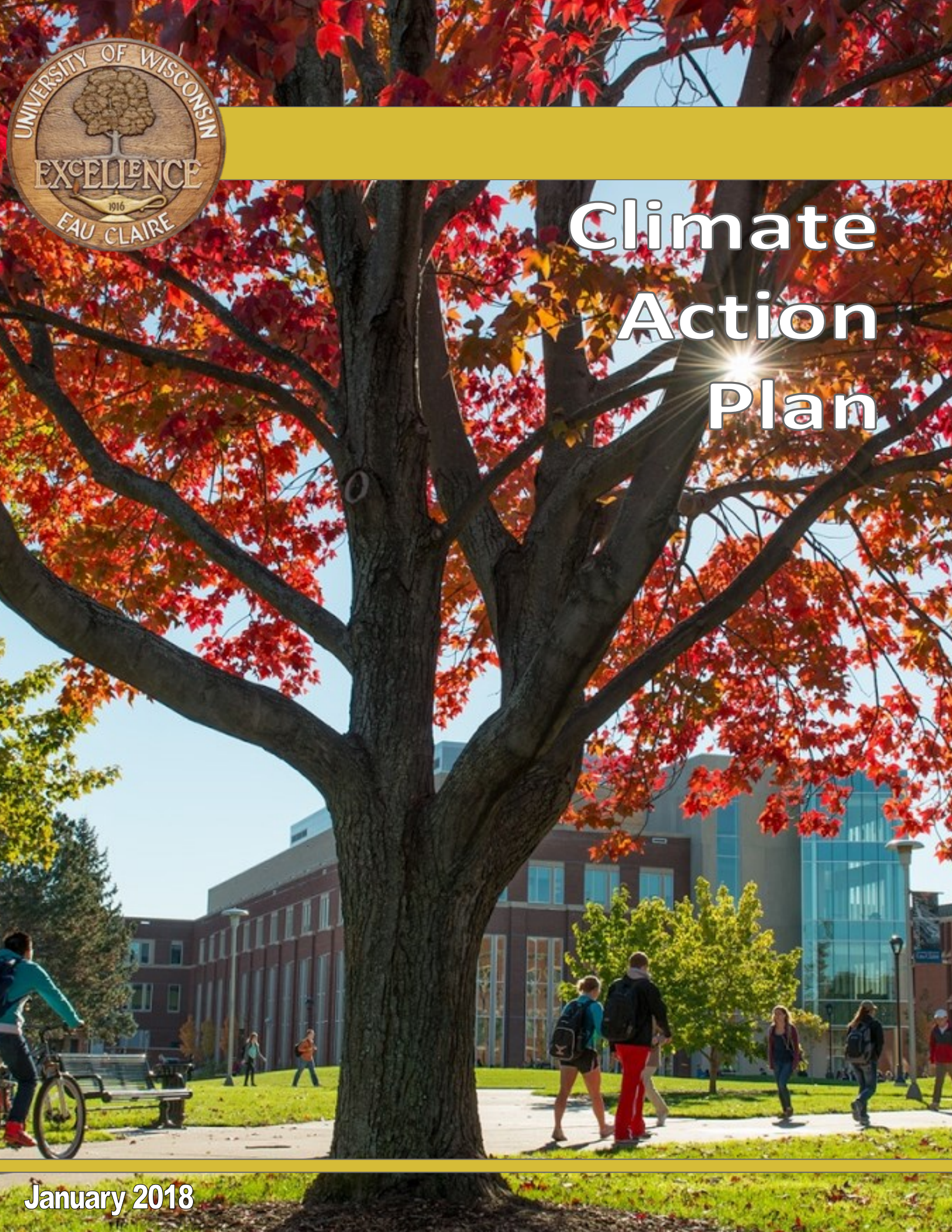
UNIVERSITY OF WISCONSIN
EXCELLENCE
1916
EAU CLAIRE
Climate
Action
Plan
January 2018

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A Grand Opportunity

A Letter from the Technical Advisory Committee

UW-Eau Claire stands at a pivotal moment, having just celebrated our Centennial Anniversary. Over that century, the Earth's climate system has been fundamentally altered by human activities. "We have begun to experience the effects of climate change in our communities and understand that these effects are projected to become more severe and damaging" (ACUPCC). During the next 100 years, UW-Eau Claire has the opportunity to build on its academic excellence and strength of character to ensure a just, prosperous, and environmentally healthy world for current and future generations. The actions to reduce campus greenhouse gas emissions, as articulated in this climate action plan, signal our commitment to:

- Preventing climate-related impacts likely to burden the most vulnerable members of society
- Investing in emissions-reducing technologies and applications to grow the innovation economy
- Ensuring that current and future generations experience the wonder of nature and the life-serving benefits of healthy ecosystems

A Climate Action Plan Advisory Committee (CAPAC) was convened to review past and current campus greenhouse gas emissions. The committee was composed of students, faculty, staff, and administrative leaders from across campus. In reviewing the data, committee members acknowledged the efforts of the campus community in reducing campus greenhouse gas emissions, but they also recognized that more needs to be done to meet the goals of carbon neutrality. This plan reflects our collective commitment to continued emissions reductions and strategies for transforming UW-Eau Claire to a carbon neutral campus.

For our campus, our community, and future generations to come, it is imperative that we apply our talents and creativity to establish a just and sustainable legacy. As our mission statement reflects: *We foster in one another creativity, critical insight, empathy, and intellectual courage, the hallmarks of a transformative liberal education and the foundation for active citizenship and lifelong inquiry. With devotion and enthusiasm, we continue our deep-rooted, long-standing journey towards environmental and cultural sustainability.*

Executive Summary

In 2007, the University of Wisconsin Eau Claire (UWEC) joined the American College and University Presidents' Climate Commitment (ACUPCC). As a signatory to this agreement, UWEC recognizes the serious consequences of climate change and commits to becoming a carbon neutral campus. Since signing the ACUPCC, UWEC completed five biennial Greenhouse Gas Emissions (GGE) inventories and implemented the follow carbon emissions reduction practices:

- Improved energy efficiency in campus steam line
- Invested in renewable energy, including on-campus solar panels, a solar hot water heater, and purchase of solar panels in a community solar garden
- Purchased renewable energy credits and other carbon emissions offsets
- Reduced coal consumption at the campus heating plant
- Created a green fund to support carbon reduction efforts and campus sustainability efforts
- Improved pedestrian and biking infrastructure
- Expanded course offerings in sustainability and energy
- Created educational programing in housing

UWEC's emissions have remained approximately level, despite the construction of additional buildings. To become carbon neutral, however, additional reductions and strategic offsets are necessary across the University's transportation, heating, and electricity sectors. This past year, Chancellor James Schmidt convened a campus Climate Action Plan Advisory Committee (CAPAC) to identify meaningful and actionable emissions reduction strategies. The committee included representatives from administration, academic departments, housing, facilities, and student government (see Appendix for full list of members). The committee was charged with determining the year in which the University is to achieve carbon neutrality and the carbon emission reduction strategies needed to meet the goal of carbon neutrality. Based on results from the emissions inventory, decision modeling, and stakeholder input, the committee selected 2050 as the year in which the university will reach carbon neutrality. In addition, the following carbon emissions reduction strategies were proposed to meet carbon neutrality by 2050:

- Replace outdated, inefficient building mechanical systems
- Renegotiate contracts to eliminate the use of coal in the campus heating plant
- Through partnerships, develop carbon offset programs and invest in renewable energy
- Install energy and emissions monitoring technology to track emission reductions
- Hire a sustainability coordinator to provide leadership and coordinating capacity
- Educate students, faculty, and staff to make more energy-efficient decisions (i.e. select nonstop flights, turn off lights and electronics in classrooms and residence halls)
- Institute resource efficiency, sustainability, and stewardship as core campus values

In the following pages, we present the recommendations for a Climate Action Plan for the University of Wisconsin-Eau Claire. The plan reflects the values and goals articulated by the committee as well as those represented in the UWEC Campus Master Plan and Strategic Plan. Beyond cutting emissions, this document lays the foundation for creating sustainable living and learning environments and promoting environmental stewardship among Blugolds both on campus and beyond.

