

# Sustainability and Climate Action Plan – Fiscal Year 2024 Table of Contents

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## Executive Summary

The critical challenges of climate change and the loss of our planet’s biodiversity pose immediate threats to the health and wellbeing of both humanity and the world. As time progresses, these challenges intensify, becoming increasingly costly to manage. Furthermore, the adverse effects of these crises disproportionately affect our most vulnerable communities, underscoring the urgency of finding equitable solutions to protect our local, regional, and global communities. Illinois faces significant risks of climate change and other environmental crises. The long term ecological, human, and financial costs of inaction will be high. NIU (Northern Illinois University) must take immediate action in confronting and preparing for these global environmental challenges to realize our mission as a leader in teaching, research, artistry, and engagement.

The NIU community embraces both the concept and practice of sustainability. While definitions of sustainability vary widely, most encompass aspects of protecting or supporting the three P’s (people, planet, profit) or three E’s (environment, equity, and economics). Based on these overlapping themes, NIU’s working definition of sustainability is “*the process of living within the limits of available physical, natural, and human resources in order to create thriving, healthy, diverse, equitable, and resilient communities for this generation and generations to come”[[1]](#footnote-2)*. This definition reflects our commitment and responsibility to the members of our NIU community, including our students, faculty and staff, their local communities, the broader global community of which we are all members, and future generations. When President Lisa Freeman signed the Second Nature Carbon Commitment in 2022, it cemented NIU’s dedication to climate action and set in motion a planning process to incorporate sustainability into all of campus life and decisions.

The Sustainability and Climate Action Planning (SCAP) Taskforce was formed to develop the first Sustainability and Climate Action Plan for NIU. A working committee composed of 14 faculty, staff, and students engaged with stakeholders across campus throughout Spring 2023 to draft this plan. A period of public comment will allow additional members of the NIU community to further contribute and refine the plan to best reflect our collective goals and values around sustainability.

The plan comprises three categories of action:

1. Climate Mitigation and Adaptation
   1. Energy
   2. Transportation
   3. Climate Vulnerability and Adaptation
2. Operations
   1. Food and Dining
   2. Grounds
   3. Water
   4. Waste
   5. Purchasing
3. Academics, Administration, and Community Engagement
   1. Academics
   2. Outreach and Engagement
   3. Marketing and Communications
   4. Shared Governance

This plan serves as our strategic road map to a more sustainable future. It pairs long-term goals with near-term actions collectively designed to achieve net zero greenhouse gas emissions by 2050 or earlier and improve the environmental and social sustainability of our campus operations. The goals and actions are summarized in the subsequent table. The recommendations in this plan highlight the significant infrastructural upgrades required to achieve our sustainability goals. Their size and scope require the allocation of human and financial resources to pursue external funding and implement large-scale sustainability projects.

The plan also describes creating a strong culture of sustainability at NIU. Embedding sustainability in curriculum, outreach and engagement programming, and research will leverage campus as a living laboratory and engage the campus community in making progress towards our sustainability and climate action goals. Making sustainability initiatives highly visible, through marketing and communications, will reinforce our collective sustainability mission. Implementation of the recommended actions will also result in structural changes where more sustainable utilization of campus resources becomes the new norm.

Importantly, this plan also focuses on how our sustainability goals intersect with our values related to diversity, equity, and inclusion. In developing the recommended goals and actions in this plan, we have used an equity and environmental justice lens that prioritizes the well-being of the individual members of our campus community. The plan also describes ways to strengthen our community partnerships around sustainability.

Institutions of higher education play an important role in building a more sustainable future. We recognize our responsibility to model a sustainable campus, invest in the health of our planet, and develop future leaders who will help to solve these pressing global challenges. We are committed to taking decisive actions to mitigate and adapt to climate change, address other environmental challenges, and promote broader positive change. By leveraging our campus as a living laboratory, we will create opportunities for deep learning around sustainability. As communities within larger communities, campuses serve as key partners in educating and compelling young people to act, while simultaneously training or retraining workforces to ensure sustainability and climate action become reality. The newly formed Northern Illinois Center for Community Sustainability (NICCS) epitomizes these ideals and will help amplify NIU’s commitment to sustainability and climate action across the northern Illinois region.

This plan charts an exciting and ambitious path for NIU to become an innovator and leader in sustainability. As a demonstration of our shared Huskie values and principles through action, we call on members of the NIU community to consider their individual and collective environmental, social, and economic impacts and invite them to embrace NIU’s future of sustainability. Only through our collaboration and collective action can we create a thriving, diverse, equitable, and resilient community. The health and wellbeing of our planet, the species we share it with, and future generations depend on our collective commitment to achieving a more sustainable future.

## Land Acknowledgement

The four locations of Northern Illinois University in DeKalb, Naperville, Rockford, and Oregon occupy the traditional homelands of Anishinaabe peoples—Niswi-mishkodewinan, also known as the Council of the Three Fires—comprised of the Potawatomi, Ojibwe, and Odawa. Other Indigenous peoples who call this land home include the Sac and Fox, Kickapoo, Peoria, Miami, and Sioux. NIU's occupation of this land is a result of ethnic cleansing and forced relocation of Native Americans in part through the Treaty of St. Louis (1804) and the Second Treaty of Prairie du Chien (1829). We acknowledge the presence and continued vitality of these and other Native communities in our state and Midwest region, as well as throughout the U.S. and Canada. Today, the sovereign Indigenous nations who were forcibly removed from Illinois are located in Iowa, Kansas, Oklahoma, Michigan, and Wisconsin, among other states. Moreover, one of the largest communities of Native Americans in the Midwest is in the Chicago area.

As an academic institution, Northern Illinois University has a responsibility to acknowledge and redress this colonial legacy. To that end, NIU will educate our students, staff, faculty, and visitors, as well as the surrounding community, about this history. Furthermore, as part of NIU's commitment to diversity, equity, and inclusion, we seek to build respectful and authentic relationships with Native students, faculty, staff and local and relocated Native communities by promoting student access and success, academic research and artistry and community outreach and engagement.

Sustainability is fundamental to the public good and is a core NIU value. While we cannot change the past, we commit to continued gratitude for the gifts of nature, along with ongoing respect, care, and stewardship of the land, each other, and future generations. For sustainable solutions to serve all communities, especially overburdened ones, it is critical that diverse voices are represented in sustainability problem-solving. This plan is a living document that will continue to evolve to meet the needs of our campus community and its diverse members.

## Our Sustainability Vision, Mission, and Values

### Vision

Serve as a regional and national living model for sustainability.

### Mission

Align research, artistry, teaching, and outreach with campus operations in service of environmental, economic, and social responsibility to people and the planet by

* Training an educated workforce that considers sustainability broadly
* Demonstrating our stewardship of resources, health, and well-being of our community
* Building regional partnerships to solve big environmental challenges

### Values

#### Curiosity and creativity

* We instill the knowledge and values of sustainability into our entire community
* We are open to continuous education on the principles and possibilities of sustainability and are willing to pursue innovative solutions
* We use our campus as a living laboratory for the NIU community to engage in learning about sustainability

#### Equity and inclusion

* We realize that sustainability must focus on interrelated environmental, societal, and economic issues and resources at both the local and global levels
* We use inclusive decision-making processes to develop and implement sustainability goals and initiatives

#### Ethics and integrity

* We understand that decisions throughout the university have sustainability implications, which must be considered and addressed
* We commit to transparent reporting of our sustainability goals, initiatives, and progress to the NIU community and beyond
* We help build an educated workforce trained to consider sustainability broadly

#### Service and stewardship

* We respect the planet's natural environment, embracing our interconnectedness with these ecosystems
* We commit to sharing our knowledge and experience in sustainability with the broader northern Illinois community

## Expected Impacts of Climate Change in Northern Illinois

Earth’s oceans and atmosphere are experiencing rapid changes due to ongoing greenhouse gas (GHG) emissions from human activities. These human-induced changes known as anthropogenic climate change have already caused widespread impacts, losses, and damages to nature and people beyond natural variability[[2]](#footnote-3). **Collective choices made by humanity in the coming decades will play a key role in the extent of warming (and its affiliated effects and impacts) that occur during the rest of the 21st century and beyond**.

Anthropogenic climate change is expected to cause increasing frequency and intensity of extreme weather events in the coming decades. Increased warming near Earth’s surface increases Earth’s ability to contain water vapor. This plays a key role in nearly all of the meteorological and climatological phenomena that impact NIU, DeKalb, and all of Northern Illinois. These include rainfall and temperature extremes, severe thunderstorms, winter weather hazards, and air quality concerns. The magnitude, frequency, and year-to-year variability of all hazards associated with these phenomena are expected to change through the end of the 21st century[[3]](#footnote-4).

The magnitude and frequency of excessive rainfall and flooding events are projected to increase through the end of the 21st century throughout the midwestern United States, regardless of season. While future droughts are likely to be less severe on average, yearly precipitation increases are expected to be concentrated in future winter/spring months, meaning some future warm seasons are expected to be drier. Severe thunderstorms and their associated hazards (tornadoes, hail, damaging winds, flash flooding, and lightning) are likely to become more frequent and intense across the Midwest throughout the end of the 21st century, with a projected net increase in the number of days each year where environments supporting severe storms are present. The average frequency and duration of heatwaves and elevated apparent temperatures in the warm season is expected to increase through the end of the 21st century. Although warmer average temperatures during the cool season are expected through the end of the century, extreme cold events and snowstorms will still be possible, and the frequency of ice storm events is expected to increase during cool season months. Additionally, through continued pollution due to human activity and increased allergen production by plants (due to higher average CO2 concentrations, higher annual precipitation amounts, and warmer temperatures), poor air quality is an ongoing concern[[4]](#footnote-5).

Many potential impacts from these hazards exist for NIU and the surrounding communities. Short-term public safety concerns are possible for any of these hazards. Both human infrastructure (such as the drinking water supply and other public utilities like electricity and communications systems, transportation systems and supply chains, and buildings or other physical structures) and natural ecosystems are vulnerable to short term dangers and the longer-term accruing effects from these hazards. While our infrastructure and natural ecosystems may be resilient enough to withstand substantial disruptions from individual events from any of the hazards discussed above, the cumulative impacts of these hazards over the course of many decades can enhance the potential for damage and degradation to both systems. Additionally, as human development and urban sprawl continues, the exposure of human infrastructure to potential weather and climate perils continues to increase. When considering these societal changes, along with changes to the physical environment due to climate change, the probability of major impacts from weather and climate hazards is compounded even further.

Climate change is a *threat amplifier*, meaning that more vulnerable populations are harder hit by the impacts of climate change and have a lesser capacity to recover. For example, across the United States, people of color and low-income earners are more susceptible to extreme heat because they are more likely to live in communities with fewer green spaces, less likely to have access to air conditioning or reliable transportation to cooling centers, and more likely to have asthma. Similarly, students are a vulnerable group because they often lack the financial resources and/or community support to respond to climate stressors. Consideration must be made for how to best assist and advocate for our students as we plan for climate adaptation[[5]](#footnote-6).

### Summary of expected Climate Change Impacts on Northern Illinois

|  |  |  |
| --- | --- | --- |
| **Phenomena** | **Expected Changes** | **Impacts And Vulnerabilities** |
| Rainfall | Increasing magnitude/frequency of excessive rainfall and flooding events (all seasons) | * Stress on aging urban drainage systems, sewage overflows * Contaminated drinking water supplies * Public Health Risks * Declines in agricultural yields |
| Drought | Decreasing magnitude/frequency, but these events are still possible (especially in late summer) | * Declines in agricultural yields * Stress on water resources * Large economic costs |
| Warm Season Temperature Extremes | Increasing magnitude/frequency of heat waves and elevated apparent temperatures | * Increases in mosquito and tick-borne diseases (e.g. Lyme) * More frequent heat related illnesses * Stress on built infrastructure |
| Severe Thunderstorms | Increasing magnitude/frequency of severe storm hazards (tornadoes, hail, damaging winds, flash flooding, lightning) | * Public safety considerations * Potential infrastructure damage |
| Winter Weather | Decreasing magnitude/frequency of extreme cold and snowstorms, but these events are still possible in cold season  Increasing frequency of ice storms | * Public safety considerations * Transportation related impacts * Stress on built infrastructure |
| Air Quality | Increasing magnitude/frequency of days with poor air quality | * Respiratory issues (e.g. asthma) |

## Greenhouse Gas Inventory and Climate Commitment

Greenhouse gas inventories quantify annual emissions and serve as a baseline for measuring future reduction efforts. NIU most recently conducted greenhouse gas inventories in the calendar years 2019 and 2020. These years represent the most recent years with the most complete data available; 2019 represents a year with ‘normal’ operations and 2020 represents a point of comparison for emissions under reduced operations due to the COVID-19 pandemic. The inventory calculations used ICLEI’s ClearPath tool.

In both 2019 and 2020, purchased energy (electricity and natural gas) and transportation related to commuting contributed the greatest carbon emissions. Unsurprisingly, commuting contributed significantly fewer emissions in 2020 compared to 2019 due to the pandemic. Emissions from buildings (electricity and natural gas) fell relatively little in 2020, despite the significant reductions in campus operations. The 2019 and 2020 inventories now serve as a baseline from which NIU can engage in climate action planning to significantly reduce total emissions in the near future.

### Emissions by Sector in 2019

NIU emitted a total of 123,297 metric tons of CO2e in 2019. Energy consumption produced the greatest emissions, followed by transportation.

|  |  |  |
| --- | --- | --- |
| Emissions by Sector | | |
| Sector | CO2e Emissions in Metric Tons | Percent Contribution to Inventory Total |
| Energy | 80,671 | 65.4% |
| Transportation | 37,834 | 30.7% |
| Solid Waste | 4,326 | 3.5% |
| Water and Wastewater | 464 | 0.4% |
| Total | 123,297 | 100 |

### Emissions by Sector in 2020

NIU emitted a total of 86,585 metric tons of CO2e in 2020. NIU emitted a total of 123,297 metric tons of CO2e in 2019. Energy consumption produced the greatest emissions, followed by transportation. Transportation related emissions significantly decreased in 2020 due to the impacts of the COVID-19 pandemic, and related reductions in fleet vehicle usage and commuting to campus.

|  |  |  |
| --- | --- | --- |
| Emissions by Sector | | |
| Sector | CO2e Emissions in Metric Tons | Percent Contribution to Inventory Total |
| Energy | 72,267 | 83.5% |
| Transportation | 10,103 | 11.7% |
| Solid Waste | 3,751 | 4.3% |
| Water and Wastewater | 464 | 0.5% |
| Total | 86,585 | 100 |

The complete greenhouse gas inventory report is available on the NIU Campus Sustainability [website.](https://www.niu.edu/sustainability/index.shtml)

In 2022, NIU became a signatory to the Second Nature President’s Climate Leadership Carbon Commitment, which focuses on reducing greenhouse gas emissions and achieving carbon neutrality as soon as possible. NIU committed to achieving carbon neutrality by 2050 or earlier, aligned with the recommendations of the Intergovernmental Panel on Climate Change (IPCC). This Sustainability and Climate Action Plan provides recommendations and preliminary steps on NIU’s path towards net zero in fulfillment of this commitment.

