

**Winthrop University**  
**Administrative Unit Continuous Improvement Action Report**  
**2021-22**

**Name of Unit:** Office of Sustainability

**Contact Person:** Christopher Johnson

**Date Submitted:**

**Winthrop University's Mission Statement:** Winthrop University provides personalized and challenging undergraduate, graduate, and continuing professional education programs of national caliber within a context dedicated to public service to the State of South Carolina...The values of service, excellence, diversity, community, and leadership provide the foundation of Winthrop's continuing development and shape Winthrop's continuing success...Winthrop students acquire and develop knowledge, skills, capabilities, and values that enrich their lives and prepare them to meet the needs and challenges of the contemporary world, including the ability to communicate effectively, appreciate diversity, work collaboratively, synthesize knowledge, solve complex problem, and adapt to change. [[Winthrop University full mission statement.](#)]

**Unit's Mission Statement or Statement of Purpose:** The mission of the Office of Sustainability is to introduce students, faculty, and staff to sustainable practices that simultaneously advance economic vitality, ecological integrity, and social welfare through diverse programming. This mission aligns with the institutional mission by supporting Winthrop's diverse and able faculty and professional staff of national caliber to enrich their student's lives and prepare our students to meet the needs and challenges of the contemporary world.

<b>Outcome #1: Employ accurate reporting and data analysis that will be used to facilitate responsible sustainable practices.</b>
<b>Alignment of outcome with the Winthrop Plan (Goal and Strategic Initiative):</b> N/A
<b>Alignment of outcome with the Division's Strategic Plan:</b> N/A
<b>Alignment of outcome with the University Learning Competencies (ULCs), if applicable:</b> N/A
<b>Summary Statement of Assessment-based Accomplishments and Improvements:</b> (based on prior year's Continuous Improvement Action Plan) During this reporting period, we have been focused on obtaining, compiling, and maintaining accurate data and using this data to inform communications to the Winthrop community.
<b>Activities:</b> (based on prior year's Continuous Improvement Action Plan) Activities undertaken in 2021-22 build upon waste diversion, energy consumption, and water usage data collected since 2012. Waste diversion rates are greatly affected by the behaviors and knowledge of the faculty, staff, and students. Behaviors also influence water consumption but to a lesser extent because there are other uses of water including irrigation and leaks. As for energy,

there are several factors that influence consumption. Heat is generated in the Central Energy plant by burning natural gas in the boiler to heat water. The chiller plant removes the heat from the water in the warmer months and this cold water is circulated through the buildings. The major buildings on campus are internally loaded meaning that they generate some of their own heat by the functions of those buildings. And, the weather outside affects the use of energy; if we have a long, hot summer, the need for more electricity to cool the water increases. On the other hand, if we have long cold winter, the need for natural gas for heating increases. Therefore, reducing energy use through changing behaviors is limited to turning off electronics and lights, and possibly encouraging people to dress according to the outside conditions. The greatest influence to reducing energy is ensuring the systems are functioning properly, repairing the systems when needed, and upgrading the systems. To this point, over the past year, Facilities management has conducted a study to evaluate our heating and cooling systems. This study has revealed what is needed to improve the efficiency of the system. As for specifically assessing the data, Winthrop's report to the SC Energy office revealed a need to analyze data on a quarterly basis. This provided the opportunity to regularly assess changes in consumption to determine what further action is needed to stabilize the consumption.

**Assessment Method #1:** Assess current total diversion rates with previous year's recycling rates.

**Target:** Increase diversion rates by 2%

**Assessment Results:** Winthrop's recycling rate increase by 15.61% FY22.

**Discussion of Assessment Results:** After a number of years of decline, Winthrop increased its recycling rate during FY22. This result is measured by comparing the total weight of recyclables collected from year to year. The declines were a result of the changes to what material is collected and the disruptions caused by the pandemic. Despite the increase, there are still opportunities for improvement. When assessing the data, Winthrop generated 1,893 tons of municipal solid waste (MSW) in FY22. This equates to 680 lbs. per person per year or 1.86 lbs. per day. (According to the EPA, on average, individuals generate 4 lbs. per day.) Of this waste, Winthrop only diverted 6.83% of that waste or 145 tons. Winthrop only diverts approximately 52 lbs. per person each year or 0.14 lbs. per day. Therefore, ultimately the goal would be to reduce the generation of municipal solid waste.