About the Institution

The University of Wisconsin-Eau Claire (UWEC) is a public, state-funded institution with approximately 11,000 students. These students are taught by over 500 faculty and instructional academic staff from various disciplines, emphasizing liberal education-based degree programs. The campus comprises twenty-eight major buildings on 333 acres and has been praised as “Wisconsin’s most beautiful campus.” It owes much of its natural beauty to the Chippewa River that flows through the campus in northern Eau Claire County. The University signed the ACUPCC to reflect our goal to be environmentally conscious and our priority to be a leader in addressing climate change issues.

First Decade as a Signatory

Since signing the ACUPCC, the University of Wisconsin-Eau Claire has conducted five carbon emissions inventories and implemented strategies to reduce or eliminate emissions. These efforts represent the commitment and dedication of our students, faculty, staff, and administrators.

Emissions Inventories

The American College & University Presidents Climate Commitment (ACUPCC) requires each signatory to complete a biennial inventory of their greenhouse gas (GHG) emissions and use the emissions data to develop a long-term plan for reducing GHG emissions to achieve carbon neutrality. Unlike most ACUPCC signatories, UW-Eau Claire is unique in that students conducted each of the biennial greenhouse emissions inventories. While other institutions hired professional staff to complete their emissions inventories, UW Eau Claire enlisted over 100 talented students to collect and analyze campus emissions data and to prepare reports and presentations for key decision makers on campus. All inventories were completed following the validated procedures developed by Second Nature (methods and technical data available upon request).

Between 2008 and 2016, students completed five campus-wide GHG emissions inventories. The results of each inventory are summarized in Figure 1.

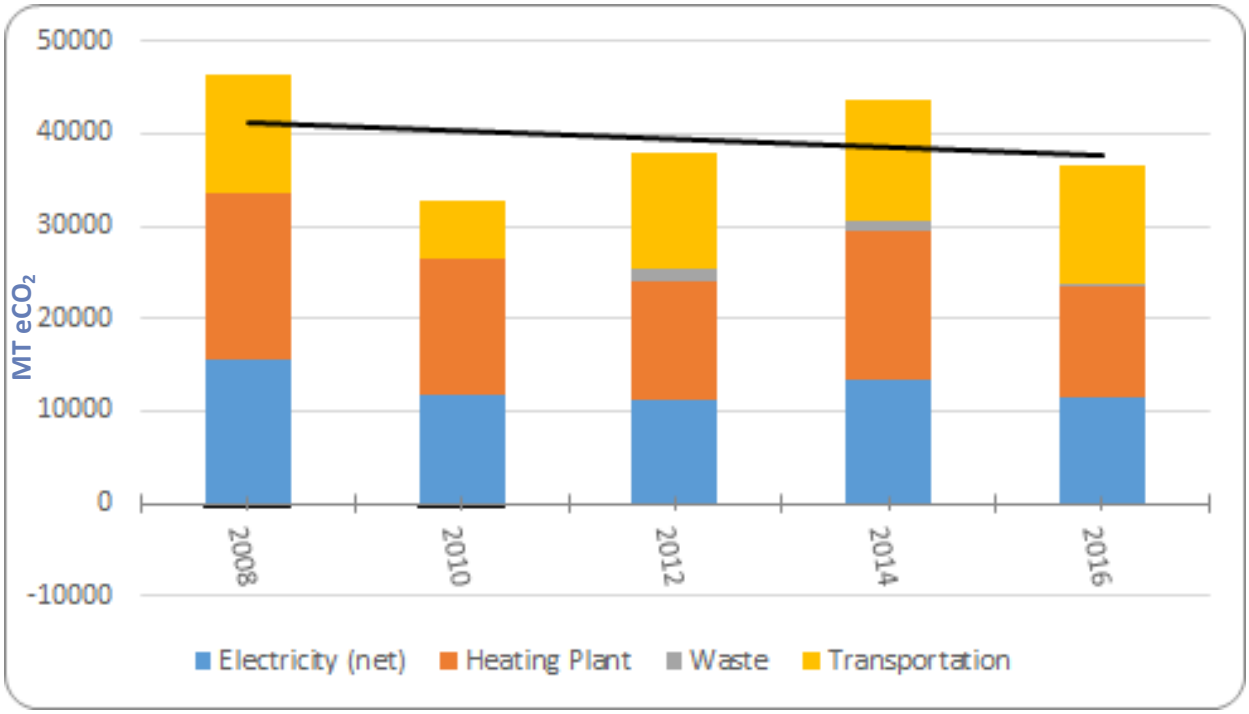


Figure 1. Total annual campus greenhouse gas emissions (MT eCO_2[1]), by sector, 2008-2016

[1]MT eCO_2 refers to metric tons of carbon dioxide equivalent. Equivalence means that all the different types of greenhouse gases (i.e. CH_4, NO_x) are converted and then expressed as a single number for easy comparisons across different sectors.

Since signing the ACUPCC, UWEC has observed an emissions reduction trend of 0.9% over 10 years. Between 2008 and 2016, electricity and heating plant emissions declined while transportation emissions increased. Total emissions from the most current inventory (FY 2015/2016) was 36,544 MT of eCO2. Transportation emissions generated the highest percentage of campus emissions at 12,725 MT of eCO2 (35%) followed by the campus heating plant at 12,105 MT of eCO2 (33%) and purchased electricity at 11,395 MT eCO2 (31%). Waste disposal and other chemical emissions combined generated only 1% of campus emissions (Figure 1). Some of the every year-to-year variability in emissions by sector may be attributed to improvements in data collection, accounting, and analysis techniques, most notably the transportation emissions category. However, no attempt has been made to adjust raw data from previous greenhouse gas reports. Older data has been re-analyzed using updated and improved techniques.