## Summary of Recommended Goals and Actions

|  |  |  |
| --- | --- | --- |
| 1. **Building Decarbonization** | | |
| **#** | **Goal** | **Action(s)** |
| 01-1 | Develop a building automation system master plan | 1. Determine funding mechanism for working with consulting company |
| 1. Hire a consulting firm to prepare the master plan |
| 01-2 | Develop and implement a facilities plan for building, equipment, and infrastructure upgrades | 1. Determine funding mechanism for working with consulting company |
| 1. Develop project scope and RFP (Request for Proposals) |
| 1. Integrate recommendations from building decarbonization plan into Facilities long term strategic planning processes |
| 1. Implement building, equipment, and infrastructure upgrades that will result in significant emissions reductions (50%) by FY 2030 |
| 01-3 | Implement energy management and submetering plan and program | 1. Implement a submetering pilot program and energy management system |
| 1. Develop the energy management plan and submetering plan using a consultant |
| 1. Incorporate the energy management and submetering plan |
| 1. Expand campus submetering to cover all buildings |
| 1. Use collected data to baseline building performance |
| 1. Develop energy efficiency upgrade plans using the collected data in conjunction with other initiatives |
| 1. **Transition to Renewable Energy** | | |
| **#** | **Goal** | **Action(s)** |
| 02-1 | Develop an NIU renewable energy strategic plan to achieve carbon neutrality energy consumption by 2040 | 1. Using the recently awarded grant, engage Coho Renewables Consulting to evaluate the broad range of choices facing NIU in renewable options and strategies |
| 1. Hire a consulting firm to build off Coho’s finding to work with NIU to develop a realistic renewable energy strategy to achieve stated goals |
| 02-2 | Launch a renewable energy project of significant size and scale by the end of calendar year 2024 | 1. Leverage the Coho Renewables consulting service grant to identify the best-bet options for launching a visible renewable project for down selection and implementation |
| 1. **Transportation** | | |
| **#** | **Goal** | **Action(s)** |
| 03-1 | Develop a deeper understanding of the carbon footprint of transportation operations and commuter behavior at NIU | 1. Create a system that can efficiently store and hold greenhouse gas inventory data in an organized fashion that is easily accessible to all working on the project |
| 1. Conduct thorough commuter surveys, assessing commuter behavior for all members of the NIU community |
| 1. Conduct a thorough greenhouse gas inventory report for all transportation activity on campus |
| 03-2 | Take immediate, visible measures to reduce NIU’s carbon emissions within the next 3 years | 1. Replace a minimum of eight eligible fleet vehicles with hybrids or EVs within the first two years |
| 1. Introduce an electric truck into NIU’s fleet. |
| 1. Develop strategies for incentivizing usage for sustainable modes of transportation, (i.e., explore viability of commuter clubs for students modeled after peer universities; consider offering prime parking spaces for carpoolers) |
| 03-3 | Develop strategies for supporting long–term (3+ years) emission reduction goals in NIU’s transportation sector | 1. Appoint a multifunctional team to actively seek and pursue outside grants and other funding opportunities for large projects that will provide support for building infrastructure required for long-term emission reduction goals; this action serves as a formal acknowledgement that without designating a formal team for this activity, this grant pursuit activity will occur only haphazardly |
| 1. Quantitatively identify the highest impact actions that most efficiently align with making NIU carbon neutral by 2050 |
| 1. Empower a transportation taskforce that can adequately design realistic, achievable, long term reduction goals while actively working to fulfill current goals; due to the size share of emissions across the campus spectrum, some peer universities studied recommended similar action to ensure the best chance of successfully reducing overall university carbon footprint |
| 1. Continually evolve strategies for incentivizing use of sustainable modes of transportation (from 3-2 action C); new opportunities will emerge as technology evolves (e.g., new software applications, better EV technology, or new mass transit options) |
| 1. Proactively partner with the City of DeKalb to improve the Huskie Bus Line and other forms of public transportation |
| 03-4 | Develop programs to reduce NIU community vehicular reliance | 1. Investigate opportunities to develop and promote a ridesharing/carpooling culture within the community of NIU commuters (i.e., evaluate carpooling/ridesharing programs and policy options that reduce overall commuting burden and address commuting equity issues); include both insourcing and outsourcing program options |
| 1. Investigate micro-mobility opportunities and options for cross campus trips. In the recommended following steps: (1) Investigate the range of micro mobility modalities employed by peer universities in similar climates—see appendix (2); Create a survey to identify the demand and modality preference for micro mobility amongst members of the NIU community (3); Identify infrastructure needs and campus policies to prepare the campus for a safe micro mobility environment (investigate the efficacy of sidewalks and roads, and develop a plan to mitigate micro mobility transport risk (e.g., repaving roads and repairing sidewalks) (4); Introduce a revised, responsive, and multifaceted micro mobility program to campus |
| 1. Make sustainable commuting to NIU easier to navigate for students (i.e., increase bus route literacy and awareness by assessing the development of a personalized commuter routing program that gives instruction on how to effectively use public transportation in DeKalb) |
| 1. Partner with the City of DeKalb in a research study that ensures the Huskie Line operates in the most efficient and effective manner, meeting community needs |
| 1. Assess the desire for more Zipcar’s on campus |
| 1. Introduce a shuttle bus program that brings commuters from remote lots of campus to central campus |
| 03-5 | Investigate potential solutions for reducing emissions due to faculty and staff research/conference travel | 1. Develop a study based on peer institution models that enables a broad characterization of NIU work-related travel carbon footprint |
| 1. Explore policy and program options including carbon offset programs that align with NIU’s values |
| 1. **Climate Vulnerability and Adaptation** | | |
| **#** | **Goal** | **Action(s)** |
| 04-1 | Prioritize climate adaptation and resilience strategies in the university’s strategic planning process to increase the adaptive capacity of our campus community | 1. Complete a formal climate vulnerability and risk assessment (CVRA) |
| 1. Use the results of the CVRA to identify specific risks and adaptive measures that should be prioritized to build adaptive capacity and resilience for our campus |
| 1. Collaborate with campus stakeholders to develop a climate adaptation plan that is aligned with campus master planning framework |
| 04-2 | Publicly commit to pursuing climate adaptation and resilience | 1. Join the UNFCC’s to the [Race to Resilience](https://climatechampions.unfccc.int/race-to-resilience-launches/) challenge |
| 1. Become a signatory to the Second Nature Climate Resilience commitment |
| 1. **Food and Dining** | | |
| **#** | **Goal** | **Action(s)** |
| 05-1 | Identify means to improve current NIU food and beverage purchasing toward more sustainable options | 1. Meet with primary food distributor (Gordon Food Service - GFS) to identify alternative ingredient options that are accepted by the STARS (Sustainability Tracking, Assessment and Rating System) certified purchase program to replace NIU current purchases |
| 1. Explore alternatives for open orders under $100,000 in increase local purchasing options and items that will contribute to the STARS certification requirements |
| 1. Purchase food from Edible Campus to include in campus dining operations |
| 05-2  05-2 | Promote low-carbon footprint and/or plant-based meal options for NIU Food and Dining services | 1. Conduct an analysis of the existing NIU menu options to determine current cafeteria carbon emissions (Low Carbon Footprint = <25% of the daily carbon footprint) |
| 1. Administer a campus-wide survey to determine student decision-making, assess their understanding of environmental impacts, and assess their knowledge about the benefits of reducing carbon footprints, as it relates to food systems |
| 1. Review NIU Food and Dining budget to determine scope of alternative option funding |
| 1. Introduce low carbon footprint food options with educational labeling in campus dining halls; include hyperlocal Edible Campus-grown food |
| 1. Produce sustainability recommendations for all campus retail outlets (I.e., Qdoba, Starbucks, The Huskie Grill, Three Sons Bistro, The Depot C-Store, Einstein Bagels) |
| 05-3 | Divert pre-and post-consumer food waste from NIU campus dining services operations | 1. Conduct a feasibility study for composting and anaerobic digestion of NIU’s food waste; include types of units needed and placement of the units |
| 1. Pursue external funding for food grinders and/or composting biodigester units |
| 05-4 | Develop an effective food distribution system to decrease the total amount of food waste produced on campus | 1. Expand Huskie Harvest to include dining centers throughout campus |
| 1. Recover prepared food for donation in the neighboring community |
| 1. Donate non-edible food waste to local farms |
| 1. Review current food waste reduction processes (tray less dining, carry out, food presentation methods, etc.) to minimize food scraps generated by students |
| 1. Involve more students in the meal programs by enacting student taste testing, letting them vote on new menu items, organize cooking demonstrations, and educating them on meal requirements |
| 05-5 | Foster immersive sustainability themed experiences on the NIU campus | 1. Identify opportunities to use the Edible Campus program for on-campus immersive experiences for college and K-12 students |
| 1. Work with NIU study abroad to highlight any existing food and agricultural sustainability opportunities |
| 1. Investigate ways to incentivize the creation of food and/or sustainability themed NIU led study abroad programs |
| 1. Partner with other local campuses on existing food and sustainability themed programs (e.g., co-led study abroad programs) or offer NIU credit for SIT (School for International Training) programs |
| 05-6 | Increase NIU living laboratory spaces that relate to sustainable food systems | 1. Utilize the NIU Edible Campus including the Anderson Market Garden |
| 1. Create pollinator gardens near high-traffic areas on campus (e.g., MLK commons) |
| 1. Increase student exposure and involvement with the Huskie Food Pantry; educate students on food insecurity |
| 1. Connect food waste recycling to student organizations and/or academic courses |
| 1. Partner students directly with surrounding agricultural producers |
| 05-7 | Promote support for food system sustainability-based research | 1. Meet with relevant stakeholders to identify existing research programs |
| 1. Incentivize research in sustainable food systems with existing programs (e.g., IIN (Illinois Innovation Network) grants, undergraduate research opportunities, etc.) |
| 1. Facilitate collaborative, transdisciplinary research on campus |
| 1. Compile a database of sustainable food researchers and campus/community partners |
| 05-8 | Assess current NIU campus sustainability culture and provide suggestions to foster improvement | 1. Conduct interviews and online surveys with NIU community |
| 1. Evaluate NIU sustainability culture and make recommendations (e.g., changes in marketing, campus dining, student groups) |
| 1. **Grounds** | | |
| **#** | **Goal** | **Action(s)** |
| 06-1  06-1 | Adopt landscape management policies and strategies that minimize impact on the environment, integrating economic, social, and ecological considerations to meet human needs and maintain healthy ecosystems, while maintaining a high level of beauty, program space, and landscape vision | 1. Collect baseline data on current maintenance costs as they relate to ground management and information on the usage of resources like chemical and organic pest management strategies and water |
| 1. Determine the threshold of intervention that balances sustainable care and concerns of neglect |
| 1. Identify current plant and fungi management strategies and create explicit and detailed policies and protocols in the IPM (Integrated Pest Management) plan |
| 1. Implement organic, preventative and weed suppression strategies such as manual removal, weed barriers, and groundcover or canopy shade |
| 1. Reduce herbicide use through proper weed identification and targeting via non-toxic spot treatment as opposed to chemical broadcast treatment |
| 1. Conduct soil health assessments across campus, especially in high traffic areas, to determine best practices to promote and remediate soil and lawn health |
| 1. Re-configure pest management protocols and strategies in the IPM plan, from prevention to organic to low-toxic to high-toxic methods to encourage proper course of action |
| 1. Assess the effectiveness and sustainability of NIU’s pesticide contractor ‘Chemwise Ecological Pest Management’ in accordance with AASHE (Advancement of Sustainability in Higher Education) certification guidelines |
| 1. Phase out gas-powered equipment with rechargeable battery powered equipment |
| 1. Seek low or no energy alternatives for leaf management |
| 1. Install low or no energy rainwater catchment systems |
| 1. Create a sustainable landscape management manual detailing the sustainable policy measures and practices that NIU plans to employ and is employing, ensuring goals are upheld and sustainable practices and related information are centralized for everyone to access |
| 06-2  06-2 | Restore native habitat, rebuild degraded natural areas, and incorporate sustainable landscape designs that support biodiversity and promote ecological function to create mutual benefit between people and the environment | 1. Collect baseline data on current maintenance costs as they relate to ground management and information on the usage of resources like chemical and organic pest management strategies and water |
| 1. Identify the land use and utility of green spaces on campus, and where improvements in aesthetics and ecological function can be made using native vegetation to meet the needs and desires of both campus-goers and biodiversity |
| 1. Conduct an assessment on campus green space to determine where and how restoration should be applied to remediate degradation, improve biodiversity, and alleviate maintenance and conventional management duties |
| 1. Restore the North 40 to native prairie |
| 1. Restore shorelines of Watson Creek and the East Lagoon, creating a natural gradient of habitat through the planting of native vegetation, dredging, and shoreline grading and structural support |
| 1. Restore the undeveloped area northeast of the West Lagoon to native prairie |
| 1. Transform small, sloped, or other underutilized lawn areas (i.e., near walkways or buildings) into high-beauty, small-scale native restorations |
| 1. Increase the density of native trees on campus in unshaded, underutilized, and unused lawn spaces near parking lots, buildings, and recreational areas |
| 1. Create native vegetation stormwater buffers in high flood-prone areas and near impervious surfaces |
| 1. Transform underutilized and unused lawn and planting bed areas into edible gardens |
| 1. Partner with ecological restoration consultants to establish ecologically focused (as opposed to solely engineering related) restorations, provide contracted maintenance, and other services |
| 1. Hire a master naturalist and or restoration manager to oversee and maintain the restorations in addition to graduate assistants and student groups. Also see Goal 6-4 action item C |
| 1. Use traditional management regimes like fire to manage and maintain prairie restorations. See Goal 6-4 action item D |
| 1. Create a restoration maintenance plan that documents NIU-specific strategies and procedures to ensure the successful stewardship of restored areas |
| 06-3  06-3 | Proactively support an increase in biodiversity through restorative and native-habitat management, taking careful steps to identify and evaluate habitat and species on campus to promote and protect their success | 1. Provide food and habitat through restorations for multiple trophic levels of flora and fauna such as deer, birds, small mammals, plants, and insects. See Goal 6-2 action items B-N |
| 1. Create pollinator gardens near high-traffic areas on campus (e.g., MLK Commons) |
| 1. Conduct an assessment to identify the status of wildlife on campus, especially in the case of endangered and vulnerable species (including migratory species), as well as the status of habitats on campus using the Integrated Biodiversity Assessment Tool (IBAT) for Research & Conservation Planning, the U.S Information, Planning, and Conservation (IPaC) decision support system, or other standards |
| 1. Conduct an assessment to identify areas of current and potential importance for biodiversity and areas with sensitive habitat on campus |
| 1. Commit to Bee Campus USA by establishing a standing Bee Campus USA committee and adhering to the management requirement |
| 1. Pursue appropriate habitat certifications and maintain them by establishing a standing committee and adhering to the management requirements (e.g., Tree Campus USA) |
| 1. Develop a detailed action plan with objectives, actions, monitoring plans, and support measures based on habitat types and species/species groups, chosen based on both the current wildlife and the potential for biodiversity |
| 1. Prioritize the use of native plant and tree species in campus landscaping |
| 1. Mitigate the mortality of migratory birds from window collisions on campus by 1) turning off non-essential lights from 11 PM - 6 AM during local Lights Out migration alerts, 2) applying treatments to windows in problem areas to make them more visible to birds, and 3) ensuring that all renovation and new construction uses bird-friendly glass that is visible to birds |
| 06-4 | Increase NIU living laboratory spaces that relate to restoration and native habitat and promote the integration of restoration and native habitat-based research across disciplines | 1. Cluster hire faculty (and utilize existing faculty) who specialize in sustainability and ecology that will integrate prairie and restoration research into their courses and integrate research-based coursework to existing courses |
| 1. Facilitate collaborative, transdisciplinary research focused on campus restorations and native habitat, through integrating sustainability and ecology research into the foundation of courses for a wide variety of majors (e.g., economics, biology, sociology) |
| 1. Create graduate assistantships and form student groups to manage, maintain, and study the restorations and native habitat on campus |
| 1. Partner with a local organization or restoration company to provide prescribed burn management for the prairie restorations and instruct fire science courses to students |
| 06-5 | Establish campus committees for the oversight and student-led stewardship of restorations and other landscape management, as well as the concurrent formation of a university collective of students, staff, and faculty concerned with the upkeep of sustainability policies and action progress | 1. Commit to multiple community campus initiatives related to sustainability and biodiversity. Also see Goal 6-3 action items E and F |
| 1. See Goal 6-4 action item C |
| 1. Report on current sustainability committee composition and practices, office status, and/or officer position status |
| 06-6 | Provide educational opportunities, including transparency, for campus and visitors to explore how NIU practices sustainability and the associated benefits of implemented policies and management to people and the environment | 1. Create a sustainability website with centralized information to landscape management that provides transparent and educational information on campus restoration efforts, campus flora and fauna, sustainability initiatives, other data |
| 1. Create informative and educational interpretive displays or areas in the process of restoration, so the public is informed of changes |
| 1. Hold open forums to receive input from campus and community members on ecological decisions, design, and future planning for landscape management |
| 1. Create educational signage for restoration sites, Montgomery woods, and around campus where native habitat or vegetation reside to explain the societal benefits and ecological importance of native restorations and biodiversity |
| 1. Collaborate with students to create an “ecosystem walk” at restoration sites, Montgomery woods, and across campus to highlight different sights, ecosystem services, the functionality of living laboratories, and natural beauty; educate campus and visitors on the ecological benefits of restorations, remnant habitat, and native-designed spaces |
| 1. **Water** | | |
| **#** | **Goal** | **Action(s)** |
| 07-1 | Assess current water usage on campus | 1. Create a stakeholder map to identify and engage with relevant stakeholders on campus and beyond who can support its water conservation efforts |
| 1. Allocate human resources to focus on water conservation initiatives, including implementing water-saving strategies, tracking water usage, and raising awareness about the importance of water conservation on campus |
| 1. Centralize existing record and reporting system to streamline water data management to better track and monitor its water usage and identify opportunities for water conservation interventions |
| 1. Complete water audits to identify areas where water is being wasted and determine opportunities for reducing water consumption |
| 07-2 | Reduce water consumption on campus | 1. Conduct a water audit to identify plumbing fixtures, fittings, appliances, equipment, and systems that consume the most water, prioritizing replacements with WaterSense or Energy Star products |
| 1. Identify areas on campus where rainwater harvesting systems can be installed such as rooftops, parking lots, or green spaces. Design and build systems that collect rainwater and store it for later use in irrigation or other non-potable uses that the system is compliant with local regulations |
| 1. Identify areas on campus where natural wastewater treatment systems can be installed, such as near dormitories or athletic fields. Design and build systems that use plants, microbes, and natural processes to treat blackwater and graywater and recycle it into high-quality reclaimed water. Develop a plan for maintenance and ensure that the system is compliant with local regulations |
| 1. Create a living laboratory on campus that demonstrates sustainable water practices and engages students in learning and research opportunities related to water conservation. This can include installing water-efficient fixtures and appliances, rainwater harvesting, natural wastewater treatment systems, educational signage, and workshops. Monitor and evaluate the effectiveness of the living laboratory in promoting water conservation and engagement |
| 07-3 | Manage stormwater on campus | 1. Conduct stormwater modeling to assess the impacts of runoff and floodwater. This will help address infrastructure and development needs relating to water control, as well as inform stormwater policies and management plans |
| 1. Develop a stormwater management policy and plan, catering to the needs of runoff reduction and flood mitigation to prevent negative impacts of rainfall events to campus infrastructure |
| 1. Retrofit existing hardscapes and conform new development to adhere to low impact development (LID) standards. Integrating practices like permeable pavement, vegetation buffers, bioswales, etc. into new campus construction will reduce and manage stormwater runoff, thereby minimizing flooding and negative impacts on other facets of campus infrastructure |
| 1. Identify areas on campus where rainwater harvesting systems can be installed, such as rooftops, parking lots, or green spaces. Design and build systems that collect rainwater and store it for later use in irrigation or other non-potable uses. Develop a plan for maintenance and ensure that the system is compliant with local regulations. |
| 1. Create a living laboratory on campus that demonstrates sustainable stormwater practices and engages students in learning and research opportunities related to water conservation |
| 1. **Waste** | | |
| **#** | **Goal** | **Action(s)** |
| 08-1 | Conduct a comprehensive waste audit to determine types and percentages of waste streams generated on campus and calculate the maximum waste diversion possible for NIU | 1. Retain an outside contractor to conduct the waste audit |
| 08-2 | Achieve short term waste diversion rate of 40% mandated by 415 ILCS 20/3.1. Achieve long term waste diversion rate of 100% (zero waste) or the calculated maximum waste diversion rate | 1. Partner with university stakeholders and establish methods to reduce/reuse/recycle materials before they enter the landfill |
| 1. Develop a food waste recycling/composting program |
| 1. Develop a policy that bans or eliminates the on-site sakes and distribution of at least one type of disposal plastics (e.g., plastic bags and utensils) on campus |
| 1. Develop a construction and demolition waste management program |
| 1. Develop a purchasing program that advances sustainability and implements the NIU recycling policy |
| 1. Provide training and increase communication to educate students, faculty, and staff on waste diversion methods |
| 1. Develop educational strategies that enable the community to understand the University’s sustainability practices in relation to waste diversion |
| 1. Develop a plan to reduce waste from high-litter university events |
| 08-3 | Keep NIU food waste on campus to process through biodigestion to offset natural gas heating and compound carbon off-set benefits | 1. Explore options for community sized biodigesters to place on campus that will utilize food waste as an alternative to natural gas |
| 1. Incorporate community-restaurant partnerships by reducing garbage hauling fees |
| 08-4 | Establish a data collection system/training website to track the types and volumes of waste streams generated on campus | 1. Create a tracking system for all material streams and establish a centralized location for waste reduction data |
| 1. Create a centralized and comprehensive website link that clearly communicates recycling, composting, and waste disposal resources and locations across campus |
| 08-5 | Develop a Construction and Demolition Waste Management Plan for all NIU projects that identifies how C&D waste will be managed and tracked | 1. Partner with Architectural and Engineering, Grounds, Physical Plant, and the solid waste and recycling vendor to develop a comprehensive construction waste management plan |
| 08-6 | Establish a data collection system/training website to track the volume and location of construction and demolition waste generated on campus | a. Create a link or portal accessible to the public with current volumes and location of construction and demolition waste |
| 08-7 | Continue to develop and expand the online chemical inventory system (CEMS) database | 1. Continue to expand and update the CEMS database |
| 1. **Purchasing** | | |
| **#** | **Goal** | **Action(s)** |
| 09-1 | Develop institution-wide sustainable procurement policies that seek to support sustainable purchasing across multiple commodity categories | 1. Review sustainable procurement plans from other universities, particularly state of Illinois institutions and propose language for a sustainable procurement policy that is specific to NIU and aligns with our sustainability values and goals. We recommend the creation of an overall procurement policy and separate policies specific to the following categories of purchasing: chemicals and cleaning supplies, consumable office products, IT and equipment, transportation and fuels, and garments and linens |
| 1. Review proposed policies with stakeholder groups on campus. Work with policy librarian and policy approval process |
| 1. Develop monitoring and reporting system to assess compliance with sustainable purchasing policies |
| 09-2 | Develop a Life Cycle Cost Analysis (LCCA) procedure for evaluating energy and water using products, systems, and building components (e.g., HVAC systems) | 1. Review LCCA from other universities, particularly state of Illinois institutions and propose language for a LCCA policy that is specific to, and aligns with, NIU’s sustainability values, goals, and proposed sustainable procurement procedures |
| 1. Review proposed policies with stakeholder groups on campus. Work with policy librarian and policy approval process |
| 1. Develop monitoring and reporting system to assess compliance with LCCA policies |
| 1. **Academics** | | |
| **#** | **Goal** | **Action(s)** |
| 10-1  10-1 | A curriculum that is inclusive of sustainability and has substantial and meaningful focus opportunities for learning about sustainability | 1. Work with campus stakeholders to decide on a common definition of sustainability that is compatible with and complementary to AASHE, SDGs, and NIU Presidential Goals |
| 1. Work with colleges to translate how sustainability aligns with college mission, vision, and goals |
| 1. Conduct a comprehensive, university-wide assessment of the presence of sustainability in undergraduate and graduate courses and in degree, major, minor, or certificate programs where sustainability-inclusive and sustainability-focused courses are already offered |
| 1. Explore alternatives for ensuring general education that is at least inclusive of sustainability. Options may include a General Education course and/or attachment to one of the Knowledge Domains |
| 1. Explore having a common learning outcome for sustainability inclusion in one or more Knowledge Domains, or through another assessment mechanism |
| 1. Emphasize the importance of sustainability literacy across the student educational experience |
| 1. Based on gaps evident from the assessment in item c. in sustainability-focused work in upper-level undergraduate and graduate, provide university-level and cross-divisional human and other resources to meaningfully address these gaps |
| 10-2 | A sustainability curriculum that centers on collaborative, experiential, and adaptive lifelong learning | 1. Conduct a comprehensive, university-wide assessment of the presence of experiential learning across offerings for undergraduate, graduate, professional, continuing, and other learners |
| 1. Augment curricular, co-curricular, and extra-curricular offerings for undergraduate and graduate students that encourage hands-on, partner-supported, solutions-oriented, transdisciplinary learning |
| 1. Explore augmenting an existing program(s) to provide at least one immersive, sustainability-focused educational study program of at least one week in length, whether on-campus, off-campus, or overseas |
| 1. Reduce financial, administrative, and institutional barriers to collaborative teaching that brings together faculty across disciplines and across departments / colleges |
| 1. Credit departments and colleges for cross-listed courses and other collaborative offerings |
| 1. Explore innovative opportunities for developing offerings that bring different categories of learners together |
| 1. Foster the development of Living Learning Labs and Living Learning Communities and support the continuation of existing programs that have "living learning” elements |
| 1. Develop efficient, clear processes for academic programs to offer micro-credentials and similar curricular delivery innovations that deviate from the traditional fixed credit-hour model |
| 1. **Outreach and Engagement** | | |
| **#** | **Goal** | **Action(s)** |
| 11-1 | Develop a high-quality website dedicated to sustainability at NIU | 1. Develop a user-friendly, engaging website with a flexible design, that is responsive to new data and opportunities of engagement |
| 1. Commit to a decentralized platform that allows for robust engagement by multiple stakeholders across colleges and divisions (e.g., blog, opportunities for student involvement activities and experiential learning, research from NIU faculty on sustainability) |
| 1. Commit human resources dedicated to collecting and maintaining the evolving content of the website |
| 1. Ensure the website is consistent and fully compatible with the campus definition of sustainability as described in the Academic section (Goal 1, Action item b) |
| 11-2 | Determine and assess the level of sustainability within outreach and engagement programming | 1. Identify a group of faculty and staff from across the university to lead this process |
| 1. Develop a common language around sustainability which integrates environment, social and economic elements |
| 1. Develop a set of criteria for assessing the level of integrated sustainability for engagement and outreach activities utilizing an evidence-based decision-making approach |
| 1. Apply criteria to identify and assess the level of sustainability within programming and activities |
| 11-3 | Apply a sustainability lens that drives the design and redesign of outreach and engagement endeavors | 1. Embed sustainability within NIU’s vision, mission, and core values |
| 1. Set goals around the width and depth of sustainability embedded outreach and engagement endeavors |
| 1. Apply sustainability criteria to identify gaps across campus |
| 1. Utilize criteria developed in Goal 8-2 to support the infusion of sustainability in current and new outreach and engagement activities |
| 11-4 | Cultivate transdisciplinary collaborations on sustainability programming and engagements within and across colleges and divisions | 1. Identify and support current transdisciplinary collaborations |
| 1. Develop opportunities for faculty, staff, and students to collaborate and engage in cross-disciplinary sustainability |
| 1. Provide stipends for innovations in transdisciplinary engagement and activity development |
| 11-5 | Foster collaborations with public and private sector organizations, including local governments, non-profits, and corporations, to grow a regional sustainability community | 1. Conduct a stakeholder analysis to identify current and potential partners |
| 1. Use network analytical tools to determine NIU’s position in the stakeholder network and sub-network clusters |
| 1. Designate a physical space that is not under divisional control which promotes structured and organic collaborations among stakeholders |
| 1. Commit financial resources to support sustainability collaborations and innovations |
| 1. Ensure community engagement is credited and rewarded in personnel processes |
| 1. **Communications and Marketing** | | |
| **#** | **Goal** | **Action(s)** |
| 12-1 | Develop formal marketing and communication strategies for all campus sustainability initiatives | 1. Develop a formal plan with NIU Marketing and Communications to support the rollout of the sustainability and climate action plan (SCAP) by publicizing the plan recommendations and supporting opportunities for community feedback and audience engagement. During implementation of the plan, MarCom will further publicize efforts and assist in audience engagement strategies, which could include, announcements, emails, social media, NIU Today stories, press releases, website development and platform development for community feedback |
| 1. Collaborate with MarCom to develop formal communication strategies for all future campus sustainability initiatives |
| 12-2 | Develop a high-quality website dedicated to sustainability at NIU | 1. Develop a user-friendly, engaging website, with a flexible design, that is responsive to new data and opportunities of engagement |
| 1. Commit to a decentralized platform that allows for robust engagement by multiple stakeholders across colleges and divisions (e.g., blog, opportunities for student involvement activities and experiential learning, research from NIU faculty on sustainability) |
| 1. Commit human resources dedicated to collecting and maintaining the evolving content of the website |
| 1. Ensure the website is consistent and fully compatible with the campus definition of sustainability as described in the Academic section (Goal 1, Action item b) |
| 12-3 | Develop a sustainability dashboard to promote transparency around sustainability goals | 1. Determine the types of sustainability data that can be feasibly collected by NIU to be displayed on our sustainability dashboards |
| 1. Collaborate with the NIU Web Team to determine how to best display these types of data in an accessible and useful way |
| 1. Commit human resources dedicated to collecting and maintaining the evolving content of the sustainability dashboard, to later be housed on the campus sustainability website |

