaping their community and creating a new culture of sustainability.

The University of Minnesota, Morris is participating in the Minnesota Campus Compact Civic Action Plan, and has earned Carnegie Community Engagement classification.

# The Morris Model

*morrismodel.org*

## What is the Morris Model?

The Morris Model is a community initiative focused on energy conservation, clean energy, community resilience, cultural exchange and celebration in Morris and surrounding areas at the residential, municipal, and business levels.

## Community Resilience

The Morris Model has nine community resilience goals: extreme weather planning, energy efficiency practices, resilient infrastructure, climate education, community gardens, rain gardens, expanding renewable energy, alternative transportation, and healthy tree canopies.



The Morris Model team poses for a group photo.

# RURAL ARTS AND CULTURE SUMMIT

The Summit, put together by the Center for Small Towns, gathers rural artists, arts organizations and community leaders to highlight arts-based strategies to rural community and economic development.



Dr. Jessica Metcalfe talks about her business, Beyond Buckskin, which empowers Native American artists and designers, advancing the quality of Native American fashion.



Students table for the Morris Model, showing off renewably-powered gadgets.



The Office of Community Engagement, hosts Community Meals, bridging gaps between different populations in Morris and bringing them together.



In recent years the Morris campus has grown its efforts to address the integration of Spanish-speaking newcomers into the community, prepare the area for the impacts of climate change, and rewrite the rural narrative by growing arts, culture, and entrepreneurship in greater Minnesota. Its civic action plan focuses on strengthening these initiatives by streamlining the work of outreach units through an intentional and inclusive assessment process that will maximize the University's impact in Stevens County.

# THE OFFICE OF COMMUNITY ENGAGEMENT

# RESEARCH



77 kW solar PV

1.65 MW Vestas V82 Wind Turbine

NH3 Pilot Plant

The West Central Research and Outreach Center (top), USDA Soils Lab (bottom left), and the University of Minnesota, Morris (bottom right), conduct research in order to further the region's sustainability performance.