**Supporting Documents:**

11 Annual Recycling Totals FY2022

12 Summary of Winthrop University's MSW Diversion Recycling

**Assessment Method #2:** Assess current energy consumption with previous year's energy consumption.

**Target:** Reduce energy consumption by 2%

**Assessment Results:** Electric Consumption increased 8.7%. Natural gas consumption decreased 0.93%. Combined, the total increase kBTU was 2.6%

**Discussion of Assessment Results:** The reduction of energy is measured by consumption rather than cost because if there is a price increase, the cost could increase when consumption decreases. The total energy consumption for FY22 was 222,339,195 kBTU, or 97 kBTU/sqft. Winthrop consumed

88,559,101 kBtu or 25,955,188 kWhr of electricity and 133,780,093 kBtu or 1,337,800.93 therms of natural gas. (The total energy cost was \$3,468,656 or \$1.49 per square foot: \$983,650.18 or \$0.41 kW/sf for natural gas and \$2,485,005.87 or \$1.05 kW/sf for electricity.) When comparing consumption data with weather conditions, we find that the consumption correlates with the highs and lows during the 12 month reporting period. Temperatures were higher on average than FY21; high temperatures were 2.49% higher than average and the low temperatures were 0.03% higher than average. This can explain our energy use: the increase in electricity accounts for increased cooling and the decrease in natural gas accounts for the decrease need for heating.

**Supporting Documents:**

- 01 Energy Use and Cost Annual Summary 2021
- 02 Energy Use and Cost Annual Summary 2022
- 03 Utility Yearly Consumption Analysis
- 04 Total Electricity Consumption
- 05 Total Natural Gas Consumption
- 07 Utility Yearly Cost Analysis
- 08 Total Electricity Cost
- 09 Total Natural Gas Cost

**Assessment Method #3:** Assess greenhouse gas emissions for scope 1 and scope 2 emissions.

**Target:** Establish base line data for GHG using EPA Greenhouse Gas Equivalencies Calculator

**Assessment Results:** Did not meet target.

**Discussion of Assessment Results:** Despite not meeting this target, we did begin collaborating with the department of Environmental Science who purchased a subscription to the University of New Hampshire Sustainability Institute’s Sustainability indicator Management & Analysis Platform (SIMAP) to assess Winthrop’s GHG emissions. This will be an ongoing collaboration that will provide us an opportunity to compare the two GHG assessment platforms.

**Assessment Method #4:** Assess current water use with previous year’s water consumption.

**Target:** Reduce water consumption by 1%.

**Assessment Results:** Water consumption increased 6.75%.

**Discussion of Assessment Results:** Despite the increase in FY22 water consumption compared to FY21 consumption, this year’s water consumption decreased nearly 50% when compared to each fiscal years 2017, 2018, and 2019. In FY 2022, Winthrop used 62,720,628 gallons of water or 31 gallons per person per day. However, it is important to consider that water consumption includes fire protection (water tower), irrigation, as well as potable water use in restrooms and kitchens.

**Supporting Documents:**

- 06 Total Water Consumption
- 10 Total Water Cost

**Continuous Improvement Action Plan for next year:**

- 1) Modify goal of increasing diversion rates by 20% with focus on developing plan to reduce municipal solid waste. A challenge that must be addressed is obtaining accurate weight data for MSW and ensuring we are including all sources of MSW. Currently, our MSW and cardboard recycling is estimated and assumes all containers are at full capacity, which is not always the case.
- 2) Maintain goal of reducing energy consumption by 2% with focus on updating assessment to include degree days and working with Facilities Management as it develops its plan to repair and upgrade heating and cooling infrastructure. As for behavior, our focus will continue to be reminding people to turn off electronics and lights but also work with IT to reduce computer lab energy consumption.
- 3) Establish base line data for GHG using EPA Greenhouse Gas Equivalencies Calculator and compare this data with SIMAP.
- 4) Maintain goal to reduce water consumption by 1% with focus on identifying options for reducing potable water use.