## Climate Mitigation and Adaptation

### 1. Building Decarbonization

#### Overview

Building energy consumption accounts for ~65% of total campus emissions, making building decarbonization critical to achieving the university's long-term sustainability goals. However, building decarbonization poses unique and difficult challenges that require multifaceted approaches to successfully overcome. The campus consists of a diverse mix of buildings of varying complexity requiring a range of decarbonization measures capable of addressing each unique case.

Peer institutions have begun developing approaches and implementing strategies to reduce building emissions. NIU should identify successful initiatives to adopt. The following recommendations provide a sample of these strategies and approaches.

#### Goal 01-1: Develop a building automation system master plan

* Rationale
  + Modern building automation systems (BAS) enable efficient building system operation and support sustainable initiatives. The existing, aging campus BAS lacks these capabilities. The scale, complexity, and cost of transitioning to a new BAS requires significant planning to mitigate risk and yield optimal results. The development of a BAS master plan will provide the necessary guidance to ensure proactive success.
* Action Items to Achieve this Goal

1. Determine funding mechanism for working with consulting company
2. Hire a consulting firm to prepare the master plan

* Measurement
  + Development of the BAS master plan.
* Timeframe
  + Year 1.
* Sources of Funding
  + Internal capital-improvement investment.

#### Goal 01-2: Develop and implement a facilities plan for building, equipment, and infrastructure upgrades

* Rationale
  + To ensure successful implementation of the necessary building decarbonization measures, the campus infrastructure and individual building systems, equipment, and components will need to be upgraded, replaced, overhauled, repaired, etc. The size, scale, and complexity of this effort requires significant planning and a systematic approach to ensure success. A facilities master plan focused on building, equipment, and infrastructure evaluation and upgrades will provide the necessary guidance.
* Action items to achieve this goal

1. Determine funding mechanism for working with consulting company
2. Develop project scope and RFP
3. Integrate recommendations from building decarbonization plan into Facilities long term strategic planning processes
4. Implement building, equipment, and infrastructure upgrades that will result in significant emissions reductions (50%) by FY 2030

* Measurement
  + Development of a detailed building by building decarbonization plan, tied to specific emissions reductions goals.
  + 50% reduction in building carbon emissions by FY30.
* Timeframe
  + Building-specific assessments and energy audits by end of FY24.
  + Development of campus-wide plan by end of 2024.
* Sources of Funding
  + Utility rebates.
  + Internal capital-improvement investment.

#### Goal 01-3: Implement energy management and submetering plan and program

* Rationale
  + Tracking of total campus utility usage is currently exclusively based on the information provided in the utility bills issued to the University. Consumption data listed within the bills is generated from meter readings which occur on an aggregate basis approximately once per month. The meters are located to either record usage of a single building or, as in many cases, several buildings at once. While this level of detail supports utility cost-recovery and simplified bill payments, it does not provide enough granularity for assessing the performance of individual buildings. Measuring utility use for individual buildings is a necessary step towards increasing resource efficiency through targeted improvements via data-driven decisions. Developing an effective energy and submetering plan would ensure successful implementation of both the energy management system and submetering across campus and what data to use and how.
* Action items to achieve this goal

1. Implement a submetering pilot program and energy management system
2. Develop the energy management plan and submetering plan using a consultant
3. Incorporate the energy management and submetering plan
4. Expand campus submetering to cover all buildings
5. Use collected data to baseline building performance
6. Develop energy efficiency upgrade plans using the collected data in conjunction with other initiatives

* Measurement
  + Complete implementation of the submetering pilot program and energy management system.
  + Number of submeters installed year after year (dependent upon funding).
  + Number of buildings baselined.
  + Development of energy efficiency upgrade plans in conjunction with other initiatives.
  + Submetered data is publicly available on the campus sustainability website via the energy dashboard.
* Timeframe
  + Implementation of submetering pilot program by end of FY24.
  + Development of energy management and submetering plan by end of FY24.
  + Incorporation of energy management and submetering plan by end of calendar year 2024.
  + Incorporate submeters on 10% of buildings per year starting FY25.
  + Display of sub metered data on campus sustainability starting in FY25.
* Sources of Funding
  + Utility reserves.
  + Potential meter charge included in utility chargebacks.
  + Internal capital-improvement investment.
  + External funding sources.

## 2. Transition to Renewable Energy

### Overview

The most impactful opportunity for NIU to reduce its carbon footprint is by converting to renewable energy where possible. This will make significant strides toward achieving decarbonization goals within the target time horizon. However, developing a realistic, actionable, and effective renewable energy strategic plan will require significant investment and cross-campus leadership collaborative engagement.

As evident by the diverse range of renewable energy strategies and discrete project deployments among peer institutions, a wide variety of potential options and opportunities exist for NIU. While many peer institutions lack a specifically articulated renewable strategy, nearly all highlight distinct renewable energy projects such as large-scale solar farms, wind applications, and/or geothermal initiatives. Many of these projects include an integrated experiential learning program for students or research opportunities for faculty. Solar deployments are by far the most favored among peers, but local context—including availability of land, physical environment features, and local legislative landscape—uniquely influences the choices institutions make, since the location drives the costs and relative benefits of different options and approaches. Settings rich in open spaces, like NIU’s campus and surrounding area, may benefit from installing solar farms, whereas urban locations lack the same scale of open space and must instead rely on smaller, rooftop arrays, or other creative approaches to reducing their energy-related carbon footprint.

Among the creative options that exist beyond the deployment of renewable energy projects, virtual power purchase agreements (VPPA) offer a potential alternative. VPPAs allow for investment in large solar projects in favorable out of state locations to offset reliance on fossil-fuel reliant energy consumption. In essence, it allows for purchasing renewable energy credits (RECs) that are designated solely for the buyer, which represent the investment the institution makes in renewable energy that is then generated on behalf of that institution. This indirect approach may prove less appealing for some institutions as it loses the visible impact of renewable energy projects located on or near campus. However, in some instances these VPPA can arguably have a bigger impact on reducing global carbon emissions by incentivizing the construction of renewable energy projects in regions where the electrical grid is highly dependent on carbon-intensive energy sources (e.g., coal) as compared to regions that use less carbon-intensive energy sources (e.g., hydroelectric and nuclear). Another creative approach involves grouping together multiple stakeholders to negotiate a better value for a wholesale PPA. Such an approach could be viable for NIU given the right conditions and partnerships.

With the range of renewable energy strategic choices facing NIU, soliciting expert guidance remains the surest path toward maximizing the potential carbon footprint reduction, while minimizing the costs and any associated risks. We recommend prioritizing this action, building on the results and findings of the work expected from the initial Coho Renewables Consulting grant award. Given the scope of NIU’s carbon emissions through energy consumption, achieving the goal of establishing and implementing a renewable energy strategic plan will have an outsized impact on NIU’s longer-term carbon footprint reduction when compared to other potential carbon reduction actions.

**Goal 02-1: Develop NIU renewable energy strategic plan to achieve carbon neutrality from energy consumption by 2040**

* Rationale
* Energy emissions represent ~65% of NIU’s overall carbon footprint. But identifying the most efficient and appropriate path to reducing those emissions will require developing an expert-informed, local context-driven, multifaceted strategic plan that accounts for the complexities of NIU’s unique environment and circumstances.
* Action items to achieve this goal

1. Using the recently awarded grant, engage Coho Renewables Consulting to evaluate the broad range of choices facing NIU in renewable options and strategies
2. Hire a consulting firm to build off Coho’s finding to work with NIU to develop a realistic renewable energy strategy to achieve stated goals

* Measurement
* Initially comparing emissions reductions relative to capital investment.
* Timeframe
* Year 1 – within the fiscal year.
* Sources of Funding
* Grant funding for initial Coho assessment; internal funding for consulting for renewables strategy development.

**Goal 02-2: Launch a renewable energy project of significant size and scale by the end of calendar year 2024**

* Rationale
* The current legislative environment, coupled with the increasing affordability of renewable energy projects like solar, allows the opportunity for NIU to make significant near-term progress toward its carbon reduction goals. However, conditions may change in the medium term, which could drive the costs of such initiatives higher.
* Action items to achieve this goal

1. Leverage the Coho Renewables consulting service grant to identify the best-bet options for launching a visible renewable project for down selection and implementation

* Measurement
* Project launch by the start of 2025.
* Timeframe
* End of calendar year 1.
* Sources of Funding
* External partnership.

## 3. Transportation

### Overview

While climate change is the result of multiple different human activities, transportation is among the greatest influences. Transportation alone is responsible for approximately 31% of NIU’s carbon emissions according to our greenhouse gas inventory report from 2019. Changes must be made to transportation operations at NIU if we want to effectively reduce our carbon footprint and play our part in mitigating climate change. NIU is known as a “commuter friendly” school in the traditional sense; many NIU commuters travel solo due in part to a limited array of alternative and sustainable commuting options. While developing broad sustainable transportation options requires support at the local, state, and federal government levels, many peer universities have successfully crafted strategies to make a positive and significant impact on their transportation-related carbon footprints. NIU can follow a similar path by addressing these four high impact areas: (1) NIU’s Vehicle fleet; (2) commuting to NIU; (3) on-campus transit; (4) research and conference travel. Institutional addressment of these four high impact areas can have a major reduction on NIU’s carbon footprint. Effective action can be taken through the following recommendations:

### Goal 03-1: Develop a deeper understanding of the carbon footprint of transportation operations and commuter behavior at NIU

* Rationale
  1. Obtaining more accurate baseline data is necessary for making more informed long-term recommendations. Furthermore, this data can serve as a benchmark for where we are in 2023 and the process can be repeated as needed to track progress.
* Action items to achieve this goal
  1. Create a system that can efficiently store and hold greenhouse gas inventory data in an organized fashion that is easily accessible to all working on the project
  2. Release thorough commuter surveys, assessing commuter behavior for all members of the NIU community
  3. Conduct a thorough greenhouse gas inventory report for all transportation activity on campus
* Measurement
  1. A comparison of our current greenhouse gas inventory report.
* Timeframe
  1. Year 1: Action item A, immediately.
  2. Year 1: Action item B, begin drafting process of surveys.
  3. Year 1: Action item C as soon as items A and B are complete.
* Sources of funding
  1. Internal.

### Goal 03-2: Take immediate, visible measures to reduce NIU’s carbon emissions within the next 3 years

* Rationale
  1. There are high-impact, high-visibility actions NIU can take immediately to reduce our carbon emissions. High-visibility actions demonstrate NIU’s commitment to sustainability.
* Action items to achieve this goal
  1. Replace eight eligible fleet vehicles with hybrids or EVs within the first two years
  2. Introduce an electric truck to the NIU fleet
  3. Develop strategies for incentivizing usage for sustainable modes of transportation, (i.e., explore viability of commuter clubs for students modeled after peer universities, and consider offering prime parking spaces for carpoolers)
* Measurement
  1. A comprehensive greenhouse gas inventory report can serve as a baseline for where we are now, and the process can be repeated in the future to track progress.
* Timeframe
  1. Year 1: Action item B.
  2. Year 1: Action item C.
  3. Years 1-2: Action item A, with beginning the purchase process immediately.
* Sources of funding
  1. Internal and external.

### Goal 03-3: Develop strategies for supporting long–term (3+ years) emission reduction goals in NIU’s transportation sector

* Rationale

1. The subcommittee recognizes the need for deliberate planning and resourcing for larger scale transportation emissions reduction to ensure we meet the IPCC’s goals. These actions will necessarily take multiple years to fully implement due to their complexity.

* Action items to achieve this goal
  1. Appoint a multifunctional team to actively seek and pursue outside grants and other funding opportunities for large projects that will provide support for building infrastructure required for long-term emission reduction goals. This action serves as a formal acknowledgement that without designating a formal team for this activity, this grant pursuit activity will occur only haphazardly
  2. Quantitatively identify the highest impact actions that most efficiently align with making NIU carbon neutral by 2050
  3. Empower a transportation taskforce that can adequately design realistic, achievable, long term reduction goals while actively working to fulfill current goals; due to the size share of emissions across the campus spectrum, some peer universities studied recommended similar action to ensure the best chance of successfully reducing overall university carbon footprint
  4. Continually evolve strategies for incentivizing use of sustainable modes of transportation (from 3-2 action C); new opportunities will emerge as technology evolves (e.g., new software applications, better EV technology, or new mass transit options)
  5. Proactively partner with the City of DeKalb to improve the Huskie Bus Line and other forms of public transportation
* Measurement
  + Review of future greenhouse gas inventory reports.
  + Assessing alignment with IPCC (Intergovernmental Panel on Climate Change) emission reduction recommendations.
* Timeframe
  + Year 1- Begin action items A-D now and continue indefinitely.
  + Year 2- Action item E (can happen before if the opportunity arises).
* Sources of funding
  + Internal.
  + Partnership.

### Goal 03-4: Develop programs to reduce NIU community vehicular reliance

* Rationale:
  + Reducing NIU’s overall vehicular demand to, from, and around campus over time will greatly reduce NIU emissions. However, this is a complex problem to solve that will require careful planning, and adequate resourcing to ensure equitable outcomes.
* Action items to achieve this goal
  1. Investigate opportunities to develop and promote a ridesharing/carpooling culture within the community of NIU commuters (i.e., evaluate carpooling/ridesharing programs and policy options that reduce overall commuting burden and address commuting equity issues); include both insourcing and outsourcing program options
  2. Investigate micro-mobility opportunities and options for cross campus trips. In the recommended following steps: (1) Investigate the range of micro mobility modalities employed by peer universities in similar climates—see appendix (2); Create a survey to identify the demand and modality preference for micro mobility amongst members of the NIU community (3); Identify infrastructure needs and campus policies to prepare the campus for a safe micro mobility environment (investigate the efficacy of sidewalks and roads, and develop a plan to mitigate micro mobility transport risk (e.g., repaving roads and repairing sidewalks) (4); Introduce a revised, responsive, and multifaceted micro mobility program to campus.
  3. Make sustainable commuting to NIU easier to navigate for students (i.e., increase bus route literacy and awareness by assessing the development of a personalized commuter routing program that gives instruction on how to effectively use public transportation in DeKalb)
  4. Partner with the City of DeKalb in a research study that ensures the Huskie Line operates in the most efficient and effective manner, meeting community needs
  5. Assess the desire for more Zipcar’s on campus
  6. Introduce a shuttle bus program that brings commuters from remote lots of campus to central campus
* Measurement
  + Parking data gathered by parking services (e.g., lot usage assessments, traffic assessments, etc.).
  + Assessment of total sustainable commute options available
  + Increased STARS ratings over time.
  + Bi-annual or annual commuter surveys.
* Timeframe
  + Year 1: Action items A, C, and G.
  + Year 1: Action item B: begin step 1 in year 1 and proceed with the following steps as appropriate.
  + Year 2: Action item D, and E.
  + Year 2: Investigate shuttle bus programs and launch pilot program after 3 years.
* Sources of funding:
  + Internal and external.
  + Federal and state grants.