Transportation

Transportation-related emissions were calculated across three broad categories:

- Study Abroad
- Directly Financed Travel (DF), or student and faculty travel sponsored by the University
- Commuting to campus

Transportation emissions have risen primarily due to increased travel for domestic and international immersion experiences. The largest contributors currently are air travel related to study abroad/national student exchange (25%) and university-funded air travel (47%) which have both increased over time. The former is determined from comprehensive university travel records while the latter is less easily quantified. Like commuting (12%), these are elements for which we have no objective records and we must rely upon self-reported survey data. In 2012 the survey was modified to more accurately capture the full impact of university-related travel and has since remained the same to maintain consistency. University-funded ground travel (14%) and fuel use by university vehicles (2%) are both based on university records. Figure 2 displays transportation emissions over time.

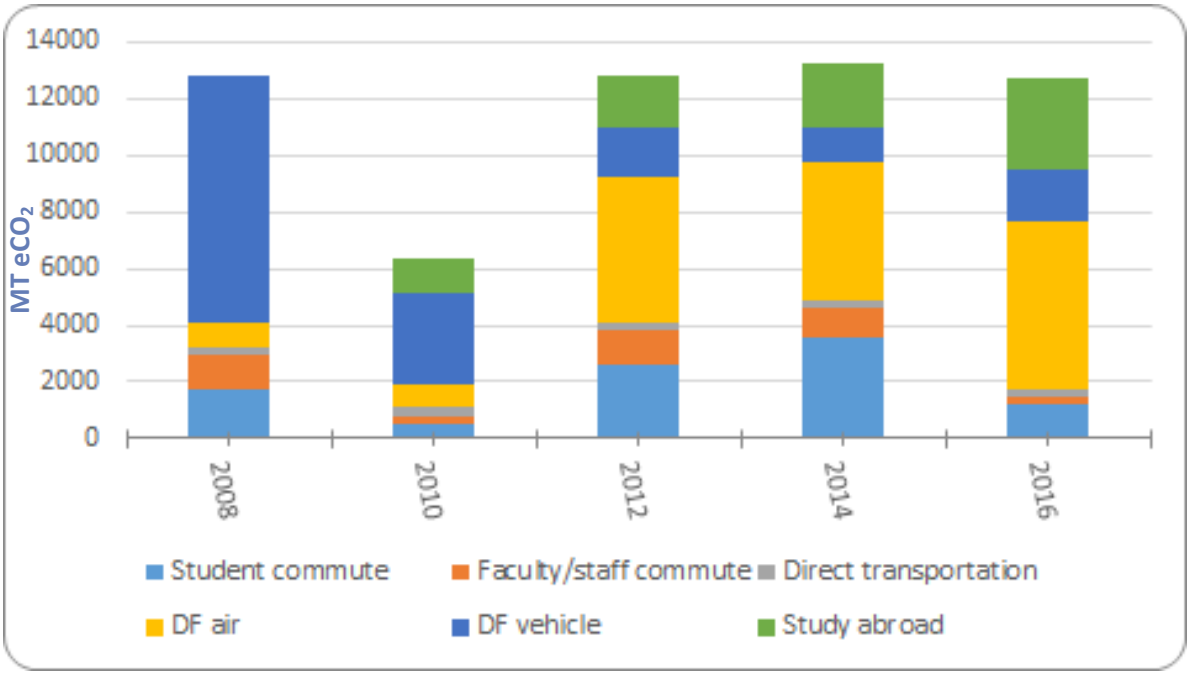


Figure 2. Annual transportation emissions by category, 2008-2016

Heating Plant

Heating plant emissions have declined since 2008 due to fuel switching from coal to natural gas, and increased steam line and end use efficiencies. However, total building area has increased during that period. Figure 3 details MT eCO2 per 1,000 sq. ft. of heating emissions over the university's first decade as a signatory.

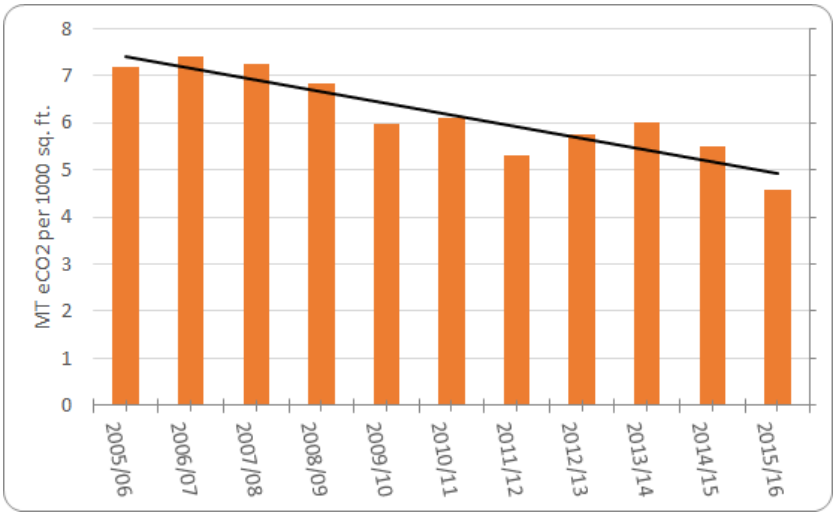


Figure 3. Annual heating plant emissions per 1,000 sq. ft., 2008-2016

Electricity

Since 2008, campus electricity emissions declined for several reasons. First, the fuel mix used by our service provider, Xcel Energy, has shifted. Reductions in coal use and increases in natural gas and renewables means that the electricity used at the university is generated from lower carbon sources. Second, the University of Wisconsin System purchases renewable energy credits for system schools, including UW Eau Claire. The renewable energy credits are applied to offset emissions from electricity used on campus. Finally, the Student Office of Sustainability (SOS) offsets electricity consumption at the Davies student center through purchase of Windsource credits from Xcel energy. Figure 4 details MT eCO2 per 1,000 sq. ft. of electricity over time.

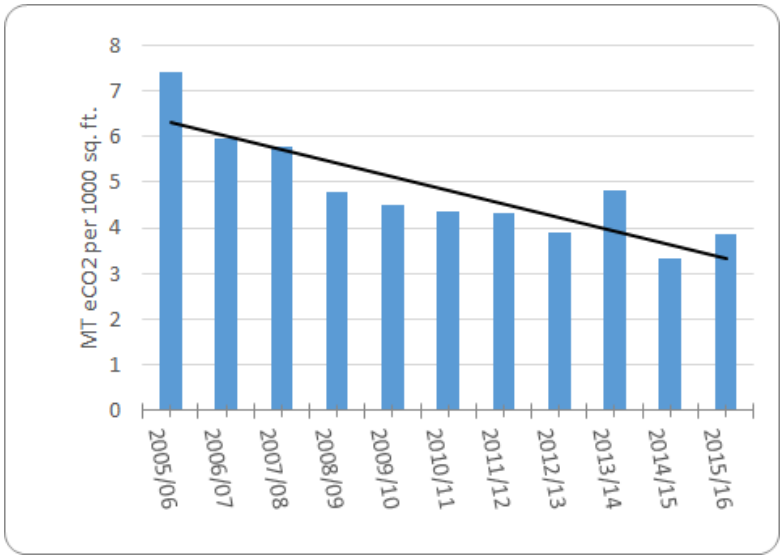


Figure 4. Annual electricity emissions per 1,000 sq. ft., 2008-2016

Waste

Waste currently accounts for 1% of UWEC's carbon footprint, or 352.1 MT of eCO2. Therefore, no targets are presented in the Decision Modeling section. The emission totals for this sector are low because campus waste sent to Seven Mile Creek landfill is converted to methane to produce electricity. Thus landfill waste produced negative emissions at -60.3 MT eCO2 (Figure 5). Additionally, our compost counts as a reduction. Wastewater accounted for 412.4 MT eCO2. There were no refrigerant leaks this fiscal year so Chemical/Hazardous Waste was essentially zero. In years with refrigerant leaks, waste emissions were significantly higher.