**Outcome #2: Employ sustainability practices in all campus departments.**

**Alignment of outcome with the Winthrop Plan (Goal and Strategic Initiative):** N/A

**Alignment of outcome with the Division’s Strategic Plan:** N/A

**Alignment of outcome with the University Learning Competencies (ULCs), if applicable:** N/A

**Summary Statement of Assessment-based Accomplishments and Improvements:** (based on prior year’s Continuous Improvement Action Plan) During this reporting period, we have been focused on building upon the current knowledge the Winthrop community has with regards to the most common sustainability practices. However, we recognize the need to identify opportunities to expand beyond recycling, energy and trees. Both are important sustainable practices but we must develop people’s understanding that sustainability not only concerned with environmental issues but also with social and economic issues, simultaneously.

**Activities:** (based on prior year’s Continuous Improvement Action Plan)  
Activities undertaken in 2021-22, the Office of Sustainability developed a draft plan to improve our reach through social media (Facebook, Twitter, and Instagram) to communicate sustainable practices. We have reset all recycling stations and recycling signage throughout residence halls and E&G buildings. Installed centralized recycling stations in Bancroft and McLaurin Halls that were purchased via a DHEC Collegiate grant. We also sent numerous messages to faculty and staff (Daily Digest) and students (all student listserv) throughout the fiscal year about recycling right, reducing energy, and other general information about sustainability initiatives on Campus and in the community.

**Assessment Method #1:** Utilize Sustainability Tracking, Assessment & Rating System (STARS) to assess current education programs and courses offered at Winthrop University.

<b>Target:</b> Identify current programs and courses that offer sustainability course or component of sustainability.
<b>Assessment Results:</b> Did not meet target.
<b>Discussion of Assessment Results:</b> The Interdisciplinary Department was eliminated with faculty and staff be shifted to their respected colleges. This could potentially impact this target but we will not know until we delve into the course offerings in the various departments.
<b>Assessment Method #2:</b> Utilize Sustainability Tracking, Assessment & Rating System (STARS) to assess current campus engagement reaching faculty, staff, and students.
<b>Target:</b> Identify existing programs that could employ sustainable practices and/or awareness as well as identify programs that could add sustainability awareness.
<b>Assessment Results:</b> Did not meet target.
<b>Discussion of Assessment Results:</b> We were unable to allocate time over the past year to investigate method to could employ sustainable practices and/or awareness as well as identify programs that could add sustainability awareness.
<b>Assessment Method #3:</b> Utilize Sustainability Tracking, Assessment & Rating System (STARS) to assess current operations, planning, and administration.
<b>Target:</b> Establish base line data for assessing buildings, food and dining, grounds, purchasing, diversity, investment and finance, and wellbeing.
<b>Assessment Results:</b> Did not meet target.
<b>Discussion of Assessment Results:</b> We were unable to allocate time over the past year to investigate method for assessing buildings, food and dining, grounds, purchasing, diversity, investment and finance, and wellbeing.
<b>Continuous Improvement Action Plan for next year:</b> All previous targets identified will be included on the FY23 plan. Activities will focus on items identified in the Office of Sustainability's revised 5 year plan and initiate conversations about adding sustainability as a degree program.
<b>Outcome #3: Collaborate with local, regional, and state agencies and/or schools to advance sustainable practices.</b>
<b>Alignment of outcome with the Winthrop Plan (Goal and Strategic Initiative):</b>
<b>Alignment of outcome with the Division's Strategic Plan:</b> N/A
<b>Alignment of outcome with the University Learning Competencies (ULCs), if applicable:</b> N/A
<b>Summary Statement of Assessment-based Accomplishments and Improvements:</b> (based on prior year's Continuous Improvement Action Plan) During this reporting period, we have been focused on maintaining programming that advanced sustainable practices. Each year, we must educate a quarter of our student body and remind returning students, faculty and staff of simple sustainable practices.

**Activities:** (based on prior year's Continuous Improvement Action Plan) Activities undertaken in 2021-22 included two long established programs and one new program. Winthrop hosted our first Arbor Day event that met the requirements by the Arbor Day Foundation's Campus Tree recognition. We partnered with Dining Serves and Don't Waste Food SC for Weigh the Waste (food waste) in February. And, faculty, staff, and students were introduced to a variety of issues and community groups during the Earth Day Fair held in April. In addition, the Office hosted a number of service opportunities including campus litter cleanups, tree planting, and theme garden maintenance. One significant accomplishment was being recognized by the Arbor Day Foundation that honors colleges and universities for effective urban forest management, and for engaging staff and students in its conservation goals.