### Goal 03-5: Investigate potential solutions for reducing emissions due to faculty and staff research/conference travel

* Rationale:
  + While the totality of emissions from faculty/staff travel has not been assessed, work-related travel likely produces a significant amount of NIU carbon emissions based on the findings of other similar institutions.
* Action items to achieve this goal:
  1. Develop a study based on peer institution models that enables a broad characterization of NIU work-related travel carbon footprint
  2. Explore policy and program options including carbon offset programs that align with NIU’s values
* Measurement
  + Assessment of discussions with third party carbon offset companies.
* Timeframe
  + Year 2: Action items A and B.
* Sources of funding
  + TBD.

## Appendix 3A. Relevant Stakeholders at NIU

NIU Vehicle Fleet:

* Transportation services
* Parking services
* Physical plant
* Heating plant

On Campus Transit:

* Transportation services
* Parking services

Commuting to NIU:

* Transportation services
* Parking services

## Appendix 3B. Examples from Peer Universities

|  |  |  |
| --- | --- | --- |
| **Peer University Exemplars** | **Details** | **University resources and links** |
| Micro Mobility Programs | **University of Wisconsin:**   * All UW students, employees, and affiliates are eligible for a reduced BCycle membership to access 300 electric bikes at 40+ stations throughout the city of Madison   **Bowling Green University:**   * Bike Rental Program: * Students must apply due to limited number of bikes in the fleet * Students either pay $39 per semester to use the system, or $69 per academic year   **Harvard University:**   * Park and pedal program   **University of Buffalo:**   * UB offers a bikeshare program which includes 50 university bikes * Bike users must sign up via the SoBi app * Students can then find bikes available on campus through GPS tracing on the app * Once a student finds a bike they want, they reserve it through the app, or scan the QR code on the bike * Once the student reaches their destination, they must lock the bike on the designated bike at their destination | [**Discounted BCycle membership**](https://transportation.wisc.edu/bicycling/bike-sharing/) **(UW)**  [Home - (redbikes.org)](http://redbikes.org/) (UW)  [Madison BCycle](https://madison.bcycle.com/home) (UW)  [BGSU Bike Rental](https://www.bgsu.edu/campus-sustainability/transportation/orange-bike-program.html)  [Park&Pedal | Making bike commuting accessible for all (parkandpedal.org)](https://www.parkandpedal.org/)  [UB Bikeshare powered by REDDY (bikeshareub.com)](http://bikeshareub.com/) |
| Car Share Programs  Zipcar Rationale for NIU: | **John-Hopkins University**   * “The biggest benefit is if I've got 30 Zipcars on campus, that’s probably somewhere between 400-500 cars that I don’t have to park.” - Greg Smith Director of Transportation Services at John-Hopkins University.   Rationale: Zipcar is popular amongst international students, relieves the pressure of wanting to have a personal vehicle on campus, cheaper option for students (especially those who do not have the means to own a personal vehicle—equitable). | [Zipcar for University Case Study | Johns Hopkins, Baltimore | Zipcar - Bing video](https://www.bing.com/videos/search?q=john+hopkins+university+zipcar+case+study&&view=detail&mid=34862EB93AE8C02346A434862EB93AE8C02346A4&&FORM=VRDGAR&ru=%2Fvideos%2Fsearch%3Fq%3Djohn%2Bhopkins%2Buniversity%2Bzipcar%2Bcase%2Bstudy%26qpvt%3Djohn%2Bhopkins%2Buniversity%2Bzipcar%2Bcase%2Bstudy%26FORM%3DVDRE)  More on Zipcar: [University Administrator | Zipcar](https://www.zipcar.com/universities/bring-zipcar) |
| Public Transportation | **Harvard University**   * Created a personalized commuter plan for students looking to use alternative modes of transportation to campus but do not know where to start   **University of Louisville**   * Maximizing effectiveness of bus line | [Commute Planning | Harvard Transportation & Parking](https://www.transportation.harvard.edu/commuterchoice/commute-planning)  [Transportation — UofL Sustainability (louisville.edu)](https://louisville.edu/sustainability/operations/transportation) |
| Shuttle Bus Programs | **University of Wisconsin**   * UW-Madison Accessible Circulator Shuttle: On call and pre-scheduled shuttle service free to all students, staff, and faculty   **Bowling Green State University**   * Six shuttle busses that run on propane, where users can track busses via app | [Accessible Circulator Shuttle – Transportation Services](https://transportation.wisc.edu/accessible-transportation-options/circulator-shuttle/)  – UW–Madison (wisc.edu)  [Shuttle Services (bgsu.edu)](https://www.bgsu.edu/parking-services/shuttle-services.html)  [shuttle tracker website](http://bgsu.transloc.com/) |
| Carpool Programs  Carpooling Rationale for NIU: | **University of Wisconsin**   * Comprehensive carpooling programming that offers benefits for users   **Sacramento State**   * Get access to prime carpool parking spaces, * Protect the environment and help reduce traffic congestion * Earn rewards through Sacramento Region Commuter Club   A sizable percentage of NIU commuter trips are single passenger trips, though many commuters likely originate in similar locations and travel similar routes at similar times. Shifting NIU culture from a single commuter culture to a carpooling commuter culture will have a dramatic impact on emissions and will save financially stressed students considerable amounts of money. Evaluating insourcing and outsourcing program options will provide the university with the greatest flexibility in determining the best ROI and least risk for the program. Carpooling is cheaper than commuting solo to campus, creating a more equitable option for students. | [Carpool – Transportation Services – UW–Madison (wisc.edu)](https://transportation.wisc.edu/carpool/#carpool-benefits)  [Carpooling | Sacramento State (csus.edu)](https://www.csus.edu/parking-transportation/alternative-transportation/carpooling.html) |
| Commuter Clubs | **University of North Carolina**   * Developed a Commuter Alternative Program that gives benefits to students, staff, and faculty who take the bus, walk, bike, or join a rideshare to campus * Prizes come from student ran and local businesses   **University of Illinois**   * “Convenient Commuter Program will incentivize staff and faculty members to leave personal vehicles off campus. Incentives through this program would only be offered to employees who relinquish their annual campus parking permits; as such, all participants will be required to obtain verification through the Parking Department” | [Commuter Alternative Program (CAP) (unc.edu)](https://move.unc.edu/cap/)  [CAP Prizes - Transportation & Parking (unc.edu)](https://move.unc.edu/cap/prizes/)  [CAP Benefits - Transportation and Parking (unc.edu)](https://move.unc.edu/cap/benefits/)  [Commuter Program: Bus, Bike and Hike! (illinois.edu)](https://fs.illinois.edu/News/commuter-program-bus-bike-and-hike/) |

## 4. Climate Vulnerability and Adaptation

### Overview

Climate change in Illinois will exacerbate existing social and economic inequalities, such as poverty and racial disparities. Already marginalized communities, such as low-income neighborhoods and communities of color, may be more vulnerable to climate change due to their limited access to resources and infrastructure. *Climate vulnerability* refers to the susceptibility of these communities to the negative impacts of climate change, such as extreme heat, heavy precipitation and flooding, severe and hazardous weather, extreme cold, and drought. It is also important to acknowledge that climate change poses direct and indirect threats to our physical and mental health, and overall well-being[[6]](#footnote-7).

Although mitigating carbon emissions is important, it is equally important for us to identify ways in which we can adjust and adapt to the impacts of climate change. *Climate adaptation* can take many forms, including changes to infrastructure and retrofitting buildings to withstand extreme weather events such as floods and heatwaves, changes in land use such as the restoration of native habitats, and developing and implementing policies that address the impacts of climate change on the human population. As a university, this means considering the ways that vulnerable groups, such as students, are most at risk due to climate change and creating programs and policies aimed at safeguarding and supporting those individuals, while also mitigating the associated risks and helping their adaptation. The long-term goal is to build the *resilience* of our campus, which refers to our community's ability to anticipate and effectively manage the impacts of climate change through good planning, solid governance structures, and investments in community resources and infrastructure.

### Goal 04-1: Prioritize climate adaptation and resilience strategies in the university’s strategic planning process to increase the adaptive capacity of our campus community

* Rationale
  + Adaptive measures are needed to protect our campus community from the costly future impacts of climate change in northern Illinois.
* Action items to achieve this goal.

1. Complete a formal climate vulnerability and risk assessment (CVRA)
2. Use the results of the CVRA to identify specific risks and adaptive measures that should be prioritized to build adaptive capacity and resilience for our campus
3. Collaborate with campus stakeholders to develop a climate adaptation plan that is aligned with campus master planning framework

* Measurement
* Completion of a climate vulnerability and risk assessment (CVRA).
* Development of a climate adaptation plan that will update the current campus climate action plan.
* Integration of climate adaptation goals into the campus strategic planning process.
* Timeframe
  + Year 1 CVRA, Years 2-3 for strategic planning.
* Sources of Funding
  + Internal funding for CVRA, internal and external for implementation of adaptative measures.

### Goal 04-2: Publicly commit to pursuing climate adaptation and resilience

* Rationale
  + Climate commitments publicly demonstrate commitment to actions and values related to climate change, guide decision-making processes, and show our support of this issue to our current and potential staff and students, alumni, community partners, and donors. Climate adaptation and resilience pledges specifically demonstrate a strong commitment to addressing social inequality and financial risk as part of climate action planning.
* Action items to achieve this goal

1. Join the UNFCC’s to the [Race to Resilience](https://climatechampions.unfccc.int/race-to-resilience-launches/) challenge
2. Become a signatory to the Second Nature Climate Resilience commitment

* Measurement
* Completion of a set of actions related to the Race to Resilience framework.
* Becoming a signatory to the Second Nature Climate Resilience commitment.
* Timeframe
  + Year 1 for the Race to Resilience, Years 3-5 for the Second Nature Climate Resilience commitment.
* Sources of Funding
  + Internal funding for CVRA, internal and external for implementation of adaptative measures.

### Climate Vulnerability and Risk Assessment (CVRA)

A CVRA (Climate Vulnerability Risk Assessment helps identify and evaluate the potential risks associated with climate change impacts on a particular system or community to inform the development of adaptation strategies. CVRAs are crucial in helping identify and prioritize high impact actions that can most effectively build community resilience.

The CRVA process involves three overarching steps:

1. Identify **climate-related hazards** that the community is exposed to now and will be exposed to in the future.
2. Assess potential impacts on individuals, communities, and community systems vulnerable to identified hazards.
3. Identify and define factors within the community that support or challenge local **capacity to adapt** to the impacts of climate change.

Step 1 will draw on the expertise of faculty and students in the NIU Meteorology program to identify local climate hazards, expanding on the predicted impacts of climate change section presented above. Steps 2 and 3 involve a series of workshops with relevant stakeholders at NIU to assess vulnerability of select community systems to the climate hazards, and the challenges to our adaptive capacity. These workshops will offer important opportunities for student engagement, both as participants in the workshop and to train NIU students to do CVRAs. The results of this CVRA will be important in helping the university identify areas of vulnerability and integrate climate adaptation and resilience planning into their strategic planning framework.

### Climate Resilience Commitments

Climate commitments are a powerful way to publicly demonstrate that NIU is prioritizing sustainability as an institution. As a signatory to Second Nature’s Carbon Commitment, we have already committed to mitigate carbon emissions by 2050 as a goal to reach carbon neutrality.

NIU could publicly demonstrate our commitment to building community resilience in the face of climate change by joining the Race to Resilience and Second Nature Climate Resilience Commitments. We recommend that NIU become signatories to both commitments within the next three years, following the completion of the CVRA process and development of a campus climate resilience plan.

#### Race to Resilience

The United Nation’s Framework Convention on Climate Change (UNFCC) created the Race to Resilience, a global ambition to climate resilience, which “puts people and nature first in the pursuit of a resilient world where we don’t just survive climate shocks and stresses but thrive in spite of them.” This is a companion challenge to the older Race to Zero challenge. Members of the Race to Resilience challenge pledge to help vulnerable groups and communities become more resilience in the phase of climate change before 2030, and to publicly share a clear plan to take action towards this commitment with interim targets and milestones. Organizations who do not wish to formally become members can still adopt the principles of the Race to Resilience in their planning process.

#### Second Nature Climate Resilience

The Second Nature Climate Resilience Commitment mirrors the UNFCC Race to Zero commitment. It acknowledges that successful campus resilience plans will be those that embrace iterative resilience assessment and planning processes. These plans will also incorporate diversity and inclusiveness throughout the process. Signatories to Second Nature’s Climate Resilience commitment agree to develop a Climate Action Plan focused on climate resilience and submit annual evaluations of progress.

## Campus Operations

### 5. Food and Dining

**Overview**

Given its proximity to both intensive agriculture and large metropolitan areas, NIU has significant opportunities to creatively adapt its food and dining and related programs to become more sustainable through regional partnerships, better practices, and student and community engagement.

### Campus Dining

Approximately 30% of NIU students on campus enroll in the campus dining program compared to a national average of 60%, possibly due to a significant number of commuter students. This low program enrollment limits the NIU food and dining budget and flexibility. There are four dining centers (Neptune – buffet style, Patterson – buffet style, Stevenson – food court style, and Gilbert - café style) and five food retail centers (Three Sons Bistro, Qdoba, Starbucks, Einstein Bagels, The Depot C-Store, and The Grill @ Huskie Den). The primary food distributor for NIU is Gordon Food Service. Given the challenges in budget flexibility and the complexity of the campus dining environments, the following represent potential steps for achieving more sustainable operations.

### Goal 05-1: Identify means to improve current NIU food and beverage purchasing toward more sustainable options

* Rationale
  + Introducing more sustainable food options in campus dining centers has potential to decrease the university carbon footprint, foster partnerships with local farmers, and educate students about food systems.
* Action items to achieve this goal

1. Meet with primary food distributor (Gordon Food Service - GFS) to identify alternative ingredient options that are accepted by the STARS certified purchase program to replace NIU current purchases
2. Explore alternatives for open orders under $100,000 to increase local purchasing options and identify items that will contribute to the STARS certification requirements
3. Purchase food from Edible Campus to include in campus dining operations

* Measurement
* Increased number of locally grown options served in campus dining.
* Increased organic, low carbon, sustainable foods served in campus dining.
* Notable change in sustainable purchasing (I.e., shift in budget).
* Timeline
* Meeting with GFS – Year 1.
* Purchase from edible campus—year 1 and onward.
* Shifts in purchasing – Years 2-4.
* Sources of Funding
* Traditional/current food and dining funding sources reallocated to match sustainable requests.

### Goal 05-2: Promote low-carbon footprint and/or plant-based meal options for NIU Food and Dining services

* Rationale
* Promoting (I.e., labeling, offering, engaging with) foods with low-carbon footprints, including but not limited to, plant-based options, can increase dietary diversity of students, increase environmental knowledge, and foster interest in food systems.
* Action items to achieve this goal

1. Conduct an analysis of the existing NIU menu options to determine current cafeteria carbon emissions (Low Carbon Footprint = <25% of the daily carbon footprint)
2. Administer a campus-wide survey to determine student decision-making, assess their understanding of environmental impacts, and assess their knowledge about the benefits of reducing carbon footprints, as it relates to food systems
3. Review NIU Food and Dining budget to determine scope of alternative option funding
4. Introduce low carbon footprint food options with educational labeling in campus dining halls; include hyperlocal Edible Campus-grown food
5. Produce sustainability recommendations for all campus retail outlets (I.e., Qdoba, Starbucks, The Huskie Grill, Three Sons Bistro, The Depot C-Store, Einstein Bagels)

* Measurement
* Completed cafeteria carbon emissions analysis.
* Complete and analyze survey.
* Identification of low-carbon food options by food and dining services.
* Increased number of low carbon food and number of labels on all food items.
* Development and administration of sustainable recommendation for each food retailer.
* Timeline
* Action items A, B, and C should be completed in year 1. Items D and E should be completed years 2-3.
* Sources of Funding
* Reallocation of current food and dining funds for new food options. Analyses and surveys may be conducted via internal commitments by faculty/staff and/or by a class (volunteer/research based).

### Food Waste

Landfilled food waste is one of the most significant anthropogenic sources of methane, a potent greenhouse gas, estimated to have caused between 8-10% of all greenhouse gas emissions from 2010-2016.[[7]](#footnote-8) Campus dining facilities at NIU generate approximately 700 lbs. of food waste per day (est. 267,015 lbs. annually). To avoid contributing to the landfill and improve campus dining sustainability practices, NIU should examine opportunities for food waste diversion and improved sustainability of our campus dining facilities. Two promising options exist for food waste diversion at NIU:

1. Food waste can be composted through a process of aerobic digestion to produce nutrient rich materials that can be used as a natural fertilizer by NIU Grounds or the Edible Campus project.
2. Food waste can be pulped and then sent to Kishwaukee Water Reclamation District, to be processed through anaerobic digestion, resulting in renewable natural gas for energy conversion.

### Goal 05-3: Divert pre-and post-consumer food waste from NIU campus dining services operations

* Rationale
* NIU’s food waste is currently landfilled, which has a financial and environmental cost. Diverting food waste from the landfill aligns with NIU’s decarbonization goals.
* Action items to achieve this goal

1. Conduct a feasibility study for composting and anaerobic digestion of NIU’s food waste; include types of units needed and placement of the units
2. Pursue external funding for food grinders and/or composting biodigester units.

* Measurement
* Installation of biodigester(s) or around campus (I.e., near dining centers, etc.) or food grinders in cafeteria.
* Reduction in the amount of food waste that is landfilled
* Reduction in greenhouse gas emissions related to food waste.
* Timeline
* Year 1: Feasibility study and applications for external funding
* Years 2-4: Installation of food waste biodigesters or anaerobic digestors.
* Sources of Funding
* External and internal.

### Goal 05-4: Develop an effective food distribution system to decrease the total amount of food waste produced on campus

* Rationale
  + In the hierarchy of food waste reduction, food recovery is a preferred approach since it conserves all the resources that went into growing, processing, transporting, preparing, and cooking food, as well as handling the waste.
* Action items to achieve this goal

1. Expand Huskie Harvest to include dining centers throughout campus
2. Recover prepared food for donation in the neighboring community
3. Donate non-edible food waste to local farms
4. Review current food waste reduction processes (tray less dining, carry out, food presentation methods, etc.) to minimize food scraps generated by students
5. Involve more students in the meal programs by enacting student taste testing, letting them vote on new menu items, organize cooking demonstrations, and educating them on meal requirements

* Measurement
* Increased total amount of food collected by Huskie Harvest.
* Demonstrated notable changes in food waste reduction processes.
* Enhanced and increased student involvement in meal programs.
* Increased collection of donated food from the DeKalb community.
* Timeline
* Action item A—Year 1.
* Action item B, C, D, and E—Year 2-4.
* Sources of Funding
* Reallocation of existing funds, external funding, and/or internal commitments.

### Academics, Outreach, and Engagement Related to Sustainable Food Systems

NIU offers an interdisciplinary emphasis on sustainable food systems (B.S. Environmental Studies), runs an “Edible Campus” project, utilizes a campus Greenhouse, and promotes an active food pantry (Huskie Food Pantry). *Food system(s)*refers to the complex networks that include all inputs and outputs associated with agricultural and food production and consumption. This concept provides a comprehensive framing through which to assess the social, economic, and environmental dimensions of sustainability. The following represent steps NIU can take to promote a more sustainable food system.

### Goal 05-5: Foster immersive sustainability themed experiences on the NIU campus

* Rationale
  + Immersive learning experiences will provide participants with new skills and a deeper appreciation for the importance of sustainability in food systems.
* Action items to achieve this goal

1. Identify opportunities to use the Edible Campus program for on-campus immersive experiences for college and K-12 students
2. Work with NIU study abroad to highlight any existing food and agricultural sustainability opportunities
3. Investigate ways to incentivize the creation of food and/or sustainability themed NIU led study abroad programs
4. Partner with other local campuses on existing food and sustainability themed programs (e.g., co-led study abroad programs) or offer NIU credit for SIT (School for International Training) programs

* Measurement
  + Creation of education modules, workshops, and/or classes utilizing Edible Campus.
  + Establish partnerships and programs with NIU study abroad programs.
  + Effectively communicate and partner with local (northern Illinois region) campuses to create collaborative experiences.
* Timeline
  + Edible Campus – Year 1; action items B, C, and D – Years 2-4.
* Sources of Funding
  + Internal commitment (time, energy) of staff, faculty, and/or students.