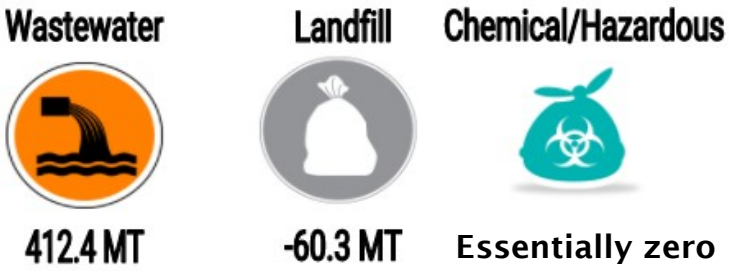


Figure 5. Waste-related emissions, 2016

Campus Carbon Emissions Reductions

Since 2010, UWEC has implemented a number of infrastructural and behavioral achievements to reduce campus carbon emissions. Students, faculty, staff and administrators all played integral roles in these reductions. Some of the infrastructure initiatives included: placement of solar panels on McIntyre library, indoor and outdoor LED lighting, placement of variable air volume systems (VAVs) in campus buildings, placement of higher efficiency steams lines to reduce energy loss, and installation of higher efficiency fume hoods in science labs.

Two new buildings were constructed that incorporated energy efficient and sustainable design elements. For example, the new W.R. Davies Student Center uses a computer controlled ventilation system that is designed to consume 30 percent less energy than standard state building codes require. Plumbing fixtures use 20 percent less water and a rooftop solar water heater heats up to 16,000 gallons of water per day. The Centennial Hall heating, ventilation, and air conditioning (HVAC) system integrates advanced enthalpy recovery technology to reduce heating costs and emissions.

Sustainability education and environmental awareness are a large part of campus life. Departments across the College of Arts and Sciences offer courses that address climate change, biodiversity, water, policy, renewable energy, and food systems, to name a few. Four departments and interdisciplinary programs offer environmentally themed majors, minors and certificates. Students now have access to Zimride, a rideshare program that allows them to carpool to and from campus and their hometowns, which saves fuel and money. Housing and Residence life sponsor environmental events like the Sustainability Fashion show, in which students are challenged to design outfits using recycled products. Housing also sponsors recycling and exchange days, where students swap and/or properly dispose of their unwanted dorm furniture and belongings.

A significant leader in both energy efficient infrastructure investments and behavioral change is the Student Office of Sustainability (SOS). Students involved in SOS allocate resources from the Green Fund to reduce our carbon footprint and to make UW-Eau Claire a more sustainable campus. The SOS funds projects, programs, and events addressing the various sustainability areas of transportation, energy, waste, climate change, water, food systems, ecology, education, and outreach.

Both SOS and the Wisconsin Department of Administration have invested in several renewable energy programs to offset campus carbon emissions. SOS funds UW Eau Claire's participation in Xcel Energy's Windsource program, which completely offsets the electricity use by the Davies Student Center. More recently, SOS purchased solar panels as part of the City of Eau Claire's efforts to expand renewable energy. Finally, the Wisconsin Department of Administration purchases Renewable Energy Credits (RECs) to fund green energy production which in turn offset the campus carbon footprint.

As an innovative means for investing in energy and water efficiency, our campus established a performance contracting agreement with McKinstry. McKinstry conducted energy and water assessments throughout campus to identify the most strategic areas for efficiency investments. McKinstry then implemented conservation measures, such as replacing the windows in Schofield hall, changing all building exterior lighting to LED, and installing new water efficient fixtures throughout campus. The financial savings from these efficiency measures are then used to pay for these investments. UWEC is now engaging in a second phase of efficiency improvements through McKinstry.

Despite construction of two new campus buildings, university carbon emissions per square foot has decreased. Thanks to the hard work and investments by the university community, further carbon emissions reductions are not just possible but are already happening. Based on these successes the campus is now well-positioned to identify the additional strategies needed to reach carbon neutrality.

Our University is working hard to implement actions and policies that protect our environment. The passion lies within the students, faculty, staff and alumni of UWEC. They are truly the heart of this monumental initiative to reach carbon neutrality.

Students participate in a local clean up project, as one example our dedication to environmental stewardship

Climate Action Planning

The Process and Participants

The path to reducing our carbon emissions must build on and advance current innovative campus practices and continue to engage students, faculty, staff, and administrators in a transformative institution-wide commitment to emissions reductions and sustainability. To coordinate these efforts, the university developed a draft Climate Action Plan. In the Spring of 2017, Chancellor Jim Schidmt convened key students, faculty, staff, and administrative leaders to serve on the campus Climate Action Plan Advisory Committee (CAPAC). The purpose of the CAPAC was to identify strategies for reaching carbon neutrality by 2050. CAPAC was guided by a technical advisory committee (TAC) composed of students and faculty who conducted the recent FY 2015/16 emissions inventory.

To identify strategies for reducing campus GGE's, the CAPAC identified values and goals for guiding the planning process. Committee members then reviewed major findings from the campus emissions inventories to assess emissions sources and discuss possible strategies. In addition, the TAC reviewed, summarized and presented emissions reduction initiatives implemented by other colleges and university campuses. Based on the campus emissions inventories and best practices from other schools, committee members then engaged in a decision modeling exercise. In this exercise, committee members could visually observe the impacts of various emission reduction strategies that could move the university toward carbon neutrality. After these key steps, CAPAC members then identified , evaluated and ranked, emission reduction strategies based on the decision model and stakeholder input (Figure 6).