**Assessment Method #1:** Utilize Sustainability Tracking, Assessment & Rating System (STARS) to assess current public partnerships to advance sustainability.

**Target:** Establish base line data identifying public partnerships with sustainability focus.

**Assessment Results:** Did not meet target.

**Discussion of Assessment Results:** We were unable to allocate time over the past year to investigate method to establish base line data expanding existing partnerships while identifying new public partnerships with a sustainability focus. Our existing community partnerships we maintain include Rock Hill's Educational Community Garden, Rock Hill's MyRide bus program, Comporium's Bike Share program, Rock Hills Environmental Education and Grants office, and York County's Solid Waste Collection & Recycling. However, we did not identify specific opportunities that would lead to a measurable outcome.

**Assessment Method #2:** Utilize Sustainability Tracking, Assessment & Rating System (STARS) to assess inter-campus collaboration to advance sustainability.

**Target:** Attend one national and one regional conference focused on sustainability. Present case study at one of the two conferences.

**Assessment Results:** The Sustainability Coordinator attended three regional conferences: 1) Association of SC Energy Managers Fall 2021 Conference; 2) the SC Tri Association Facilities Management Conference (ASPACO, SCAPPA, and ASEM); 3) the Carolina's Recycling Association's annual conference. The Sustainability Coordinator did not attend the AASHE annual conference. The sustainability coordinator presented one case study at the CRA Conference Collegiate workshop titled, "Partnerships and Engagement."

**Discussion of Assessment Results:** Attending regional conferences are critical to developing an understanding of current and future issues, solutions, technologies, and ideas available to advance sustainability practices. In addition, conferences build networks of people that can be consulted later when needed. The sustainability served on the planning committee for the Tri Association and is the chair of ASCEM and was the AV volunteer coordinating loading session content during the CRA conference. Refer to the programs for content presented during conferences.

**Supporting Documents:**

13 2022 Tri Association Agenda
14 2022-CRA-Conference-and-Trade-Show
15 ASCEM 2021 Fall Conference Agenda
<b>Assessment Method #3:</b> Utilize Sustainability Tracking, Assessment & Rating System (STARS) to assess community service with sustainability focus.
<b>Target:</b> Establish base line data of community service hours with sustainability focus.
<b>Assessment Results:</b> One-hundred fifty-one people volunteered a total of 302 hours at a value of \$9,044.90. The Office of Sustainability partnered with four departments and groups: Staff Conference, Student Affairs, the Department of Human Nutrition, and New Students and Family Programming.
<b>Discussion of Assessment Results:</b> We partnered with New Students and Family Programming during Family Day for Leaf Your Mark where volunteers planted new plants at the Little Chapel. The Office hosted two tree planting, a litter clean up, and a theme garden maintenance opportunity for the MLK Day Service Challenge. These opportunities allows us to introduce some basic ideas about sustainability and provide the volunteers a glimpse of the office’s reach. In one specific example, after learning what the Office of Sustainability did, one student volunteer expressed that she was rethinking her choice of study and began asking about how she might incorporate sustainability into her area of study.
<b>Continuous Improvement Action Plan for next year:</b> All previous targets identified will be included on the FY23 plan. Our focus will be to develop a matrix containing service hours and expand existing partnerships and identify one new partnership.
<b>Outcome #4: Communicate effective sustainability practices to the campus community.</b>
<b>Alignment of outcome with the Winthrop Plan (Goal and Strategic Initiative):</b> N/A
<b>Alignment of outcome with the Division’s Strategic Plan:</b> N/A
<b>Alignment of outcome with the University Learning Competencies (ULCs), if applicable:</b> N/A
<b>Summary Statement of Assessment-based Accomplishments and Improvements:</b> (based on prior year’s Continuous Improvement Action Plan) During this reporting period, we have been focused on improving our messaging and develop a communications plan. 393 follow Winthrop University Office of Sustainability Facebook page; 43 follow Sustainability@WU on Twitter; and 352 follow us on Instagram at winthropsustainability. Our challenge is reaching an audience who are already oversaturated with media. We believe that most people recognize the importance of considering social and environmental issues. However, the misconception is that sustainability is only focused on environmental issues and people do not realize that social, ecological, and economic issues are inherently interconnected. If Winthrop is to be a positive example in terms of sustainability, we must address this misunderstanding. But the question remains, “How do we accomplish this?”