### Goal 05-6: Increase NIU living laboratory spaces that relate to sustainable food systems

* Rationale
  + Living laboratory spaces provide opportunities for applied learning, employability skills, problem-solving skills, real-world learning experiences for academics, and a redefined student experience. These projects often offer new levels of student retention and satisfaction for university leadership. When applied to concepts of food systems, projects like Edible Campus provide a unique experience for students, faculty, staff, and the community.
* Action items to achieve this goal

1. Utilize the NIU Edible Campus including the Anderson Market Garden
2. Create pollinator gardens near high-traffic areas on campus (e.g., MLK commons, etc.)
3. Increase student exposure and involvement with the Huskie Food Pantry; educate students on food insecurity
4. Connect food waste recycling to student organizations and/or academic courses
5. Partner students directly with surrounding agricultural producers

* Measurement
  + Utilize Edible Campus to host short educational courses, encourage existing academic courses to interact with Edible Campus in their curricular activities, and partner with the NIU Pick Museum.
  + Establish pollinator gardens.
  + Display an increased number of students volunteering, utilizing, and interacting with Huskie Pantry.
  + Increase the number of student organizations and academic courses focusing on food waste recycling (e.g., biodigestion, etc.).
  + Collaborate with agricultural producers.
* Timeline
  + Year 1: Action items A and B.
  + Year 2-3: Action items C, D, and E.
* Sources of Funding
  + Internal commitment (faculty, staff, students), NICCS, external funding.

### Goal 05-7: Promote support for food system sustainability-based research

* Rationale
  + More sustainability-based research on campus can promote student interest, recruitment, retention, employment, and success upon graduation (including the workforce and continued education). Collaboration between departments will enhance the quality and quantity of food system research.
* Action items to achieve this goal

1. Meet with relevant stakeholders to identify existing research programs
2. Incentivize research in sustainable food systems with existing programs (e.g., IIN (Illinois Innovation Network) grants, undergraduate research opportunities, etc.)
3. Facilitate collaborative, transdisciplinary research on campus
4. Compile a database of sustainable food researchers and campus/community partners

* Measurement
  + Identification and classification of existing research programs (ex. Creation of database, etc.).
  + Increased number of collaborative, transdisciplinary research projects related to sustainable food systems in existing programs.
* Timeline
  + Year 1: Creation of database.
  + Years 2-4: Increased research.
* Sources of Funding
  + Internal commitments (faculty, staff, students), NICCS, academic departments (ex. ESE, EAE, Anthropology, etc.).

### Goal 05-8: Assess current NIU campus sustainability culture related to food sustainability and provide suggestions to foster improvement

* Rationale
* If members of the NIU community embrace a sustainability culture, there can be enhanced understanding of concepts such as food systems, which lead to improved actions.
* Action items to achieve this goal

1. Conduct interviews and online surveys with NIU faculty, staff, and students (NIU community)
2. Evaluate areas of improvement in the current sustainability culture and make educated recommendations (e.g., changes in marketing, campus dining, student groups)

* Measurement
  + Completion of data collection (surveys, interviews).
  + Implementation of suggested improvements based on collected data.
* Timeline
  + Year 1: Data collection.
  + Years 2-4: Implementation.
* Sources of Funding
  + Internal commitments (time and energy), NICCS.

## 6. Grounds

### Overview

Management of NIU’s grounds can be transformed to adapt to and mitigate climate change effects, which will allow for a more sustainable future. Conventional landscape management has long favored chemical treatments, monoculture lawns and non-native vegetation, energy intensive strategies, and reactive stewardship as opposed to proactive stewardship. The resulting landscapes are heavily degraded and do not provide suitable habitats, or facilitate crucial ecosystem functions, essential to supporting biodiversity. NIU grounds, campus, and surrounding community can focus more on land stewardship and local ecology to create an environment more accepting to necessary sustainable change and less susceptible to degradation and low quality of life. To ensure a productive and progressive future, there is a necessity to sustainably manage landscapes. This necessity was echoed on a global level by the United Nations when they declared 2021-2030 the [Decade on Ecosystem Restoration](https://www.decadeonrestoration.org/) which aims to prevent, halt, and reverse the degradation of ecosystems to enhance people’s livelihoods, counteract climate change, and stop the collapse of biodiversity.

### Landscape Management

#### Goal 06-1: Adopt landscape management policies and strategies that minimize impact on the environment, integrating economic, social, and ecological considerations to meet human needs and maintain healthy ecosystems, while maintaining a high level of beauty, program space, and landscape vision

* Rationale
  + Comprehensive assessment of current management strategies and the state of campus grounds under these regimes will ensure grounds management and policies are effectively updated according to sustainable standards that support the environment and benefit NIU.
* Action items to achieve this goal

1. Collect baseline data on current maintenance costs as they relate to ground management and information on the usage of resources like chemical and organic pest management strategies and water
2. Determine the threshold of intervention that balances sustainable care and concerns of neglect
3. Identify current plant and fungi management strategies and create explicit and detailed policies and protocols in the IPM plan
4. Implement organic, preventative and weed suppression strategies such as manual removal, weed barriers, and groundcover or canopy shade
5. Reduce herbicide use through proper weed identification and targeting via non-toxic spot treatment as opposed to chemical broadcast treatment
6. Conduct soil health assessments across campus, especially in high traffic areas, to determine best practices to promote and remediate soil and lawn health
7. Re-configure pest management protocols and strategies in the IPM plan, from prevention to organic to low-toxic to high-toxic methods to encourage proper course of action
8. Assess the effectiveness and sustainability of NIU’s pesticide contractor ‘Chemwise Ecological Pest Management’ in accordance with AASHE (Advancement of Sustainability in Higher Education) certification guidelines
9. Phase out gas-powered equipment with rechargeable battery powered equipment
10. Seek low or no energy alternatives for leaf management
11. Install low or no energy rainwater catchment systems
12. Create a sustainable landscape management manual detailing the sustainable policy measures and practices that NIU plans to employ and is employing, ensuring goals are upheld and sustainable practices and related information are centralized for everyone to access

* Measurement
  + Collection of baseline data on maintenance costs for labor, services, and supplies before and after sustainability actions are implemented to provide cost comparison.
  + Breakdown of campus area managed conventionally, organically, or with IPM.
  + Documentation of pesticide contractor sustainability certifications.
* Timeframe
  + Year 1-2.
* Sources of Funding
  + Internal funding to support Grounds crew in combination with external funding through sustainability-focused foundations for new equipment costs.

### Restoration and Biodiversity

#### Goal 06-2: Restore native habitat, rebuild degraded natural areas, and incorporate sustainable landscape designs that support biodiversity and promote ecological function to create mutual benefit between people and the environment

* Rationale
  + Restoring underutilized, open lawn spaces and degraded areas into native habitat supports a biodiverse and ecologically functional environment, one that NIU does not currently have using conventional landscaping. Allowing land to return to its naturally supportive and resilient state promotes crucial environmental processes and supports local plant and animal populations. The combination of stewardship and natural succession creates a mutualistic benefit between people and the environment that is otherwise unsupported in the current campus landscape.
* Action items to achieve this goal

1. Collect baseline data on current maintenance costs as they relate to ground management and information on the usage of resources like chemical and organic pest management strategies and water
2. Identify the land use and utility of green spaces on campus, and where improvements in aesthetics and ecological function can be made using native vegetation to meet the needs and desires of both campus-goers and biodiversity
3. Conduct an assessment of campus green space to determine where and how restoration should be applied to remediate degradation, improve biodiversity, and alleviate maintenance and conventional management duties
4. Restore the North 40 to native prairie
5. Restore shorelines of Watson Creek and the East Lagoon, creating a natural gradient of habitat through the planting of native vegetation, dredging, and shoreline grading and structural support
6. Restore the undeveloped area northeast of the West Lagoon to native prairie.
7. Transform small, sloped, or other underutilized lawn areas (i.e., near walkways or buildings) into high-beauty, small-scale native restorations
8. Increase the density of native trees on campus in unshaded, underutilized, and unused lawn spaces near parking lots, buildings, and recreational areas.
9. Create native vegetation stormwater buffers in high flood-prone areas and near impervious surfaces
10. Transform underutilized and unused lawn and planting bed areas into edible gardens
11. Partner with ecological restoration consultants to establish ecologically focused (as opposed to solely engineering related) restorations, provide contracted maintenance, and other services
12. Hire a master naturalist and or restoration manager to oversee and maintain the restorations in addition to graduate assistants and student groups. Also see Goal 7-4 action item C
13. Use traditional management regimes like fire to manage and maintain prairie restorations. See Goal 7-4 action item D
14. Create a restoration maintenance plan that documents NIU-specific strategies and procedures to ensure the successful stewardship of restored areas

* Measurement
* Breakdown of utilization of campus area to restoration and native habitat versus conventional management.
* Assessment of restoration progress by managing groups.
* Collection of baseline data on maintenance costs for labor, services, and supplies before and after restoration are implemented to provide cost comparison.
* Number of dollars budgeted and expended to support collaboration, education, research, and innovation.
* Presence of community engagement in evaluation protocols.
* Assessment of risk mitigation for stormwater control.
  + Survey-based perceptions of accessibility and usefulness of campus spaces across stakeholders and community members.
  + Usage of space including number of individuals and organizations.
* Timeframe
  + Year 1-3.
* Sources of Funding
  + Partner with NIU Foundations and gain funding through grants from restoration and biodiversity supporting organizations like the National Science Foundation and ComEd Open Lands. Internal funding to support the Grounds crew, new management hires, and graduate assistants responsible for maintenance.

#### Goal 06-3: Proactively support an increase in biodiversity through restorative and native-habitat management, taking careful steps to identify and evaluate habitat and species on campus to promote and protect their success

* Rationale
  + The support and protection of floral and faunal species, including endangered, vulnerable, and migratory species, ensures that restorations on the campus landscape are meeting objectives critical to species and habitat success.
* Action items to achieve this goal

1. Provide food and habitat through restorations for multiple trophic levels of flora and fauna such as deer, birds, small mammals, plants, and insects. See Goal 7-2 action items B-M.
2. Create pollinator gardens near high-traffic areas on campus (e.g., MLK Commons)
3. Conduct an assessment to identify the status of wildlife on campus, especially in the case of endangered and vulnerable species (including migratory species), as well as the status of habitats on campus using the Integrated Biodiversity Assessment Tool (IBAT) for Research & Conservation Planning, the U.S Information, Planning, and Conservation (IPaC) decision support system, or other standards
4. Conduct an assessment to identify areas of current and potential importance for biodiversity and areas with sensitive habitat on campus
5. Commit to Bee Campus USA by establishing a standing Bee Campus USA committee and adhering to the management requirements
6. Pursue appropriate habitat certifications and maintain them by establishing a standing committee and adhering to the management requirements (e.g., Tree Campus USA)
7. Develop a detailed action plan with objectives, actions, monitoring plans, and support measures based on habitat types and species/species groups, chosen based on both the current wildlife and the potential for biodiversity
8. Prioritze the use of native plant and tree species in campus landscaping
9. Mitigate the mortality of migratory birds from window collisions on campus by 1) turning off non-essential lights from 11 PM - 6 AM during local Lights Out migration alerts, 2) applying treatments to windows in problem areas to make them more visible to birds, and 3) ensuring that all renovation and new construction uses bird-friendly glass that is visible to birds

* Measurement
  + Reporting of campus committee operations and proof of management requirements to retain certification status.
  + Report on current sustainability committee composition and practices, office status, and/or officer position status.
  + Assessment of policy adoption success relative to increases in biodiversity and habitat through protective and restorative actions.
* Timeframe
  + Year 1 and post restoration establishment (Years 1-3).
* Sources of Funding
  + External funding through ecological consultants and or experienced and dedicated volunteer groups. Internal funding, if not volunteer based, to support development of action plans through the President’s sustainability committee.

### Education, Outreach, and Progress

#### Goal 06-4: Increase NIU living laboratory spaces that relate to restoration and native habitat and promote the integration of restoration and native habitat-based research across disciplines

* Rationale
  + NIU is a research institution with restricted on campus research opportunities; these new opportunities will build a sense of community and open interdisciplinary research avenues for a variety of majors who do not traditionally work in the fields of sustainability and the environment.
* Action items to achieve this goal

1. Cluster hire faculty (and utilize existing faculty) who specialize in sustainability and ecology that will integrate prairie and restoration research into their courses and integrate research-based coursework to existing courses
2. Facilitate collaborative, transdisciplinary research focused on campus restorations and native habitat, through integrating sustainability and ecology research into the foundation of courses for a wide variety of majors (e.g., economics, biology, sociology)
3. Create graduate assistantships and form student groups to manage, maintain, and study the restorations and native habitat on campus
4. Partner with a local organization or restoration company to provide prescribed burn management for the prairie restorations and instruct fire science courses to students

Measurement

* Number of dollars budgeted and expended to support collaboration, education, research, and innovation.
  + Usage of space including number of individuals and organizations.
  + Tally of faculty integrating campus-based restoration and native habitat research into courses and engaged in transdisciplinary collaborations.
  + A tally of graduate students and student groups dedicated to the stewardship of restorations and native habitat across campus.
  + Annual reporting of produced research and projects.
* Timeframe
  + Year 3 and beyond, as restorations are established.
* Sources of Funding
  + Internal funding to support new faculty hires and graduate assistantships. External funding for assistantships and other research through grants from restoration and biodiversity supporting organizations like the National Science Foundation.

#### Goal 06-5: Establish campus committees for the oversight and student-led stewardship of restorations and other landscape management, as well as the concurrent formation of a university collective of students, staff, and faculty concerned with the upkeep of sustainability policies and action progress

* Rationale
* NIU does not currently have permanent committees devoted to campus sustainability. Ensuring that the development of current and future sustainability commitments, policies, and actions incorporate the voices of all members of the NIU community are upheld and maintained beyond final phases of execution is crucial to maintain campus sustainability goals and keep NIU accountable.
* Action items to achieve this goal

1. Commit to multiple community campus initiatives related to sustainability and biodiversity. Also see Goal 7-3 action items E and F
2. See Goal 7-4 action item C
3. Report on current sustainability committee composition and practices, office status, and/or officer position status

* Measurement
* Establishment of permanent committees related to campus sustainability, restoration, and landscape management.
* Timeframe
* Year 1-2.
* Sources of Funding
* Internal funding, if not volunteer based, to support members of the President’s sustainability committee.

#### Goal 06-6: Provide educational opportunities, including transparency, for campus and visitors to explore how NIU practices sustainability and the associated benefits of implemented policies and management to people and the environment

* Rationale
* Educating campus and the public will provide a level of appreciation and understanding of the sustainable developments going on around campus, thereby fostering new opportunities for learning opportunities and support for future sustainable decisions.
* Action items to achieve this goal

1. Create a sustainability website with centralized information to landscape management that provides transparent and educational information on campus restoration efforts, campus flora and fauna, sustainability initiatives, other data, and more
2. Create informative and educational signage for areas in the process of restoration, so the public is informed of changes
3. Hold open forums to receive input from campus and community members on ecological decisions, design, and future planning regarding landscape management
4. Post educational signage at restoration sites, Montgomery woods, and around campus where native habitat or vegetation reside to explain the ecological importance of native restorations and biodiversity and connect those benefits to people
5. Create an “ecosystem walk” at restoration sites, Montgomery woods, and across campus to take visitors along trails that highlight different sights, ecosystem services, the functionality of living laboratories, and natural beauty to provide an opportunity for the campus and visitors to understand the ecological benefits of restorations, remnant habitat, and native-designed spaces

* Measurement
* Survey of campus and community perception to sustainability actions, engagement, and information.
  + Usage of space including number of individuals and organizations.
  + Collect standard analytical data for website effectiveness (e.g., traffic, bounce rate, pages viewed, sessions duration, conversions, first time users, click through rates).
* Timeframe
* Year 2, 3, and beyond as restorations are established.
* Sources of Funding
* Internal funding to support NIU’s web development team and outreach, engagement, and marketing staff.

## Appendix 6A. Resources and Documents

* Prairie restoration resources from Nick Newman, KWRD.
  + North 40 and Bike Path Parcels.
    - Map showing the parcel property owners for the North 40 and bike path parcels.
  + 22-0509C, Kishwaukee WRD Native Area Maintenance, Revised 06.22.2022.
    - Sample 2-year contract they signed with ENCAP for overall management of their 8.5 acres.
  + Native Habitat Management Plan.
  + Seed Installation Invoice; Seed Mix Info.
    - Seeding quote from Soil and Water Conservation District, as well as digital copies of the Shooting Star seed mixes we used.
  + Native Plant ID Guide rev4.
    - Native plant ID guide and invasive plant ID guide.
  + KWRD Inspection Sheet.
    - Samples of the inspection sheets to help organize findings during field observations.
* 2015 Turf to Prairie Conversion.
  + Quote for prairie conversion of areas on the east side of campus.
* 23-0216B Lagoon Shoreline Restoration Extension.
  + Quote from ENCAP for lagoon shoreline restoration.
* 23-0411A, NIU Back 40 Native Landscape Conversion.
  + Quote from ENCAP for North 40 restoration broken up into three restorations.
* GroundsRelated\_USBWatershedPlan
  + NIU related information from the USB Kishwaukee River Watershed Improvement Plan (2020), pulled by Samantha Berk.
* MAC XC Championship Map; MAC XC Championship Map.info
  + Cross country course layout map at the North 40 and info pertaining to its use.
  + Also note that marching band also using a similar area; they use a football field size area near the parking lot to practice.
* Mowing reduction ideas from AVP Heckmann
  + Maps of areas to reduce mowing at.
* NIU-integrated-pest-management-plan
  + NIU’s IPM plan.
* North40FoundationJustification
  + Informed justification provided by Samantha Berk to present to NIU Foundation for reason to fund the North 40 restoration.
* Grounds\_PlanningNotes
  + Contains important notes about topics related to the grounds subcommittee.