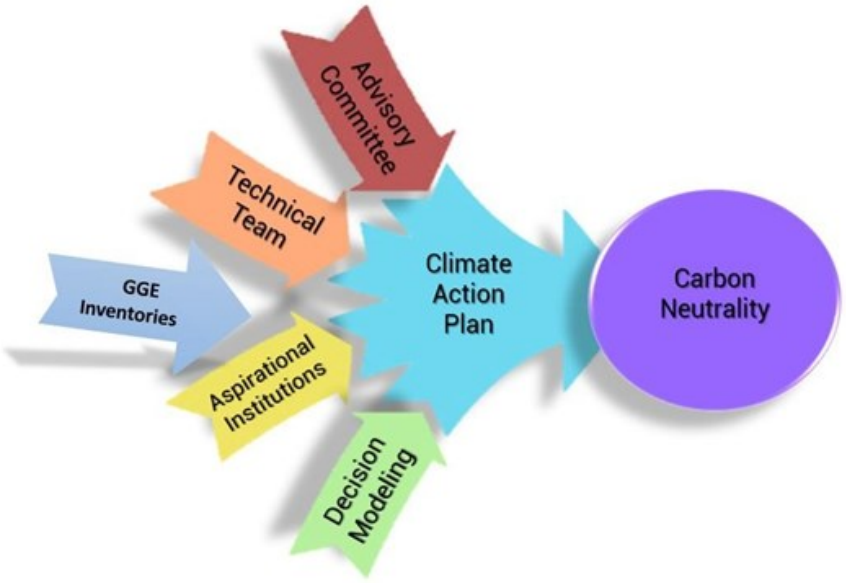


Figure 6. The inputs and processes used to develop the UWEC Climate Action Plan

Decision Modeling and Stakeholder Input

The campus carbon emissions inventory presents emissions from 4 different sectors: transportation, heating, electricity, and waste. Each sector requires different strategies for reducing carbon emissions. Decision modeling allows inputs--carbon reduction strategies--for each sector and then presents the outcomes of these inputs in graphical form. By using this approach, the CAPAC can assess various strategies for reducing emissions across all sectors simultaneously and over time. The decision model is not intended to *force* implementation of specific policies or strategies but to exemplify how sets of policies could be implemented across all sectors to generate reductions. The committee can then deliberate on the feasibility of various approaches from the model and select those used in the model and/or alternative strategies. The model provides a visualization experience to assist in the selection of carbon reducing recommendations. This represents one pathway to achieve carbon neutrality by 2050. As new technology and options emerge, actions may change too. Our goal, however, ultimately remains the same: eliminate emissions by our target date.

Alignment with Strategic Plan and Guidepost Goals

The plan is based on a series of benchmark goals and wedges which, when combined, enable the University to meet carbon neutrality. The benchmark goals echo the guidepost goals from the 2016 -2020 Strategic Plan. The TAC and the CAPAC worked together to develop the following goals and targets for the Climate Action Plan (Figure 7.).

20%	Total emission reductions by 2020
50%	Total emission reductions by 2030
90%	Heating Plant emission reductions by 2040
100%	Net carbon Neutrality by 2050

Figure 7. Benchmark goals for the UWEC Climate Action Plan

By integrating these goals and benchmarks into the decision model, reduction levels across sectors were modeled. Reductions target the university's biggest emissions sources: transportation, heating, and electricity. The figure below illustrates how these benchmarks could work together to effectively neutralize UWEC's net emissions by 2050. (Figure 8). This represents one possible model for the timing and levels of reductions needed to meet the benchmarks.

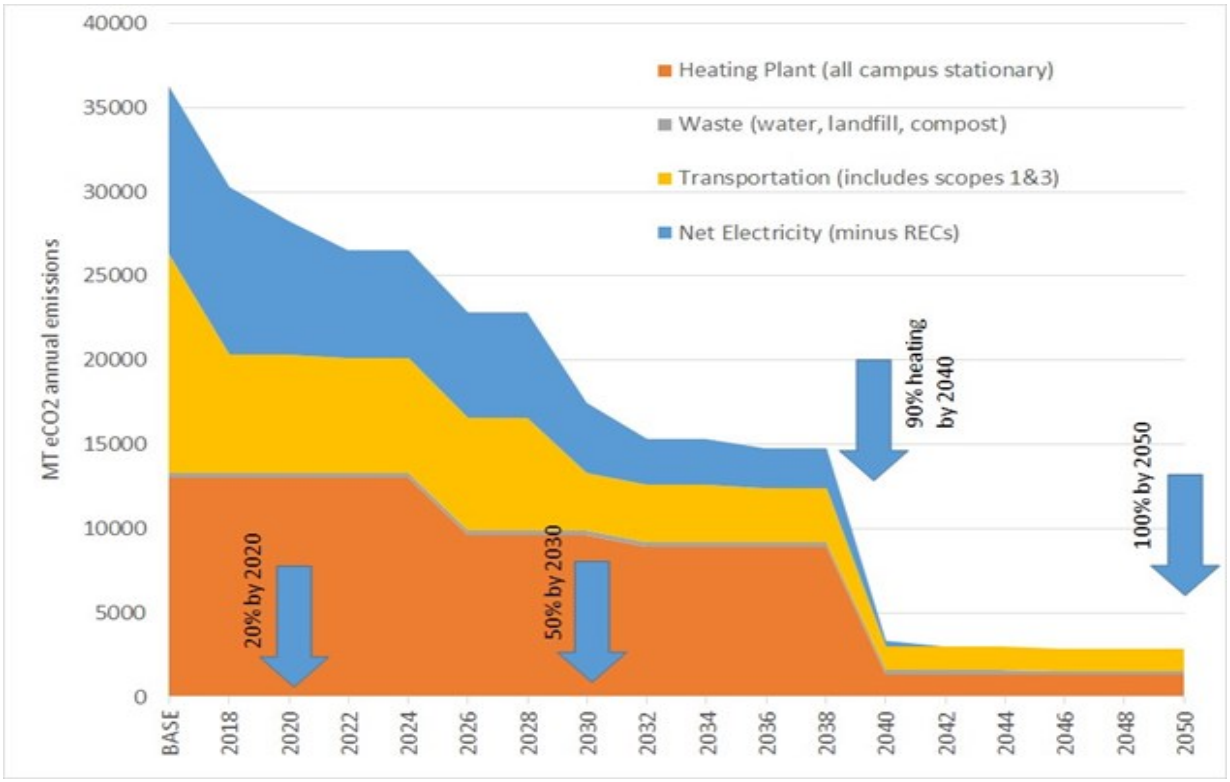


Figure 8: Potential reductions of emissions sources based on the decision modeling exercise

TRANSPORTATION EMISSIONS

Accomplishments to Date:

- Facilities management landscape crew electric vehicle fleet
- Hybrid police cars
- Collaboration with City of Eau Claire Transit for bus service
- Zimride, campus carpool and rideshare program
- Bike/pedestrian path revitalization plan
- Covered bike lockers
- 677 bike parking spaces added since 2009
- Clean Commute Initiative - Pledge, to promote carpooling and use of public transportation among faculty and staff

CAPAC Recommendations:

Transportation is UWEC's largest source of carbon emissions. Yet transportation also supports many high-impact learning experiences for students. Because we do not want to eliminate student travel experiences, the CAPAC recommends

- Purchasing carbon emissions offsets for air and ground travel
- Educating students and faculty on sustainable travel (for example, non-stop flights produce fewer emissions)

One advisory committee member emphasized that the campus community must be "armed with information." Before investing in an offset program, campus leaders must thoroughly evaluate programs to ensure emissions are reduced effectively and costs to students are minimized. These strategic investments will significantly reduce campus emissions without harming a student's chance to participate in study abroad and other immersion experiences