<p><b>Activities:</b> (based on prior year’s Continuous Improvement Action Plan) Activities undertaken in 2021-22 included maintaining and updating the Office of Sustainability website and creating ‘post cards’ targeting specific messages posted on social media. We wrote a draft social media plan and have been working on executing that plan.</p>
<p><b>Assessment Method #1:</b> Utilize Sustainability Tracking, Assessment &amp; Rating System (STARS) to assess outreach materials and publications.</p>
<p><b>Target:</b> Evaluate existing digital outreach materials and effectiveness.</p>
<p><b>Assessment Results:</b> Did not meet target.</p>
<p><b>Discussion of Assessment Results:</b> We were unable to allocate time over the past year to evaluate existing digital outreach materials and effectiveness.</p>
<p><b>Assessment Method #2:</b> Assess the reach via social media of on-campus sustainability programming.</p>
<p><b>Target:</b> Establish baseline data that shows reach of outreach materials focused on sustainability events and practices on campus.</p>
<p><b>Assessment Results:</b> We posted 147 messages on Facebook. The average reach was 45.7 people. We posted 46 messages on Instagram. The average reach was 64.5 people. We posted 106 messages on Twitter. The average was 59.5 people.</p>
<p><b>Discussion of Assessment Results:</b> Of the Facebook posts, these are the top ten posts with the highest reach: Earth Day Litter cleanup (1,578), 911 Day of Service (475), Alumni Service Day (412), Comporium Bike Share (262), Campus Sustainability Month schedule (252), Tree Planting (251), Human Nutrition Farmers Market (122), Race to Zero Waste (90), Earth Day event (85), and the Dr. Leslie Tree Planting for Arbor Day (82).</p> <p>Of the Instagram posts, these are the top ten posts with the highest reach: Campus Litter Clean Up (132), Weight the Waste (116), Eagle Scout - Hardin Garden (108), Alumni Service Day (99), October Campus Litter Clean Up (98), Weight the Waste (96), 2/28 Tree Planting (94), Winthrop Earth Day (93), 2/8 Tree Planting (88), and Freshman Orientation (80).</p> <p>Of the Twitter posts, these are the top ten posts with the highest reach: Homecoming Service (1,188), ARD Recycle Right – Plastic (441), Campus Litter Cleanup – February (402), Recycle Right – Cups (322), Great American Litter Cleanup – March (206), MY Ride Bus (184), Campus Litter Cleanup – October (170), MLK Service Challenge Tree Planting – February (157), Eat Local Eat Seasonal (125), and Earth Day Service Day (117).</p> <p><b>Supporting Documents:</b> 16 Social Media Reach Analysis</p>
<p><b>Assessment Method #3:</b> Assess the reach via social media of articles that discuss various sustainability practices.</p>
<p><b>Target:</b> Establish baseline data that shows reach via social media.</p>
<p><b>Assessment Results:</b> Did not meet target.</p>



**Discussion of Assessment Results:** While compiling data, Facebook analytics were not available for the sustainable articles posted. All posts on Instagram were specific to campus events and practices.

**Continuous Improvement Action Plan for next year:** All previous targets identified will be included on the FY23 plan. Planned changes to the website include: move academics page, create separate page for Council of Student Leaders, Move In, and Move Out under students tab.

Our focus will be to track analytics for articles throughout the year and explore how the reach is affected when messages are presented differently. Request analytics for website.

**Documentation supporting every data claim is to be submitted with the Continuous Improvement Report.** Supporting documentation should include all planning documents and materials that demonstrate progress toward achieving stated outcomes. These may be formal reports, minutes of decision-making meetings, revised policies and/or procedures, survey data, spreadsheets, or other appropriate information.

### **Supporting Documentation**

- 01 Energy Use and Cost Annual Summary 2021
- 02 Energy Use and Cost Annual Summary 2022
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