## Appendix 6B. References and Proof of Concept

* The United Nations [Decade on Ecosystem Restoration](https://www.decadeonrestoration.org/)
* [University of St. Andrews](http://chrome-extension//efaidnbmnnnibpcajpcglclefindmkaj/https://icap.sustainability.illinois.edu/files/projectupdate/6215/Exemplary%20Biodiversity%20Plans_A%20Compilation%20With%20Notes.pdf)
  + “Divides its action plan into two groups: habitat types and species/species groups, which were chosen based on both the current wildlife and the potential for biodiversity. For each habitat and species/species group, there is a detailed action plan with objectives, actions, and plans for monitoring” ...includes “adjusting buildings, parking lots, and lighting”
* [Cornell University](https://sustainablecampus.cornell.edu/campus-initiatives/land-water/sustainable-landscapes-trail/biodiversity-natural-areas)
  + [Sustainable Landscape Trail](https://sustainablecampus.cornell.edu/campus-initiatives/land-water/sustainable-landscapes-trail) - Developed by the “Land Team” (a working group of the President’s Campus Sustainability Committee) this trail “highlights over a dozen sites on campus designed for maximum sustainability, ecosystem services, and natural beauty using our campus as a living laboratory. Sites on the trail provide an opportunity for the campus and visitors to understand the ecological benefits of designed spaces and explore sustainability in practice to inform our operations.”
  + Comprised of several sites with open spaces, natural areas, and unique landscapes. Sites include (1) animals and pest management, (2) bioswales and water, (3) sites using Cornell “CU Soil”, (4) innovative gardens, (5) green roofs, (6) lawns.
* [Oklahoma State University](https://extension.okstate.edu/fact-sheets/biodiversity-and-ecosystem-management.html)
  + Informative biodiversity/ecosystem fact sheet
* [Carleton College](https://www.carleton.edu/sustainability/news/a-college-on-a-prairie/)
* Strives to use plants native to their region (prairie plants, southeastern MN), designates certain areas on campus high, medium, and low maintenance areas which are each maintained differently, utilizes permeable pavement to reduce storm water runoff, and investigates ways in which chemical usage can be reduced or altered on campus
* Eastern Washington University – [Prairie Restoration Project](https://www.ewu.edu/give/prairie/)
* Restored a 120-acre parcel of land owned by campus with the inclusion of local tribes (Spokane). Acts as a living laboratory that provides educational and recreational space while creating a model for boosting regional biodiversity
* Kansas University – [Prairie Acre](https://sustainability.ku.edu/prairie-acre-overview)
* An unplowed, native prairie remnant was established in 1932 on KU’s Lawrence campus. The site represents the local ecological heritage and is an important connection to the region's historic tall-grass prairie landscape. Used as a living laboratory.
* [Colorado State University](https://extension.colostate.edu/topic-areas/yard-garden/sustainable-landscaping-7-243/)
* “Sustainable landscaping should include an attractive environment that is in balance with the local climate and requires minimal resource inputs, such as fertilizer, pesticides, gasoline, time, and water...Begins with an appropriate design that includes functional, cost efficient, visually pleasing, environmentally friendly and maintainable area”
* Includes focusing on (1) Soils, composting and fertilizers, (2) Irrigation, (3) Hardscape selection, (4) Plant and turf selection, (5) Dealing with diverse sites - I.e., planting for shade, wind protection, slope, lighting, (6) Maintenance - I.e., reducing pest pressure, aerating lawns, pruning, mulching, etc.
* “Appropriate Design: As part of the design process, answer the following questions:
  + - How will the space be used?
    - What are the site conditions? Is there a need for renovation?
    - What is the timeline and what is the budget?
    - How much time will be needed to maintain the landscape?
    - What resource uses are too high?
    - Visually, what look is trying to be achieved?
* [Franklin and Marshall College](https://www.fandm.edu/sustainability/sustainability-master-plan/campus-landscape)
* Created three immediate and long-term goals with associated strategies (see website for strategies) to “re-establish connections between fragmented natural habitat where possible and also serves as a model for best practices in environmental management”
  + - “Goal 1: Create and adopt landscape management policies that minimize impact to the environment while maintaining the high level of beauty, program space and landscape vision outlined in the Landscape Master Plan”.
    - “Goal 2: Use the Arboretum as a tool for education and research while promoting best practices in landscape management.”
    - “Goal 3: Reduce the environmental impact of grounds maintenance.”
* [Seattle University](https://www.seattleu.edu/grounds/sustainable-landscape-management-practices/)
* Focus on three main aspects of grounds management; (1) organic practices, (2) water conservation, and (3) crime prevention through environmental design
* Includes a [sustainable landscape management manual](http://chrome-extension//efaidnbmnnnibpcajpcglclefindmkaj/https://www.seattleu.edu/media/grounds-landscaping-and-atheltic-fields/sustainable-grounds-management/SustainableLandscapeManagementOperations.pdf) that highlight 7 sections; (1) Foundations in sustainable and organic practices, (2) campus lawn care, (3) organic landscape maintenance, (4) trees, (5) significant gardens, (6) edible campus, (7) campus maps
* [UC San Diego](https://sustainability.ucsd.edu/focus/landscapes.html#Landscape-Management)
* Ensure successful landscape management planning though best practice in the following areas; (1) integrated pest management, (2) urban forestry, (3) irrigation management, and (4) storm water/erosion control

## 7. Water

### Overview

Commercial and institutional buildings consume a significant amount of municipally supplied water. The source is potable water since the primary concern is safety for personal consumption. The United Nations (UN) recognizes access to safe drinking water and sanitation as a fundamental human right. The UN Sustainable Development Goals (SDGs) prioritize ensuring access to sustainable water and sanitation for all, as highlighted in Goal 6.

Despite being one of the largest organizations in DeKalb, Illinois, NIU has not made significant efforts to increase overall water-use efficiency or decrease water withdrawals to achieve SDG target 6.4. Gray water sources can serve some campus needs without the emissions cost of purifying an original water source. Therefore, NIU has an essential role to play in reducing water withdrawals and achieving the STARS goals. To this end, NIU can implement the following practical recommendations to improve its sustainability efforts related to water use and conservation on campus.

### Goal 07-1: Assess current water usage on campus.

* Rationale

1. Engaging in water conservation initiatives and tracking progress towards water conservation goals is essential. Currently, there is no central reporting system for water consumption-related data on campus. Although each stakeholder might have their report or data, it is challenging to gather information across the campus. To assess the baseline and future intervention effectively, it is crucial to establish a central water reporting system at NIU. There is no detailed breakdown of water usage categories on campus. To assess the implementation of water conservation efforts, NIU needs to complete a water audit.

* Action items to achieve this goal

1. Create a stakeholder map to identify and engage with relevant stakeholders on campus and beyond who can support its water conservation efforts
2. Allocate human resources to focus on water conservation initiatives, including implementing water-saving strategies, tracking water usage, and raising awareness about the importance of water conservation on campus
3. Centralize existing record and reporting system to streamline water data management to better track and monitor its water usage and identify opportunities for water conservation interventions
4. Complete water audits to identify areas where water is being wasted and determine opportunities for reducing water consumption

* Measurement

1. Creation of a stakeholder map, including an organizational chart with contact information, to identify and engage with relevant stakeholders who can support NIU's water conservation efforts.
2. Allocation of human resources to the campus water conservation team, and several water-saving strategies have been developed and implemented.
3. Establishment of a centralized water information management system and documents such as policies, management plans, water usage and bills, and other water-related documents have been compiled from multiple stakeholders.
4. Completion of a comprehensive water audit to determine total water withdrawal, including potable and non-potable water usage.

* Timeline

1. Year 1, creation of stakeholder map and water audit
2. Years 2-4, development of water saving strategies and centralized reporting system

* Sources of Funding

1. Internal and External.

### Goal 07-2: Reduce water consumption on campus

* Rationale

1. Identifying areas where water is being wasted on campus and prioritizing replacements with water-efficient alternatives is crucial. NIU can reduce its water consumption, save money on water bills, and promote sustainability by developing a plan and budget for implementing replacements and tracking progress towards water conservation goals.

* Action items to achieve this goal

1. Conduct a water audit to identify plumbing fixtures, fittings, appliances, equipment, and systems that consume the most water, prioritizing replacements with WaterSense or Energy Star products
2. Identify areas on campus where rainwater harvesting systems can be installed such as rooftops, parking lots, or green spaces. Design and build systems that collect rainwater and store it for later use in irrigation or other non-potable uses that the system is compliant with local regulations
3. Identify areas on campus where natural wastewater treatment systems can be installed, such as near dormitories or athletic fields. Design and build systems that use plants, microbes, and natural processes to treat blackwater and graywater and recycle it into high-quality reclaimed water. Develop a plan for maintenance and ensure that the system is compliant with local regulations
4. Create a living laboratory on campus that demonstrates sustainable water practices and engages students in learning and research opportunities related to water conservation. This can include installing water-efficient fixtures and appliances, rainwater harvesting, natural wastewater treatment systems, educational signage, and workshops. Monitor and evaluate the effectiveness of the living laboratory in promoting water conservation and engagement

* Measurement

1. Completed audit of plumbing fixtures, fittings, appliances, equipment, and systems that consume the most water, and development of a plan to replace them with energy-efficient alternatives.
2. Implementation of multiple rainwater storage and irrigation system projects for later use in irrigation or other non-potable applications.
3. Creation of natural wastewater treatment systems for processing blackwater and greywater that can be recycled.
4. Engagement of students in field experiences, capstone projects, and other extracurricular activities related to water conservation.

* Timeline

1. Year 2: Action items A – D.
2. Year 3: Action items B – D.
3. Year 4: Action item D.

* Sources of Funding

1. Internal and external support

### Goal 07-3: Manage stormwater on campus

* Rationale

1. Identifying where and how rainfall events impact the campus is crucial. On average, DeKalb receives 37 inches (or 940 mm) of rain annually, which can be a source for non-potable water applications. By identifying areas on campus where rainwater harvesting systems and stormwater mitigation infrastructure can be installed, NIU can save money on water bills, reduce the strain on the municipal water supply, and promote sustainability.

* Action items to achieve this goal

1. Conduct stormwater modeling to assess the impacts of runoff and floodwater. This will help address infrastructure and development needs relating to water control, as well as inform stormwater policies and management plans
2. Develop a stormwater management policy and plan, catering to the needs of runoff reduction and flood mitigation to prevent negative impacts of rainfall events to campus infrastructure
3. Retrofit existing hardscapes and conform new development to adhere to low impact development (LID) standards. Integrating practices like permeable pavement, vegetation buffers, bioswales, etc. into new campus construction will reduce and manage stormwater runoff, thereby minimizing flooding and negative impacts on other facets of campus infrastructure
4. Identify areas on campus where rainwater harvesting systems can be installed, such as rooftops, parking lots, or green spaces. Design and build systems that collect rainwater and store it for later use in irrigation or other non-potable uses. Develop a plan for maintenance and ensure that the system is compliant with local regulations
5. Create a living laboratory on campus that demonstrates sustainable stormwater practices and engages students in learning and research opportunities related to water conservation

* Measurement
  + Completion of stormwater modeling assessment, and identification of infrastructure and development needs relating to stormwater control.
  + Design and construction of stormwater collection systems that can collect and store rainwater for later use in irrigation or other non-potable applications.
  + Completed assessments of volume reduction and redirection through mitigation efforts like LID practices and rain harvest.
  + Engagement of students in field experiences, capstone projects, and other extracurricular activities related to stormwater management.
* Timeline
* Year 2: Action items A – D.
* Year 3: Action items B – E.
* Year 4: Action item E.
* Sources of Funding
* Internal and external

## 8. Waste

### Waste Minimization and Diversion

#### Overview

The general waste disposal/recycling contract is managed by Building Services. The number and size of waste/recycling dumpsters at each building are based on volume of materials generated and space limitations. NIU does not process materials for recycling, utilizing a single stream system. Building residents source separate materials at the central collection units and Building Service Workers collect and deposit these materials into the recycling dumpsters provided by the waste/recycling vendor. Currently, NIU lacks a food waste program and a policy regarding the use of disposable plastic use in food courts on campus. Huskie Food Pantry could contribute to reducing food waste and improving food insecurity among students at the same time.

#### Goal 08-1: Conduct a comprehensive waste audit to determine types and percentages of waste streams generated on campus and calculate the maximum waste diversion possible for NIU

* Rationale
  + Need to quantify waste streams generated on campus to identify strategies for reduction/recycling/disposal of those waste streams.
* Action items to achieve this goal

1. Retain an outside contractor to conduct the waste audit

* Measurement
* Comprehensive waste audit report.
* Timeframe
* Year 1.
* Sources of Funding
* Reallocation of current funding in the Solid Waste and Recycling contract; NICCS.

#### Goal 08-2: Achieve short term waste diversion rate of 40% mandated by 415 ILCS 20/3.1. Achieve long term waste diversion rate of 100% (zero waste) or the calculated maximum waste diversion rate

* Rationale
* Waste diversion generates many environmental, financial, and social benefits, including conserving energy, reducing disposal costs, and reducing the burden on landfills and other waste disposal methods.
* Action items to achieve this goal

1. Partner with university stakeholders and establish methods to reduce/reuse/recycle materials before they enter the landfill
2. Develop a food waste recycling/composting program
3. Develop a policy that bans or eliminates the on-site sakes and distribution of at least one type of disposal plastics (e.g., plastic bags and utensils) on campus
4. Develop a construction and demolition waste management program
5. Develop a purchasing program that advances sustainability and implements the NIU recycling policy
6. Provide training and increase communication to educate students, faculty, and staff on waste diversion methods
7. Develop educational strategies that enable the community to understand the University’s sustainability practices and learn about its landscape
8. Develop a plan to reduce waste from high-litter university events

* Measurement
  + Notable increase in waste diversion rates.
* Timeframe
  + Year 1: Achieve 40% waste diversion rate; Year 2-5: Achieve max diversion rate.
* Sources of Funding
  + Reallocation of current funding in particular departments; NICCS.

#### Goal 08-3: Keep NIU food waste on campus to process through biodigestion to offset natural gas heating and compound carbon off-set benefits

* Rationale
* Currently, NIU is paying to have food waste shipped from campus to a landfill; however, if waste were kept on campus and used to create compost or to offset natural gas heating, there could be a substantial number of carbon offset credits that are financially more valuable than the renewable natural gas itself. Diverting food waste from the landfill will also increase the overall waste diversion rate.
* Action items to achieve this goal
  1. Explore options for community sized biodigesters to place on campus that will utilize food waste as an alternative to natural gas
  2. Incorporate community restaurant partnerships by reducing garbage hauling fees
* Measurement
* Procurement of biodigester(s) around campus (I.e., near dining centers, etc.).
* Acceptance and use of livestock manure from surrounding locations.
* Partnership with community restaurants and companies.
* Timeframe
  + Year 1-3
* Sources of Funding
  + NICCS.

#### Goal 08-4: Establish a data collection system/training website to track the types and volumes of waste streams generated on campus

* Rationale
  + Need to quantify waste streams generated on campus in order to identify strategies for reduction/recycling/disposal of those waste streams.
* Action items to achieve this goal

1. Create a tracking system for all material streams and establish a centralized location for waste reduction data.
2. Create a centralized and comprehensive website link that clearly communicates recycling, composting, and waste disposal resources and locations across campus

* Measurement
* Creation of website or link.
* Timeframe
  + Year 2-3 (all action items).
* Sources of Funding
  + Evaluate the current fee structure and identify sustainable sources of funding from all areas of the University.

## Construction and Demolition Waste

### Overview

#### Physical Plant Waste Management Plan

NIU does not have a construction and demolition (C&D) waste management plan for waste generated by the trades housed in the NIU Physical Plant.

#### Contractor Waste Management Plan

Contractor is to prepare and coordinate C&D waste management plan; provide labeled containers for receipt and disposal of recyclable materials; prepare and manage a monthly log of construction and demolition materials diverted from landfill and either reused on-site or sent to approved recycling facility.  The Waste Management Plan is to consist of waste identification (indicated in either weight or volume as applicable), a waste reduction work plan, and cost/revenue analysis. The plan is to include separate sections for C&D waste.  Refer to NIU Construction Standard 01 7419 Construction Waste Management for additional information and details.

### Goal 08-5: Develop a Construction and Demolition Waste Management Plan for all NIU projects that identifies how C&D waste will be managed and tracked

* Rationale.
  + Waste reduction and recycling practices also apply to construction and renovation activities. Construction waste management practices include deconstruction, reuse, salvage, recycling, and disposal. Diverting C&D waste from the landfill will increase NIU’s waste diversion rate and reduce disposal costs.
* Action items to achieve this goal.

1. Partner with Architectural and Engineering, Grounds, Physical Plant, and the solid waste and recycling vendor to develop a comprehensive construction waste management plan.

* Measurement
  + Written construction waste management plan on file with the Policy Librarian.
* Timeframe.
  + Year 1.
* Sources of Funding
  + Evaluate the current fee structure and identify sustainable sources of funding from all areas of the University.

### Goal 08-6: Establish a data collection system/training website to track the volume and location of construction and demolition waste generated on campus

* Rationale
* Increases efficiency of C&D waste tracking. Establishes communication with employees, students, and the general public to better understand the C&D waste management program.
* Action items to achieve this goal

1. Create a link or portal accessible to the public with current volumes and location of construction and demolition waste.

* Measurement
  + Link available on the NIU website.
* Timeframe
* Year 2-3.
* Sources of Funding
  + Incorporate the cost of maintenance and upkeep of the website into each project that will generate construction waste and debris.

## Hazardous Waste Management

### Overview

The disposal and recycling of hazardous and universal waste is managed by the Environmental Health and Safety Department.

#### Hazardous Waste

Northern Illinois University is classified as a Small Quantity Generator (SQG) by the EPA (Environmental Protection Agency). Hazardous waste is disposed of by a third-party hauler and transported off site approximately three times a year to a waste treatment facility where the waste may be reclaimed, recycled, chemically or physically treated, or destroyed by high temperature incineration.  Currently, this program bans material from entering landfills and from being shipped out of the United States.

On January 1, 2020, NIU began managing laboratory waste in accordance with Subpart K regulations.  Subpart K is an optional, alternative set of regulations that addresses the specific nature of hazardous waste generation and accumulation in laboratories at colleges and universities.

#### Universal Waste

NIU is classified as a SQG of universal waste.  The EPA’s universal waste regulations streamline hazardous waste management standards for federally designated “universal wastes,” which include batteries, spent fluorescent lamps, pesticides, certain mercury containing equipment and aerosol cans.  All universal waste is hazardous waste and would otherwise have to be managed under the same stringent standards as other hazardous wastes.

### Goal 08-7: Continue to develop and expand the online chemical inventory system (CEMS) database

* Rationale
* An accurate chemical inventory provides several utilities, including efficient ordering, locating reagents, deliberate disposal, effective emergency response, compliance with hazardous materials limits, effective hazard communication, and safer storage practices.
* Action items to achieve this goal

1. Continue to expand and update the CEMS database.

* Measurement
* Database expanded to include research labs and chemicals associated with those labs.
* Timeframe
* Year 1.
* Sources of Funding
* ORCIS (Office of Research Compliance, Integrity, and Safety).

## 9. Purchasing

### Overview

Sustainable procurement prioritizes purchasing only what is required to meet university demands, while prioritizing reuse of existing items wherever possible NIU’s sustainable procurement should involve leveraging the university’s purchasing power across three priorities: environmental (e.g., low carbon, zero waste), ethical (e.g., fair labor practices), and social (e.g., supporting minority owned businesses) (Appendix A). This can be aligned with internal goals and/or with external certifications.

### Goal 09-1: Develop institution-wide sustainable procurement policies that seek to support sustainable purchasing across multiple commodity categories

* Rationale
  + Much of an organization’s social and environmental impact lie in their supply chain, so focusing on sustainable procurement and choosing businesses that are working to address environmental, social, and economic challenges are some of the most powerful ways to reduce negative impacts.
* Action items to achieve this goal
  1. Review sustainable procurement plans from other universities, particularly state of Illinois institutions and propose language for a sustainable procurement policy that is specific to NIU and aligns with our sustainability values and goals. We recommend the creation of an overall procurement policy and separate policies specific to the following categories of purchasing: chemicals and cleaning supplies, consumable office products, IT and equipment, transportation and fuels, and garments and linens
  2. Review proposed policies with stakeholder groups on campus. Work with policy librarian and policy approval process
  3. Develop monitoring and reporting system to assess compliance with sustainable purchasing policies
* Measurement
  + Development of sustainable purchasing policies for NIU.
  + Compliance with sustainable purchasing policies, as measured by monitoring and reporting system that will be developed.
* Timeframe
  + Year 1, Draft of sustainable purchasing policies and assessment tools. Years 2-3 monitoring of purchasing behavior and modification of policies, as needed.
* Sources of Funding
  + Internal.

### Goal 09-2: Develop a Life Cycle Cost Analysis (LCCA) procedure for evaluating energy and water using products, systems, and building components (e.g., HVAC systems)

* Rationale
  + Life Cycle Cost Analysis is a method for assessing the total cost of ownership over the life cycle of a product or system (i.e., purchase, installation, operation, maintenance, and disposal). It is a useful metric for understanding the long-term sustainability of a purchase, and can help to inform more environmentally, socially, and fiscally responsible purchasing decisions.
* Action items to achieve this goal

1. Review LCCA from other universities, particularly state of Illinois institutions and propose language for a LCCA policy that is specific to, and aligns with, NIU’s sustainability values, goals, and proposed sustainable procurement procedures
2. Review proposed policies with stakeholder groups on campus. Work with policy librarian and policy approval process
3. Develop monitoring and reporting system to assess compliance with LCCA policies

* Measurement
  + Development of a Life Cycle Cost Analysis method for NIU.
  + Evidence that LCCA was used in purchasing decisions, as measured by monitoring and reporting system developed.
* Timeframe
  + Year 1, Draft of LCCA methods and assessment tools. Years 2-3 monitoring of purchasing behavior and modification of policies, as needed.
* Sources of Funding
  + Internal.