Table 1. Proposed initiatives to reduce campus transportation emissions

Objective	Actions	Impact
Educate students and faculty	⇒ Speak at study abroad sessions ⇒ Provide the option to donate to green fund to offset travel	⇒ Encourages sustainable travel behavior
	• Campaign to reduce commuting emissions by 10% each decade	• Reduction of 150 MT eCO2 per decade starting in 2020
Identify purchases to offset travel	⇒ Research viable options for UWEC and external offset opportunities ⇒ Decide upon better record of travel to inform offset	⇒ Ensures a variety of strategies to offset travel are included
	• Offset directly financed ground travel by purchasing RECs using PV revenue	• Reduction of 1830 MT eCO2 by 2040
	• Offset all study abroad travel by purchasing RECs or passing an initiative to have travelers offset the cost of their flight's footprint	• Reduction of 3320 MT eCO2 by 2030
Make strategic investments	⇒ Continuously research options and identify successful opportunities to support effective initiatives, such as updating campus vehicles	⇒ Supports the most effective initiatives; saves gas with newer, more fuel efficient vehicles
Purchase offsets for directly financed air travel	⇒ Promote additional offset organizations through independent sources	⇒ Reduces carbon footprint of study abroad and faculty travel
	• Utilize green fund to purchase RECs	• Reduction of 5950 MT eCO2 by 2018

Actions and outcomes used in Decision Modeling process

⇒ *Actions and outcomes that were suggested by the CAPAC*

HEATING PLANT

EMISSIONS

Accomplishments to Date:

- Heating plant: reduced coal use and increased use of natural gas
- Zorn Arena: modified AHU DDC programs to allow for control of heating valves
- McPhee Center: added VFD and occupancy based control to three AHU's
- Hibbard Hall: added VFD and CO2 control to AHU-1, converted 28 VAV boxes to Direct Digital Control with occupancy sensor interlocks, and replaced the 4th floor converter valves
- Ade Olson: added VFD and occupancy based control plus isolation damper interlocks to AHU-4 and added occupancy based control to the AHU-3
- Phillips Hall: integration of variable-flow systems in ventilation hoods
- Schofield Hall: installed high efficiency windows

CAPAC Recommendations:

Our stakeholder committee recommended the following to reduce heating emissions:

- Eliminate use of coal in heating plant
- Identify older inefficient building mechanical systems and replace them with high efficiency systems
- Take buildings offline that are not used in the summer
- Install solar hot water systems to preheat water to reduce steam load
- Explore peak monitoring and peak shaving to reduce energy costs
- Develop a landscape master plan to increase sustainable land-based actions
- Explore solar, wind and geothermal opportunities in partnership with others

Table 2. Proposed initiatives to reduce campus heating emissions

Objective	Actions	Impact
Investigate peak monitoring and peak shaving	⇒ Utilize students to analyze systems ⇒ Implement actions to shave	⇒ Reduces cost and emissions
Replace old systems with new, more efficient systems	⇒ Identify systems to be replaced ⇒ Utilize cost-effective and energy efficient options	⇒ Encourages efficiency in heating system
Stop providing steam for the other side of the river	⇒ Identify potential options to heat buildings on other side of river	⇒ Reduce steam load, enabling use of fuels other than coal
Use solar for makeup water	⇒ Install solar panels and concurrent infrastructure	⇒ Decreases energy required from coal and natural gas
Eliminate coal from campus fuel mix	⇒ Advocate elimination to DOA ⇒ Establish other sources of fuel (natural gas, biomass, etc.)	⇒ Reduces carbon emissions
	• Fuel switch from coal to 100% natural gas	• Reduction of 373 MT eCO2 in 2028
	• Convert 25% of campus sq. ft. to Geothermal Heating	• Reduction of 698 MT eC02 in 2032
	• Establish biomass burning on campus (80% efficiency)	• Reduction of 7702 MT eCO2 in 2040

Actions and outcomes used in Decision Modeling process

⇒ *Actions and outcomes that were suggested by the CAPAC*

ELECTRICITY

EMISSIONS

Accomplishments to Date:

- Solar thermal array on top of Davies
- 15.7 kW photovoltaic array on top of McIntyre Library
- LED lighting with motion sensors in buildings
- SOS Windsource purchases and UW System REC purchases
- UWEC purchase of Xcel Community Solar panels
- Exterior LED lighting
- LED lighting in Davies Cabin and Schofield Auditorium

CAPAC Recommendations:

Committee members encouraged a variety of sustainable options to reduce carbon emissions from electricity sources:

- Assess financial payback and life-cycle costs of renewable energy sources
- Determine viability of University-owns lands that could be viable for wind or solar installations
- Replace high energy pumps and motors in buildings
- Install variable speed fans, with electronic controllers and remove inefficient air compressors
- Develop a centralized chiller
- Consult with expert electricians to identify and invest in energy efficient and cost saving alternatives
- Install LED lights throughout campus
- Establish best practices for purchasing and installing efficient technology and other sustainability practices for all new construction

Table 3. Proposed initiatives to reduce campus electricity emissions

Objective	Actions	Impact
LED bulbs in all campus buildings	⇒ Purchase LEDs ⇒ Install LEDS in all buildings	⇒ Decreases electricity usage from current bulbs
Take campus buildings offline in the summer	⇒ Decide on buildings to go offline ⇒ Identify necessary components to run	⇒ Reduces electricity usage
Replace high energy pumps and motors with more efficient equipment	⇒ Find local sources of funding	⇒ Increases electric efficiency
Move to variable speed fans: electric controllers and remove air compressors	⇒ Utilize UWEC budget	⇒ Increases electric efficiency
Use more renewable energy and invest in more renewable energy infrastructure both on campus and in the community	⇒ Implement feasibility studies for geothermal, solar, wind, etc. ⇒ Pilot-run infrastructure on test sites ⇒ Fully implement alternative sources of energy ⇒ Invest in community solar	⇒ Makes sustainability efforts visible on campus and provides a clean energy source
	• Adjust Fuel Mix: Xcel Energy Fuel Switching	• UWEC will automatically benefit as Xcel adjusts their fuel mix to 30% renewables by 2020, additional changes in 2030 and 2040
	• Purchase 50% more RECs every decade	• Offsets carbon footprint of essential energy usage on campus starting in 2022
	• Additional investments in Photovoltaic arrays	• Purchase 250 MW in 2026 • Purchase 500 MW in 2036