## Appendix 9A. Sustainability related external certifications.

|  |  |
| --- | --- |
| **Category** | **Sustainable Certifications** |
| Cleaning and Janitorial Products | * Blue Angel labeled (German Federal Environment Agency) * Cradle to Cradle Certified * ECOLOGO certified (UL Environment) * EU Ecolabel * Forest Stewardship Council (FSC) certified * Good Environmental Choice Australia (GECA) certified * Green Seal certified * Nordic Swan labeled (Nordic Ecolabelling Board) * U.S. EPA Safer Choice labeled * Other multi-criteria sustainability standards and ISO Type 1 ecolabels developed/administered by * Global Ecolabelling Network and/or ISEAL Alliance member organizations |
| Office Supplies | * [BioPreferred](http://www.biopreferred.gov/?SMSESSION=NO) * [Cradle to cradle certification](https://www.eandi.org/DisplayArticle.aspx?%20Article%20Type=Newss&ContentID=921) * [Electronic Product Assessment Tool (EPEAT)](http://www.epa.gov/epp/pubs/products/epeat.htm) * [Energy Star](http://www.energystar.gov/index.cfm?fuseaction=find_a_product) * [Forest Stewardship Council (FSC) Certified Paper](http://www.fscus.org/paper/) * [Green Building Standards](http://www.carpet-rug.org/Carpet-for-Business/Green-Building-and-The-Environment/NSF-ANSI-140-Standard.aspx) * [Green Seal Environmental Standards](http://www.greenseal.org/GreenBusiness/Standards.aspx) * [Water Sense](http://epa.gov/watersense/) |

## Appendix 9B. Example sustainable procurement policies from other institutions

* *University of Illinois Urbana-Champaign (UIUC)*
  + [*https://icap.sustainability.illinois.edu/project/sustainable-procurement*](https://icap.sustainability.illinois.edu/project/sustainable-procurement)
* Colorado State University Sustainable Purchasing Policy
  + <https://policylibrary.colostate.edu/policy.aspx?id=513>

## Appendix 9C. Cleaning and Janitorial Supplies

* ***Boston University***
  + Cleaning Supplies BU Custodial Services will continue to follow and improve upon the Boston University Sustainable Cleaning Program and use GreenSeal and EcoLogo certified green cleaning products. As part of this program, disinfectants should meet the EPA criteria and should also be compliant with the Toxics Use Reduction Institute’s list of less toxic chemicals. University departments are encouraged to work with BU Custodial Services for cleaning and disinfecting in lieu of purchasing cleaning supplies of their own. This reduces the chance of harmful chemical interactions that could be detrimental to human health and streamlines procurement of supplies.

## Appendix 9D. Consumable office products

* ***Examples from other campuses:***
  + UIC has a preferred vendor, Office Max, that has post-consumer recycled paper and can provide UIC with data for tracking the recycled content of their paper purchases.
* IU has a [sustainable purchasing policy](https://policies.iu.edu/policies/fin-purch-14-sustainable-purchasing/index.html#policyStatement) that states “Indiana University will avoid wood or paper products derived from old growth forests.” They also recommend buying sustainable products with these labels and certifications:
  + - [BioPreferred](http://www.biopreferred.gov/?SMSESSION=NO)
    - [Cradle to cradle certification](https://www.eandi.org/DisplayArticle.aspx?%20Article%20Type=Newss&ContentID=921)
    - [Electronic Product Assessment Tool (EPEAT)](http://www.epa.gov/epp/pubs/products/epeat.htm)
    - [Energy Star](http://www.energystar.gov/index.cfm?fuseaction=find_a_product)
    - [Forest Stewardship Council (FSC) Certified Paper](http://www.fscus.org/paper/)
    - [Green Building Standards](http://www.carpet-rug.org/Carpet-for-Business/Green-Building-and-The-Environment/NSF-ANSI-140-Standard.aspx)
    - [Green Seal Environmental Standards](http://www.greenseal.org/GreenBusiness/Standards.aspx)
    - [Water Sense](http://epa.gov/watersense/)
  + Santa Clara University prefers to purchase recycled-content office paper, and it is [the Purchasing Department](https://www.scu.edu/controller/purchasing/)'s practice to only buy recycled office paper. The standard office paper from the University's Central Store contains 30% recycled content and is recyclable. The Purchasing Department is currently investigating options for paper with a higher recycled content or alternatives to paper made from trees.
  + [Illinois State University](https://reports.aashe.org/institutions/illinois-state-university-il/report/2016-02-29/OP/purchasing/OP-14/)
    - The University must purchase products with recycled content. A goal of the University is to purchase 25% of its disposable products made from recycled content.
    - ISU requires that anything printed for public distribution must be printed on recycled content paper. Order forms allow for an opt-out option for specialized non-recycle content paper.
    - The Printing Services Department works with vendors to insure recycling content in over 90% of what ISU buys. There is one of our copier papers, that can be requested, that does not have recycled content. That stock is noted as such. However, almost all copier paper orders come in requested for recycled content. Both on our order form and online, the stocks are noted to recycled content.

## Recommendations for NIU in terms of priorities

* Currently, Building Services purchases chemical products through two main suppliers that have contracts with the State of Illinois. The chemicals are purchased based on effectiveness, people friendly (ease of use), environmentally friendly, and cost. The products are chosen by Building Services management and purchased by Central Stores. Building Service Workers then “purchase” what they need through Central Stores.

1. Establish a green cleaning program that meets LEED requirements:

* <https://icap.sustainability.illinois.edu/files/project/1040/Green%20Cleaning%20LEED%20requirements.pdf>

1. Use GreenSeal and EcoLogo certified green cleaning products
2. Create purchasing goal/policy regarding FSC certification requirements for post-consumer recycling in paper products at NIU
3. Identify current vendors for paper products at NIU and coordinate with vendors to ensure recycling content in all paper that NIU buys

## Academics, Administration, and Community Engagement

### 10. Academics

#### Overview

Sustainability is a multifaceted concept that requires engagement across disciplines and experiential learning across the lifespan. NIU already has a strong footprint in sustainability, with it playing a role in courses across multiple colleges (e.g., CLAS, CEET, CHHS, COB) and in existing degree programs that cross interdisciplinary boundaries (e.g., Environmental Studies; Earth, Atmosphere, and Environment). Many faculty engage in understanding this footprint, and being more intentional about amplifying existing strengths and filling gaps through thoughtful allocation of resources is essential.

#### Goal 10-1: A curriculum that is inclusive of sustainability and has substantial and meaningful focus opportunities for learning about sustainability

* Rationale
  + Institutions that integrate sustainability concepts throughout the curriculum prepare students to apply sustainability principles in their professional fields and help ensure that the institution’s approach to sustainability education is comprehensive and includes diverse topics.
* Action items to achieve this goal.
  1. Work with campus stakeholders to decide on a common definition of sustainability that is compatible with and complementary to AASHE, SDGs, and NIU Presidential Goals
  2. Work with colleges to translate how sustainability aligns with college mission, vision, and goals
  3. Conduct a comprehensive, university-wide assessment of the presence of sustainability in undergraduate and graduate courses and in degree, major, minor, or certificate programs where sustainability-inclusive and sustainability-focused courses are already offered
  4. Explore alternatives for ensuring general education that is at least inclusive of sustainability. Options may include a General Education course and/or attachment to one of the Knowledge Domains
  5. Explore having a common learning outcome for sustainability inclusion in one or more Knowledge Domains, or through another assessment mechanism
  6. Emphasize the importance of sustainability literacy across the student educational experience
  7. Based on gaps evident from the assessment in item c. in sustainability-focused work in upper-level undergraduate and graduate, provide university-level and cross-divisional human and other resources to meaningfully address these gaps
* Measurement.
* Adoption by NIU of a definition of sustainability.
* Inclusion by colleges of aspects of the sustainability definition in their mission, vision, and goals.
* Completed curriculum assessment at both the undergraduate and graduate levels.
* # of courses and % of total courses (undergraduate and graduate levels) that are inclusive of sustainability or focused on sustainability
* # of departments and % of departments that have at least one course at any level that is inclusive of sustainability or focused on sustainability.
* Stakeholder meetings within the Division of Academic Affairs involving all colleges regarding integration of sustainability into general education requirements and drafting of potential learning outcomes.
* Change in the level of sustainability literacy from admission to matriculation.
* Dollar value of resources committed to hiring personnel able to fill curricular gaps.
* Dollar value of resources committed to non-personnel needs to address curricular gaps.
* Timeframe
  + Years 1-2 for action items a. through e. Year 3 for action item f.
* Sources of Funding
  + While external funding is available for curricular modifications and innovations, most longer-term resourcing would require internal commitments.

#### Goal 10-2: A sustainability curriculum that centers on collaborative, experiential, and adaptive lifelong learning

* Rationale
  + Learning that is delivered and received collaboratively better prepares students for careers in which they are increasingly likely to work with teams that are multi-disciplinary, cross-sectoral, and multi-cultural. Experiential learning that is hands-on and minds-on helps students to connect theories and knowledge learned in the classroom to real-world situations. Adaptive lifelong learning encourages students to continue learning throughout the lifespan and to regard NIU as a home for learning beyond their time as undergraduate and/or graduate students.
* Action items to achieve this goal.

1. Conduct a comprehensive, university-wide assessment of the presence of experiential learning across offerings for undergraduate, graduate, professional, continuing, and other learners
2. Augment curricular, co-curricular, and extra-curricular offerings for undergraduate and graduate students that encourage hands-on, partner-supported, solutions-oriented, transdisciplinary learning
3. Explore augmenting an existing program(s) to provide at least one immersive, sustainability-focused educational study program of at least one week in length, whether on-campus, off-campus, or overseas
4. Reduce financial, administrative, and institutional barriers to collaborative teaching that brings together faculty across disciplines and across departments / colleges
5. Credit departments and colleges for cross-listed courses and other collaborative offerings
6. Explore innovative opportunities for developing offerings that bring different categories of learners together
7. Foster the development of Living Learning Labs and Living Learning Communities and support the continuation of existing programs that have "living learning” elements
8. Develop efficient, clear processes for academic programs to offer micro-credentials and similar curricular delivery innovations that deviate from the traditional fixed credit-hour model

* Measurement
* Completed experiential learning curriculum assessment at both the undergraduate and graduate levels
* # of courses that are co-taught across departments and/or colleges
* # of non-NIU external partners supporting curricular, co-curricular, and extra-curricular offerings and activities with time and/or resources
* Share of faculty and chairs / directors who perceive reductions in barriers to collaborative teaching based on survey items
* Resources ($$ value) committed to Living Learning Labs / Communities
* # of students enrolled each year in an immersive experiential learning opportunity, including Living Learning Labs / Communities
* # of courses offered that use an innovative crediting structure such as micro-credentials
* Timeframe
  + Year 1: Assessment. Years 2-4: All other action items.
* Sources of Funding
  + While external funding is available for curricular modifications and innovations, most longer-term resourcing would require internal commitments. A student fee to support experiential learning may be feasible, based on the existing 04 course fees model.

### 11. Outreach and Engagement

#### Overview

NIU has developed strong outreach and engagement programs, many of which are focused on sustainability. Yet, gaps remain including a lack of (1) learning and engagement opportunities integrating all aspects of sustainability, and (2) activities and programming within and across all colleges and entities. Providing sustainability-infused opportunities which include integrating environmental, social, and economic aspects across campus is critical in developing and sustaining a culture of sustainability throughout the NIU community. Below we outline specific goals to achieve this integration.

#### Goal 11-1: Develop a high-quality website dedicated to sustainability at NIU

* Rationale
  + A website has become a standard, expected platform for capturing and conveying sustainability activities and engagement opportunities on college campuses. Importantly, a dedicated website conveys NIU’s unrelenting commitment to sustainability across campus and the surrounding communities.
* Action items to achieve this goal

1. Develop a user-friendly, engaging website with a flexible design, that is responsive to new data and opportunities of engagement
2. Commit to a decentralized platform that allows for robust engagement by multiple stakeholders across colleges and divisions (e.g., blog, opportunities for student involvement activities and experiential learning, research from NIU faculty on sustainability)
3. Commit human resources dedicated to collecting and maintaining the evolving content of the website
4. Ensure the website is consistent and fully compatible with the campus definition of sustainability as described in the Academic section (Goal 1, Action item b)

* Measurement
  + Collect standard analytical data for website effectiveness (e.g., traffic, bounce rate, pages viewed, sessions duration, conversions, first time users, click through rates).
  + Embed items measuring website accessibility and functionality into any existing or new sustainability surveys that are part of the broader sustainability promotion and communication strategy.
  + Data on the level of engagement in co-creating the content, including number of students, faculty and staff involved.
* Timeframe
  + Year 1 launch, ongoing for updates and data collection.
* Sources of Funding
  + Internal funding is necessary to ensure content is consistent with NIU’s strategic plan.

#### Goal 11-2: Determine and assess the level of sustainability within outreach and engagement programming

* Rationale
  + Understanding current sustainability programming at NIU is necessary to set goals around desired levels of sustainability in programming and activities.
* Action Items to achieve this goal

1. Identify a group of faculty and staff from across the university to lead this process
2. Develop a common language around sustainability which integrates environment, social and economic elements
3. Develop a set of criteria for assessing the level of integrated sustainability for engagement and outreach activities utilizing an evidence-based decision-making approach
4. Apply criteria to identify and assess the level of sustainability within programming and activities

* Measurement
  + Completion of the first iteration of standards around sustainability.
  + Application of standards to current engagement activities.
  + Completion of final set of standards.
* Timeframe
  + Year 1 (all action items).
* Sources of Funding
  + Internal to support human resources. Faculty stipends could accelerate the process.

#### Goal 11-3: Apply a sustainability lens to design and redesign of outreach and engagement endeavors

* Rationale
  + Utilizing a sustainability lens is critical to ensure adequate opportunities for engagement opportunities across entities.
* Actions items to achieve this goal

1. Embed sustainability within NIU’s vision, mission, and core values
2. Set goals around the breadth and depth of sustainability embedded outreach and engagement endeavors
3. Apply sustainability criteria to identify gaps across campus
4. Utilize criteria developed in Goal 8-2 to support the infusion of sustainability in current and new outreach and engagement activities

* Measurement
* Completion of a set of goals.
* Application of goals and the identification of gaps.
* Assessment of level of sustainability relative to goals.
* Timeframe
  + Years 2-3.
* Sources of Funding
  + Internal to support human resources. Faculty stipends (could speed up the process). Note – this could be the same group of faculty members mentioned above.

#### Goal 11-4: Cultivate transdisciplinary collaborations on sustainability programming and engagements within and across colleges and divisions

* Rationale
  + A transdisciplinary approach provides a more holistic lens for understanding and experiencing the complexity of sustainability.
* Actions items to achieve this goal

1. Identify and support current transdisciplinary collaborations
2. Develop opportunities for faculty, staff, and students to collaborate and engage in cross-disciplinary sustainability
3. Provide stipends for innovations in transdisciplinary engagement and activity development

* Measurement
* Faculty engaged in the opportunities.
* Faculty (number and breadth) engaged in transdisciplinary collaborations.
* Timeframe
  + Beginning years 1-3, potentially ongoing.
* Sources of Funding
  + Internal to support human resources.

#### Goal 11-5: Foster collaborations with public and private sector organizations, including local governments, non-profits, and corporations, to grow a regional sustainability community

* Rationale
* Achievement of ecological, social, and economic sustainability in a time of resource uncertainty demands a strong cross-sectoral network in which the University is an active collaborator.
* Action items to achieve this goal

1. Conduct a stakeholder analysis to identify current and potential partners
2. Use network analytical tools to determine NIU’s position in the stakeholder network and sub-network clusters
3. Designate a physical space that is not under divisional control which promotes structured and organic collaborations among stakeholders
4. Commit financial resources to support sustainability collaborations and innovations
5. Ensure community engagement is credited and rewarded in personnel processes

* Measurement
* Completion of a high-quality network analysis with attribute data about both nodes and ties and the ability to extract measures of centrality, density, and structural cohesion.
* Square feet of space that promotes structured and organic collaborations.
* Usage of space including number of individuals and organizations.
* Survey-based perceptions of accessibility and usefulness of campus spaces across stakeholders.
* Number of dollars budgeted and expended which supports collaborations and innovations.
* Presence of community engagement in evaluation protocols.
* Timeframe
* Year 1-2.
* Sources of Funding
* Internal and external.

## Appendix 11A. Sustainability, Engagement and Outreach Activities at NIU

Note: Items listed in each table are associated with the AASHE engagement and outreach categories.

|  |  |  |
| --- | --- | --- |
| **Sampling of current NIU sustainability Engagement & Outreach Activities** | **Details and Explanations** | **Colleges/Divisions** |
| Student Organizations | CAUSE, Engineers without Borders, Environmental Law Society, Leadership in Energy and Environmental Design, Outdoor Adventure Club | Across Colleges and Divisions |
| NIU STEAM | Sustainability focused science education for the community; includes STEM Fest | OERD |
| NIU Lorado Taft | Environmental education activities for school and community groups | OERD |
| Life-Long Learning Insitute | Opportunities to create programming for learning opportunities around sustainability | OERD |
| 40TUDE | Collaboration with students, local business owners, NFP professionals for affordable marketing and consulting services; potential opportunities for environmental sustainability infusion | NNGO/OERD |
| Annie Glidden Revitalization Plan | DeKalb and NIU partnership; Student projects, opportunities for sustainability projects at the intersection of environment, social and economic | OERD |
| ESE / DCCG |  |  |
| Northern Illinois Center for Community Sustainability (NICCS) | Includes partnerships with City of DeKalb, University of Illinois – Champaign & UIC. Have not focused on equity or broader engagement thus far. Opportunity to influence how the building is used, how it orients towards students, community, and broader engagement. | RIPs |
| Illinois Innovation Network | Emphasized partnership and support for minority serving institutions, supports economic development | RIPs |
| Edible Campus | Ongoing engagement opportunities for degrees of engagement (e.g., on-time volunteering, ongoing volunteering, student projects, organizing/managing CSA (Community Supported Agriculture), Farmer’s Market, etc.) | RIPS |
| Huskie Hacks | Various hackathons hosted throughout the years; 2022 focused on food systems sustainability; opportunities for focus on environmental, social, and economic sustainability | RIPs |
| Huskie Closet | Clothing Donations, Swap, and new items; Intersectionality in addressing environment impact (e.g., reduce clothing waste), financial need (e.g., accessible clothes for students, particularly international students), and vulnerable students (e.g., support for students in crisis)  Two paid internships to run the “mini” non-profit, living-learning lab aspect | NNGO (Nonprofits and NGOs) |
| Barsema’s Closet | Clothing Donations: Intersectionality in addressing environment impact (e.g., reduce clothing waste), financial need (e.g., accessible clothes for students)  Paid internship to manage | COB |
| Research Rookies | Opportunity to organize and expand projects (maybe with groups of students) around sustainability | OSEEL |
| Honors Capstone Projects | Opportunities to encourage and help support sustainability projects | Honors |
| Suitable Platform | Currently being used by Honors and COB (Passport program); opportunity to expand to enterprise-wide platform to support coordination and tracking of sustainability engagements across campus while still allowing for customizability at the unit or college level | Across University (Units, Divisions and Colleges) |
| Bard’s College World-Wide Climate Change Teach-In | NIU has recently been engaging with Bard College’s World-Wide Climate Change Teach-In, although we are not officially acknowledged on their Teach In website, like some other universities | ESE |
| Huskie Food Pantry | Student founded; experiential learning opportunities focused on addressing food insecurity; potential opportunities for infusing environmental aspects into programming | Division of Student Affairs |
| Student Podcast on Sustainability | Launched in 2023—currently known as the “Green Tea Podcast.” The podcast is designed for students to hold discussion about sustainability and climate action, particularly as they relate to NIU and the broader Dekalb community. Students will likely seek guest speakers, such as staff and faculty who have specialized expertise. | ESE |