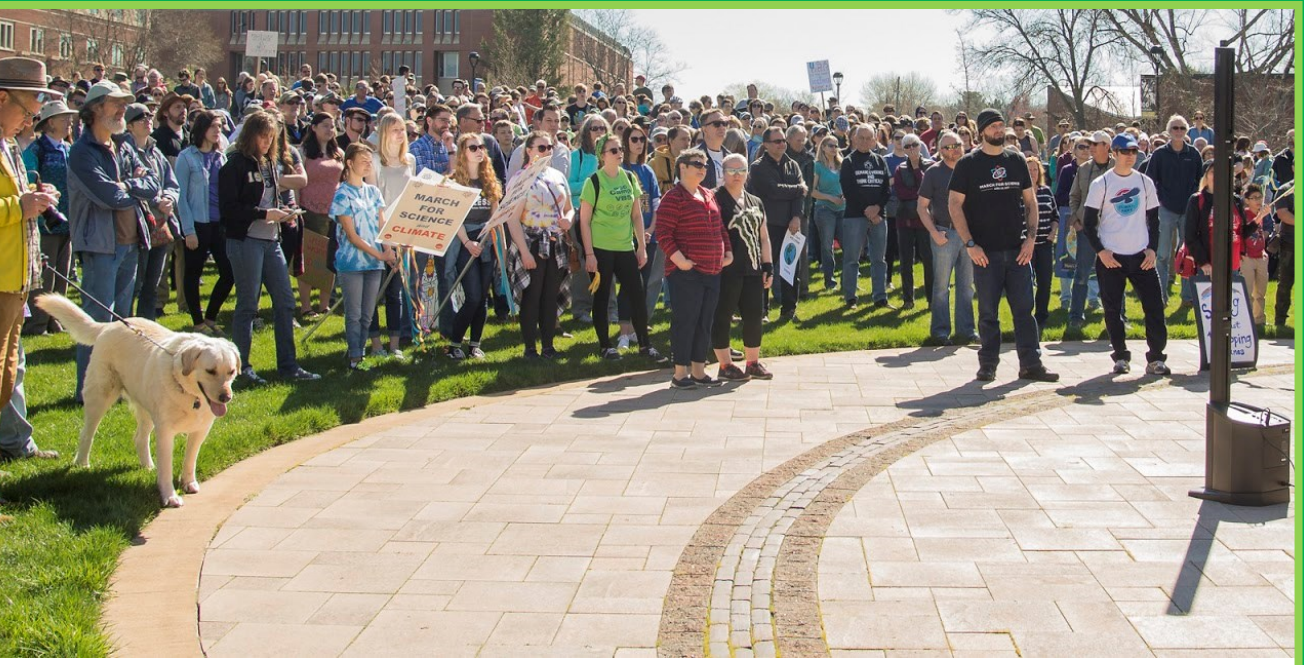
Use UWEC owned land for solar or wind installations	⇒ Identify lands and possibility of installations ⇒ Utilize students to construct installations	⇒ Expands usage of renewable energy sources
Research life cycle costs and payback of renewable energy sources	⇒ Utilize students to research life cycle costs and payback ⇒ Implement most effective energy sources	⇒ Ensures investments in cost-effect sources
Utilize electrician and employee expertise to determine ways to save energy	⇒ Identify and consult with experts ⇒ Implement suggested plans	⇒ Ensures effective initiatives are introduced ⇒ Evidence-based

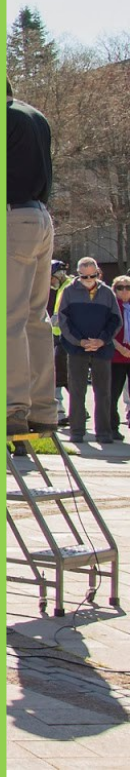
Actions and outcomes used in Decision Modeling process

⇒ *Actions and outcomes that were suggested by the CAPAC*

CAPAC member and professor, Dr. Kim Pierson instructing students on the science of solar panels

SUSTAINABILITY CULTURE





Accomplishments to Date:

- Courses offered in climate change, biodiversity, water, policy, renewable energy, food systems, and sustainability across multiple departments and programs
- Majors, minors and certificates offered in environment and health
- Housing and Residence Life supports:
  - Sustainability and Outdoor Adventure Living Learning Communities
  - Annual Sustainability Fashion show
  - Recycling and exchange days
- The Student Office of Sustainability (SOS) funds and supports campus-wide sustainability initiatives focusing on infrastructure, education, and outreach

Cultivating a Sustainability Culture:

The vision of the Climate Action Plan CAP is twofold: (1) to guide UWEC towards net carbon neutrality, and (2) to support a campus sustainability culture that surpasses the classroom and prepares UWEC students to be global citizens. A successful demonstration of sustainability efforts unites members from across the campus community around a common goal or action. This section of the Climate Action Plan focuses on leadership and collaboration, education and outreach, research, and policies and precedents. These area were strong priorities of the CAPAC. Achieving a rich culture of sustainability on campus is an integral part of a successful Climate Action Plan. Creating a culture of sustainability will be cultivated by coming together as campus stewards.

Leadership [AND] Collaboration

The CAPAC emphasized the important roles that University values and campus-community collaboration should play in the dissemination of this plan and actions that support sustainability. Moreover, they identified a strong need for strategic leadership to coordinate CAP implementation

Table 4. Proposed leadership and collaborative initiatives to reduce emissions and support sustainability

Objective	Actions	Impact
Hire a Sustainability Coordinator	• Create and distribute job announcement • Hire effective leader	• Provide leadership to oversee sustainability initiatives • Identify and pursue funding opportunities • Develop partnerships among on– and off-campus organizations • Assist in implementation of Climate Action Plan
Strengthen partnerships between SOS and facilities	• Identify shared sustainability goals • Identify projects where SOS funds can be used (green fund)	• Ensures effective implementation of sustainable infrastructure • Provides funds in cases where state funds can not be used
Collaborate with other organizations	• Continue to collaborate with Xcel Energy and other community partners to invest in solar gardens	• Increases variety of sustainability initiatives • Leverage funds from multiple sources
Integrate sustainability on UWEC app	• Program energy use on app • Provide native species maps • Updates on sustainability initiatives and activities	• Allows students, faculty, and staff to be updated on sustainability initiatives and progress
Implement Meatless Mondays	• Create alternative food options for vegetarians • Purchase more local foods • Compost or donate leftovers	Incorporates sustainable culture in UWEC Dining

Education [AND] Outreach

We need planned actions to make climate neutrality, resilience, and sustainability a part of the curriculum for every student. This could include expanding academic offerings by adding new courses, minors, majors, concentrations, certificates, and liberal education requirements. Efforts should also include actions to expand research opportunities, interdepartmental/interdisciplinary opportunities, campus-community collaborations, and GHG emission reductions through campus-community partnerships. New student orientation activities and Blugold Welcome need to spotlight sustainability initiatives for first year students. The goal is to strengthen awareness and actions through partnerships and engagement throughout campus and within the greater Eau Claire Community.

Table 5. Proposed education and outreach initiatives to reduce emissions and support sustainability

Objective	Actions	Impact
Integrate sustainability education	• Implement policies to drive sustainable education • Invite speakers to classes • Support Honors courses in sustainability	• Integrate sustainability culture with coursework and other curricular activities
Engage all departments in sustainability	• Identify and promote sustainability courses • Engage departments in discussions to include sustainability in their curriculum/courses • Support inter-departmental collaborations	• Encourages all faculty to engage in sustainable education
Develop toolkit for instructors to use on co-curricular initiatives	• Convene faculty who teach R3 courses • Use campus initiatives as part of course curriculum	• Applies sustainable culture to all campus units
Utilize students for sustainable action	• Create policies and opportunities to support student behaviors (i.e. Internships) • Support student-led initiatives	• Educates students on campus initiatives • Provides work force development to implement sustainable actions after graduation
Improve efforts to reach out to first year students	• Engage in Blugold Welcome and new student orientation	• Promotes sustainability as an important value at UWEC

Policy [AND] Precedent

Another important practice in cultivating a sustainability culture is developing policies that set precedents for green practices and sustainability expectations going forward. Ideas include, but are not limited to: ban the bottle campaign, green design, construction and renovation requirements, study