Appendix 11B. Exemplar Engagement and Outreach Activities from Other Universities

|  |  |  |
| --- | --- | --- |
| **Exemplars Engagement & Outreach Activities** | **Details and Explanations** | **University Resources & Links** |
| Websites | There were several websites that we found to be highly informative and engaging., including providing an updated dashboard for the school’s environmental impact, engagement opportunities for students across campus, faculty research, and sustainability reports and updates. | [Georgetown University](https://sustainability.georgetown.edu/)  [University of Utah](https://sustainability.utah.edu/)  [Home - Sustainability Institute University of Wisconsin Oshkosh (uwosh.edu)](https://uwosh.edu/sirt/)  [Sustainability - Sustainability | University of South Carolina (sc.edu)](https://www.sc.edu/about/offices_and_divisions/sustainability/index.php) |
| Clean Energy Revolving Fund | Student-focused fund. Students & Faculty evaluate and fund project proposals to help decrease energy use on campus; energy savings is then redirected back to the fund | [St. Olaf University](https://wp.stolaf.edu/sustainability/community-engagement/) |
| Focus the Nation | National teach in for students and communities on global warming involving over 1000 institutions in US, students have high involvement in leading/running | [St. Olaf University](https://wp.stolaf.edu/sustainability/community-engagement/) |
| Georgetown Environmental Leaders (GEL) | Student-led, Facilitate and support all student-led groups and initiatives across campus | [Georgetown Sustainability Student Orgs](https://sustainability.georgetown.edu/student-groups/#:~:text=Georgetown%20Environmental%20Leaders%20Network%20(GEL,organizations%20that%20suit%20their%20interests.) |
| Georgetown Energy Prize | Supporting communities across US, serve as a connector for NFPs, governments, community leaders, corporations for innovative solutions for energy efficiency | [Georgetown University Energy Prize](https://www.businesswire.com/news/home/20140423006612/en/Georgetown-University-Launches-5-Million-Prize-A-Nationwide-Challenge-for-American-Communities-to-Reduce-Energy-Use) |
| Cornell Sustainability Campus: Living Laboratory Approach | Developed a framework – which includes both qualitative & quantitative analysis tools – help explore the considerations of the Four Bottom-Lines including: Does the solution meet the needs of **People** on campus, in the community and in the world? Will the solution enhance overall **Prosperity** for the campus and our region? Does the solution support a sustainable **Planet**? Does the solution help Cornell fulfill its academic mission and **Purpose**?  Priorities of Education & Engage Committee: Incoming student climate literacy; Behavior change & choice architecture (optimize sustainable behaviors across campus – recycling, food, energy mgmt.); Living Lab Program Assessment; Low carbon business travel & air carbon offsets | [Cornell Sustainable Campus](https://usc-word-edit.officeapps.live.com/we/iv.Priorities%20of%20Ed%20&%20Engage%20Committee:%20%20%201.Incoming%20student%20climate%20literacy%20%20%202.Behavior%20change%20&%20choice%20architecture%20(optimize%20sustainable%20behaviors%20across%20campus%20%E2%80%93%20recycling,%20food,%20energy%20mgmt)%20%20%203.Living%20Lab%20Program%20Assessment%20%20%204.Low%20carbon%20business%20travel%20&%20air%20carbon%20offsets) |
| Ashoka U Changemaker Campus | Founded by Ashoka (Bill Drayton) – network that advocates for and support social entrepreneurs and innovation across the world  Guidebook (in Teams) reviews the steps, requirements, benefits, etc. – reflection and action  Some highlights: Global network of students, faculty, staff, and community leaders; Focused on experiential, interdisciplinary learning around social impact (includes environmental); Process on how to move from a traditional to a changemaker institution across four elements: Values, culture, Hierarchies & disciplines, curriculum & co-curriculum | [AshokaU](https://ashokau.org/) |
| Blogs/Podcasts | Use of blogs to provide real time updated information on sustainability and encourage engagement.  Podcasts allow a deeper dive into a topic than you might get by visiting the website. | [Auburn Sustainability blog](https://sustain.auburn.edu/our-blog/)  [Univ of Utah podcast](https://sustainability.utah.edu/news-events/sustain/) |
| UW Oshkosh peregrine falcon live stream | Tells a story to draw people into the site. | [UW Oshkosh peregrine falcon livestream](https://uwosh.edu/sirt/peregrine-falcons/) |
| Lehigh University: Sustainability Events | Lehigh’s sustainability website advertises upcoming sustainability events on campus that help facilitate student engagement. Some events they have done in the past are:   * Car Free Day * Game Day Challenge * Energy Conservation Month * Campus Race to Zero Waste * Game Day Basketball | [Upcoming Events | Sustainability (lehigh.edu)](https://sustainability.lehigh.edu/events) |
| Student Opportunities | Many peer universities studied have created sustainable programming that includes heavy student engagement. This engagement comes through the form of, but not limited to:   * Internship and other Opportunities * Volunteering Opportunities * Service Opportunities | [Campus & Community Engagement - Sustainability Sustainability » University of Florida Business Affairs » University of Florida (ufl.edu)](https://sustainable.ufl.edu/campus-initiatives/campus-community-engagement/) |
| Sustainability Campaigns | Campaigns designed to push various sustainability and climate action messages. | [Sustainability Campaigns - Sustainability (usc.edu)](https://sustainability.usc.edu/sustainability-campaigns/) |

## 12. Communications and Marketing

### Overview

Opportunities for Communications and Sustainability: Clear communication about sustainability priorities, goals, and initiatives will help unify the campus around our shared sustainability mission and create a shared campus culture around sustainability. Communication of sustainability priorities is also useful for recruiting potential students, connecting with alumni and for raising awareness with potential community partners. This is particularly important as NIU launches the Northern Illinois Center for Community Sustainability (NICCS).

### Goal 12-1: Develop formal marketing and communication strategies for all campus sustainability initiatives

* Rational
* A clear communication and marketing strategy is needed to align our sustainability goals with existing MarCom strategies and practices.
* Action Items to achieve this goal
  1. Develop a formal plan with NIU Marketing and Communications to support the rollout of the sustainability and climate action plan (SCAP) by publicizing the plan recommendations and supporting opportunities for community feedback and audience engagement. During implementation of the plan, MarCom will further publicize efforts and assist in audience engagement strategies, which could include, announcements, emails, social media, NIU Today stories, press releases, website development and platform development for community feedback
  2. Collaborate with MarCom to develop formal communication strategies for all future campus sustainability initiatives
* Measurement.
* Collect standard analytical data for website and social media effectiveness.
* Data on the level of engagement in co-creating the content, including number of students, faculty and staff involved.
* Timeframe
* Year 1 launch, ongoing for updates and data collection.
* Sources of Funding
* Internal funding is necessary to ensure content is consistent with NIU’s strategic plan.

### Goal 12-2: Develop a high-quality website dedicated to sustainability at NIU

* Rationale
* A website has become a standard, expected platform for capturing and conveying sustainability activities and engagement opportunities on college campuses. A dedicated website conveys NIU’s unrelenting commitment to sustainability across campus and the surrounding communities, which is essential for our sustainability mission.
* Action items to achieve this goal

1. Develop a user-friendly, engaging website, with a flexible design, that is responsive to new data and opportunities of engagement
2. Commit to a decentralized platform that allows for robust engagement by multiple stakeholders across colleges and divisions (e.g., blog, opportunities for student involvement activities and experiential learning, research from NIU faculty on sustainability)
3. Commit human resources dedicated to collecting and maintaining the evolving content of the website
4. Ensure the website is consistent and fully compatible with the campus definition of sustainability as described in the Academic section (Goal 1, Action item b)

* Measurement
* Collect standard analytical data for website effectiveness (e.g., traffic, bounce rate, pages viewed, sessions duration, conversions, first time users, click through rates).
* Embed items measuring website accessibility and functionality into any existing or new sustainability surveys that are part of the broader sustainability promotion and communication strategy.
* Collect data on the level of engagement in co-creating the content, including number of students, faculty and staff involved.
* Timeframe
* Year 1 launch, ongoing for updates and data collection.
* Sources of Funding
  + Internal funding is necessary to ensure content is consistent with NIU’s strategic plan.

### Goal 12-3. Develop a sustainability dashboard to promote transparency around sustainability goals

* Rationale
  + Interactive sustainability dashboards allow the NIU community and public to see how NIU is performing on key sustainability metrics. These dashboards are commonly used by university sustainability offices because transparency and accountability of data is fundamental to making progress towards our goals and for uncovering trends. Dashboard data also helps support and guide future decision making around sustainability goals and encourages community engagement.
* Action Items to achieve this goal

1. Determine the types of sustainability data that can be feasibly collected by NIU to be displayed on our sustainability dashboards
2. Collaborate with the NIU Web Team to figure out how to best display these types of data in a way that is both accessible and useful
3. Commit human resources dedicated to collecting and maintaining the evolving content of the sustainability dashboard, to later be housed on the campus sustainability website

* Measurement
  + Creation of systems to collect relevant sustainability data on an ongoing basis.
  + Implementation of a sustainability dashboard on campus sustainability website.
* Timeframe
* Year 1 launch, ongoing for updates and data collection.
* Sources of Funding
* Internal funding is necessary to ensure content is consistent with NIU’s strategic plan.

## Appendix 12A. Types of data included on other campus sustainability dashboards.

* Utilities
  + Overall
    - Electricity consumption
    - Natural gas consumption
    - Water consumption
  + By Building
    - Electricity consumption
    - Natural gas consumption
    - Water consumption
* Buildings and efficiency
  + Square footage by LEED certification
  + Energy Use Intensity (EUI)
    - by campus population (FTE)
    - per square foot
    - Per building, over time
  + Construction waste
* Greenhouse gas emissions
  + Carbon emissions over time
    - Per capita
    - Per square foot
    - By source
    - By goods and services
  + Nitrogen emissions
* Waste & Diversion
  + By Type
  + Per capita
  + Per square foot
  + Per building
  + Diversion rates
* Food and Dining
  + Fair trade or other eco certifications
  + Food waste (reduction and diversion)
  + Food insecurity
* Grounds
  + Tons of carbon sequestered by native vegetation
  + Area of land managed organically or using IPM
  + Various metrics of biodiversity
* Transportation
  + Percentage of campus fleet running on no or low emission fuels
  + EV charging station data
* Purchasing
  + Percent recycled office paper
  + Percent paper reduction per capita
* STARS (Sustainability Tracking, Assessment and Rating System) performance data
  + Relative to other universities in same category

## Appendix 12B. Examples of sustainability dashboards from other universities

* [Portland State University](https://www.pdx.edu/sustainability/sustainability-dashboard)
* [University of New Hampshire](https://www.unh.edu/sustainability/sustainability-dashboard)
* [University of Washington](https://sustainability.uw.edu/campus/data)
* [Cornell University](https://sustainablecampus.cornell.edu/building-energy-dashboard)
* [Penn State](https://sustainability.psu.edu/campus-efforts/by-the-numbers/view-our-progress/)
* [UIC](https://sustainability.uic.edu/plans/caip/caip-portal/)
* [UIUC](https://icap.sustainability.illinois.edu/project/energy-dashboard-project)
* [University of Minnesota](https://sustainable.umn.edu/dashboard)

## 13. Implementation Strategy

A shared leadership model will be used to implement the recommended goals and actions of this plan going forward.

1. **Campus Sustainability Core Team**

This group will advise on the implementation of NIU’s Sustainability and Climate Action Plan, including helping to make recommendations and/or decisions about the prioritization of projects, campus and community collaborators, consulting needs, financing of projects, and other needs as they arise.

**Membership**

1. Campus Sustainability Coordinator
2. Chief Strategy Officer
3. Provost
4. VP Administration and Finance
5. VP Outreach, Engagement, and Regional Development
6. VP Student Affairs
7. VP RIPS
8. **Campus Sustainability Working Groups**

The Campus Sustainability Working Groups will be responsible for the implementation of goals in the relevant sections of the NIU Sustainability and Climate Action plan (SCAP). These working groups will be comprised of diverse members from across campus who are engaged in activities that intersect with the relevant sections of the plan. Co-Chairs of each working group will collaborate with the campus sustainability coordinator to prioritize goals for the upcoming year.

1. **Presidential Commission on Sustainability**

NIU prioritizes systems of shared governance to ensure that all voices at the university are heard. NIU’s shared governing bodies include University Council, the Supportive and Professional Staff Council, Operating Staff Council, the Student Association, and Faculty Senate. Additionally, there are a number of presidential advisory groups that advise the president on specific topics (e.g. Race and Ethnicity, Sexual Orientation and Gender Identity, Well-being, etc.). As a transdisciplinary issue that intersects with nearly all of campus life, a presidential commission on sustainability will be a critical tool for making university level recommendations related to sustainability goals, values and initiatives at NIU.

The mandate of the Presidential Commission on Sustainability is to contribute to the implementation and evolution of NIU’s Sustainability and Climate Action Plan, and other related plans, policies, and performance indicators. The Commission provides a forum for faculty, staff, students and members-at-large to provide advice on NIU campuses’ sustainability initiatives. The Commission recognizes that sound sustainability practices, operations, infrastructure, curriculum, research, and partnerships benefit the institution, the northern Illinois region, and the community at large. With representation from staff, faculty, and students across a variety of departments and expertise, the Commission will:

* Lead and educate by example by integrating sustainable practices into all areas of university operations, academics, research, and public service.
* Contribute closely to future iterations of NIU’s Sustainability and Climate Action Plan and related plans and policies.
* Monitor progress toward sustainability through performance indicators.
* Regularly be informed of best practices related to sustainability in other institutions and evaluate how to integrate them at NIU, if pertinent.
* Be presented with opportunities to advance sustainability initiatives at NIU and provide advice on their impact and feasibility.
* Engage faculty, students, and staff (NIU community) in sustainability exploration, including the development of meaningful curriculum, scholarly research, innovation, and outreach activities to inspire future generations to consider sustainability in all that they pursue.
* Promote and enhance the visibility of sustainability initiatives across campus and within the broader community through education, promotion, and action-oriented community partnerships.

*Membership*

The Presidential Commission on Sustainability may include staff, faculty members, students, and members-at-large. The commission will report to Campus Sustainability Coordinator and the President. All the Commission members will be appointed by the Chair.

## Appendix 13A. Example Sustainability Advisory Committees from other universities

* McGill University—[Advisory Council on Sustainability](https://www.mcgill.ca/sustainability/files/sustainability/advisory_council_-_terms_of_ref_2020_0.pdf)
* University of Pittsburg—[Chancellor’s Advisory Council on Sustainability](https://www.sustainable.pitt.edu/team-member/chancellors-advisory-council-on-sustainability/)
* OCAD—[University Sustainability Committee](https://www.ocadu.ca/services/odesi/sustainability/sustainability-committee)
* University of Connecticut- [Environmental Policy Advisory Council](https://sustainability.uconn.edu/uconn-environmental-policy-advisory-council/)
* University of Notre Dame- [Sustainability Strategy Standing Committee](https://green.nd.edu/mission/university-of-notre-dame-sustainability-strategy/sustainability-strategy-standing-committee-members/)

# Acknowledgements

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### Sustainability and Climate Action Planning Steering Committee Membership

1. President Lisa Freeman, *ex officio*
2. Provost Beth Inghram, *ex officio*
3. Jerry Blazey, Vice President of Research and Innovation Partnerships
4. Rena Cotsones, VP of Outreach, Engagement and Regional Development
5. Clint-Michael Reneau, VP for Student Affairs
6. Vernese Edgehill-Walden, VP for Diversity, Equity, and Inclusion
7. Sean Frazier, VP and Director of Athletics and Recreation
8. Catherine Squire, VP Advancement and President of NIU Foundation
9. George Middlemist, Vice President for Administration and Finance  
   and Chief Financial Officer
10. Bob Brinkmann, Dean of the College of Liberal Arts and Sciences
11. Courtney Gallaher, Campus Sustainability Coordinator

### Sustainability and Climate Action Planning Working Committee Membership

1. Courtney Gallaher, Campus Sustainability Coordinator (Chair)
2. James Fitzjarrell, Senior Engineer, Architecture and Engineering
3. David Mannia, Environmental Protection Specialist, Environmental Health and Safety
4. Christopher Gilbert, Transportation Services
5. Bryan Flower, Food Systems Innovation
6. Luke Sebby, NIU Foundation, Strategic Development
7. Thomas Skuzinski, Director of IESE
8. Melanie Costello, Director of Lorado Taft Campus
9. Nicholas Pohlman, faculty rep, CEET (Mechanical Engineering)
10. Tomoyuki Shibata, faculty rep, CHHS (Public Health)
11. Christine Mooney, faculty rep, COB (Social Entrepreneurship)
12. Alyssa Edwards, Graduate student rep, Earth Atmosphere and Environment
13. Anthony Capezio, Undergraduate student rep, Philosophy/Environmental Studies,
14. Samantha Berk, Staff rep, Biological Sciences

### Subcommittee Assignments

|  |  |
| --- | --- |
| *Decarbonizing Buildings*  Nicholas Pohlman (chair)  James Fitzjarrell  *Renewable Energy*  Luke Sebby (chair)  James Fitzjarrell  Nicholas Pohlman  Courtney Gallaher  *Transportation*  Anthony Capezio (chair)  Christopher Gilbert  Jim Fitzjarrell  Luke Sebby  *Climate vulnerability and adaptation*  Courtney Gallaher (chair)  Tomoyuki Shibata  Alyssa Edwards  Kyle Pittman\*  \*Guest contributor, Graduate student,  Earth, Atmosphere and Environment  *Food and Dining*  Alyssa Edwards (chair)  Bryan Flower  Courtney Gallaher  Nicholas Pohlman  David Mannia  *Grounds*  Samantha Berk (chair)  Alyssa Edwards  Melanie Costello  James Fitzjarrell  Luke Sebby | *Waste*  David Mannia (chair)  Tomoyuki Shibata  James Fitzjarrell  *Purchasing*  Courtney Gallaher (chair)  James Fitzjarrell  David Mannia  *Water*  Tomoyuki Shibata (chair)  Samantha Berk  James Fitzjarrell  David Mannia  *Academics*  Thomas Skuzinski (chair)  Christine Mooney  Tomoyuki Shibata  *Outreach and Engagement*  Christine Mooney (chair)  Melanie Costello  Thomas Skuzinski  Anthony Capezio  *Marketing and Communications*  Courtney Gallaher  *Imlementation Strategy*  Courtney Gallaher |

1. Per Goal 10-1 in Academics, campus stakeholders will work to create a common definition of sustainability that is compatible with and complementary to AASHE, SDGs, and NIU Presidential Goals. [↑](#footnote-ref-2)
2. IPCC, 2022: Summary for Policymakers [H.-O. Pörtner, D.C. Roberts, E.S. Poloczanska, K. Mintenbeck, M. Tignor, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem (eds.)]. In: *Climate Change 2022: Impacts, Adaptation, and Vulnerability.* Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 3-33, doi:10.1017/9781009325844.001. [↑](#footnote-ref-3)
3. Wuebbles, D., J. Angel, K. Petersen, and A.M. Lemke (Eds.), 2021: An Assessment of the Impacts of Climate Change in Illinois. The Nature Conservancy, Illinois, https://doi.org/10.13012/ B2IDB-1260194\_V1, 25-31. [↑](#footnote-ref-4)
4. C.G., P.D. Dolwick, N. Fann, L.W. Horowitz, V. Naik, R.W. Pinder, T.L. Spero, D.A. Winner, and L.H. Ziska, 2018: Air Quality. In Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 512–538. doi: 10.7930/NCA4.2018.CH13. [↑](#footnote-ref-5)
5. EPA. 2021. Climate Change and Social Vulnerability in the United States: A Focus on Six Impacts. U.S. Environmental Protection Agency, EPA 430-R-21-003. www.epa.gov/cira/social-vulnerability-report. [↑](#footnote-ref-6)
6. Wuebbles, D., J. Angel, K. Petersen, and A.M. Lemke (Eds.), 2021: An Assessment of the Impacts of Climate Change in Illinois. The Nature Conservancy, Illinois, https://doi.org/10.13012/ B2IDB-1260194\_V1. [↑](#footnote-ref-7)
7. Adhikari, B. K., Barrington, S., & Martinez, J. (2006). Predicted growth of world urban food waste and methane production. *Waste Management & Research*, *24*(5), 421-433 [↑](#footnote-ref-8)