Table 6. Proposed policy and precedent initiatives to reduce emissions and support sustainability

Objective	Actions	Impact
Create policies to support sustainable building design and construction	• Discuss building standards and expectations (e.g. recycling old materials) • Include sustainability policies in all construction and renovation projects	• Integrates sustainability culture with new development initiatives
Track UWEC progress	• Implement energy dashboard(s) on all buildings • Utilize students to track and analyze progress	• Allows students, faculty, staff, administrators, and community members to assess UWEC sustainability progress
Develop landscape master plan	• Identify sustainable landscape options (e.g. no-mow fescue) • Utilize students to plant and maintain native landscapes • Attain Tree Campus USA certification	• Utilizes UWEC land to mitigate emissions
Develop a sustainability website	• Utilize students to update web materials • Collaborate with Integrated Marketing and Communications in website development • Collaborate with SOS	• Creates a common location for all sustainability information and initiatives

Tracking and Monitoring Progress

Over the years, the University of Wisconsin- Eau Claire has demonstrated its commitment to climate leadership by initiating sustainability-related policies, practices and programs. Despite its many green achievements, the full extent of UWEC's emissions reductions and sustainability efforts and accomplishments are difficult to quantify. This is largely because the University has not been measuring and documenting its sustainability performance effectively. It is essential that UWEC tracks emissions and sustainability efforts so that strengths and weaknesses can be identified and improvements be made to achieve net carbon neutrality. Without this, it is difficult for the University to monitor the success, efficiency, and return on investment (ROI) in a meaningful way. The impacts of many of the green initiatives on campus are currently either unmeasured or undocumented (Table 7). Tracking progress will allow the University to create more accurate GGE inventories and to ensure progress towards carbon neutrality. Monitoring progress will also allow faculty, students, and staff to gain a sense of engagement and ownership of these initiatives and the University's commitment.

Table 7. Monitoring of campus sustainability initiatives and access to monitoring information

Initiative	Measured	Publically Reported
Zimride	YES	NO
Solar Thermal Array on Davies	NO	NO
McIntyre Photovoltaic Array	YES	NO
Solar Garden Purchases with Xcel	YES	NO
REC Purchases	YES	NO
Overall Campus Energy Use and Energy Efficiency Gains	YES	NO

The Outcome Snapshot (Figure 9) is a great example of the kind of encouraging and insightful information that can be generated by making efforts to track and monitor green infrastructure on campus. The Snapshot was created in 2013 when UWEC contracted with McKinstry to conduct Functional Performance Tests of the air handling units (AHUs), variable air volume systems (VAVs), and hot water systems in McPhee, Hibbard Hall, and Ade Olson. In addition to quantifying the annual savings that these systems produce for UWEC, the reports also verified that the newly installed and updated equipment reduced energy and water use, reduced carbon emission and saved money. Developing mechanisms and reporting systems to track the progress of other green initiatives on campus would allow the University to garner high-quality data that can be put into reporting platforms and used to guide future decisions.

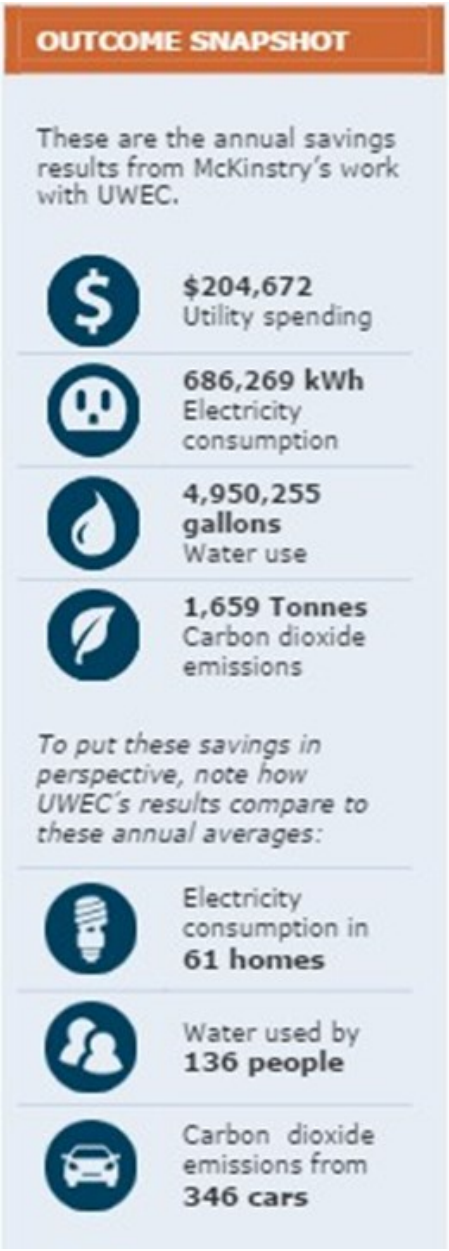


Figure 9. McKinstry outcome snapshot

CAPAC Recommendations:

- Utilize existing campus technology to track and publish electricity generation from the photovoltaic arrays on Davies and McIntyre, plus the photovoltaic arrays with Xcel Energy
- Adopt an energy dashboard in order to track the efficiency improvements over time and verify ROI
- Participate in the Association for the Advancement of Sustainability in Higher Education's Sustainability Tracking, Assessment & Rating System (STARS)
- Use Leadership in Energy and Environmental Design (LEED) guidelines in the construction of new buildings

In addition to tracking quantitative emissions-related initiatives, key elements of sustainable progress go beyond measurable targets. This is especially relevant in relation to the goal of developing a sustainability culture. Many of the benefits associated with progress in this area, such as "the awareness around sustainability in students, the lifelong learning potential of students, the diffusion of sustainability mindsets or principles beyond the campus, the reputation of the college, (and) the leadership in the community," are qualitative and intangible (Second Nature). Because they are difficult to quantify, these benefits are typically not collected for input into the ACUPCC reporting framework.

There are valuable ways of tracking qualitative sustainability elements on campus by developing indicators and conducting assessments that measure UWEC's success in incorporating resilience and sustainability as part of the educational experience. This could be done by periodically administering sustainability literacy surveys to students, and/or by surveying faculty members to assess how sustainability is reflected in their courses. Many institutions do this through the use of metrics within the STARS rating system. The measurements that result from these surveys and assessments will help indicate UWEC's progress towards achieving the goals outlined in the *Cultivating A Sustainability Culture* section of the CAP.

CAPAC Recommendations:

- Track assessment of R3 liberal education learning outcomes
- Track the number of sustainability majors in the BLS program
- Track the number of relevant concentrations, minors, and certificates that are being offered and their enrollment levels
- Track the involvement of students, faculty, and staff in relevant research/high impact practices

Institutionalizing the practice of tracking our sustainability progress with measures and indicators will allow the University to assess and improve its actions and investments. It will also enable us to compare our progress against our established benchmarks and other institutions as we continue to pursue our goals.

Chancellor Schmidt with three Honors students, Nick Reitano, Megan McHenry, and Lauren Graves. Students presented the UWEC carbon emissions study to the Chancellor

Appendix

Participatory Planning Team

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