

**Northwestern University
Strategic Sustainability Plan:
Implementation Roadmap**

2017–2021

1. BUILT ENVIRONMENT

NO.	OBJECTIVES	STRATEGIES / ACTIONS	TARGET
Initiative: Energy			
1.1	Establish an energy conservation policy.	Draft energy conservation policy.	2017
		Submit draft to the Policy Review Committee for review and approval.	2017
		Finalize draft, send to University Policies and Publication Review Committee for approval.	2017
		Review, update, and assess policy effectiveness.	Annually
1.2	Implement an ongoing energy management program based on ENERGY STAR® Guidelines for Energy Management.	Establish a dedicated Energy Efficiency Committee (EEC), set program objectives, and commit to continuous improvement.	2016
		Complete the Energy Management Assessment Matrix.	2016
		Audit Portfolio Manager data to identify improvement opportunities and ensure all utilities are benchmarked appropriately.	2017
		Assess kBtu/SF per building type to identify level of performance.	Monthly
		Establish action plan to improve energy efficiency throughout building portfolio.	2017
		Evaluate energy management program progress.	Annually
		Submit ENERGY STAR® Partner of the Year Award application for program recognition.	Annually
1.3	Implement an energy management information system.		2018
		Develop and issue request for proposal for energy management information system.	2017
		Execute software contract and begin implementation.	2018
		Develop a utility production and distribution submetering master plan.	2019

NO.	OBJECTIVES	STRATEGIES / ACTIONS	TARGET
1.4	Reduce energy consumption at Northwestern by 20 percent (from 2010 baseline).		2020
		Monitor energy use intensity as part of Facility Management's Key Performance Indicators.	Ongoing
		Execute energy efficiency projects identified in the Energy Management Program by the EEC.	2021
		Obtain applicable utility incentives and track project progress for payment.	Ongoing
1.5	Establish a retro-commissioning and ongoing commissioning and optimization program.	Draft request for proposal for program feasibility assessment.	2018
		Implement retro-commissioning and ongoing commissioning and optimization program.	2020
Initiative: Renewable Energy			
1.6	Increase on-site renewable energy generation by installing one new solar photovoltaic (PV) system, with up to 100kW electric capacity, each year.		Annually
		Require construction projects to implement an energy model determining feasibility of a solar PV system.	Ongoing
		Perform structural analysis of select buildings to determine ease of solar PV system installation.	2018
		Establish renewable energy systems preventative maintenance program and provide training.	2018
1.7	Establish a renewable energy procurement plan.	Pursue low-carbon energy options for purchased electricity including wind, solar, and biomass.	2020
Initiative: Infrastructure			
1.8	Incorporate energy efficiency and renewable energy technologies into design and construction standards and equipment specifications.	Review and update design and construction standards to incorporate energy efficiency measures.	2018
		Review and update equipment specifications to meet the Sustainable Procurement Policy.	2018
1.9	Design new construction and renovations to use 50 percent less energy than required by the American Society of Heating, Refrigerating, and Air-Conditioning Engineers standard (ASHRAE 90.1-2010).	Require energy models for all new construction and renovation projects.	Ongoing

NO.	OBJECTIVES	STRATEGIES / ACTIONS	TARGET
1.10	Ensure that all new construction projects begun in 2017 or later achieve no less than Gold Leadership in Energy and Environmental Design (LEED) certification v4.		Ongoing
1.11	Ensure that renovations of existing buildings achieve no less than Silver LEED certification v4.		2021
		Draft policies and procedures to support prerequisites for certification process.	2018
		Develop LEED for Building Operations and Maintenance (O+M) education and training program.	2018
Initiative: Water and Land			
1.12	Audit water consumption to establish baseline and conservation goals.	Document water-consuming equipment, reverse osmosis processing, and monitoring devices.	2017
1.13	Establish a water conservation plan.	Implement adapted landscaping.	2018
		Execute a feasibility study of irrigation systems with a focus on harvesting rainwater for landscaping.	2018
		Incorporate low-flow fixtures into all new construction projects.	Ongoing
		Submeter chiller plant for continuous commissioning and optimization.	2018
		Develop master water-submetering plan.	2018
1.14	Double the use of adapted plants on campus.		2020
		Coordinate implementation during the 2017 update of the Land Use Master Plan and Landscaping and Site Design Standards.	2017
Initiative: Greenhouse Gas Emissions			
1.15	Reduce scope 1 and 2 greenhouse gas emissions by 30 percent (from 2012 baseline) by 2030 and achieve net zero emissions by 2050.		2030, 2050
		Audit campuswide greenhouse gas emissions for scopes 1, 2, and 3 to establish a baseline.	2017
		Develop standardized reporting mechanism for all departments to improve the tracking and reporting of greenhouse gas emissions.	2017
		Establish targeted reduction goals for scope 1, 2, and 3 emissions.	2019
1.16	Establish an institutional climate action plan.		2019

2. TRANSPORTATION

NO.	OBJECTIVES	STRATEGIES / ACTIONS	TARGET
Initiative: Commuting and Campus Travel			
2.1	Increase campus commuters' use of public transportation by 5 percent (from 2016 baseline).		2021
		Establish baseline for the number of employees currently commuting via public transportation.	2017
		Administer campuswide Transportation Survey and publish results.	Biennially
		Develop a strategy to improve campus shuttle routes to address commuter needs.	2018
		Evaluate opportunities for the expansion of programs that provide transportation subsidies for faculty and staff.	2018
		Establish an emergency-ride-home program.	2017
		Develop a strategy to expand public transportation subsidy program.	2019
		Expand temporary-parking-permit options for those commuting via alternative modes.	2018
		Establish a transportation subsidy program for students.	2019
2.2	Increase participation in the Commuter Pre-Tax Transit benefit by 25 percent.		2019
		Establish baseline for the number of employees enrolled in the Commuter Pre-Tax Transit benefit.	2017
		Develop a strategy to increase the number of employees enrolled in the Commuter Pre-Tax Transit benefit.	2018
		Apply for Environmental Protection Agency's Best Workplaces for Commuters recognition.	2018

NO.	OBJECTIVES	STRATEGIES / ACTIONS	TARGET
2.3	Eliminate the campus shuttle fleet's greenhouse gas emissions.		2030
		Establish a baseline for campus shuttle fleet emissions.	2017
		Convert campus shuttle fleet to electric buses.	2020
2.4	Offset all greenhouse gas emissions associated with University-sponsored travel.		2021
		Establish a baseline for emissions associated with sponsored travel.	2017
		Establish a policy that prioritizes sustainable travel practices for all sponsored travel.	2018
		Identify preferred environmentally conscious transportation vendors.	Ongoing
		Amend contracts with car share and rental car vendors to offer hybrid and electric vehicles.	2018
2.5	Transition the campus fleet to run exclusively on renewable energy.		2030
		Establish baseline of existing fleet running on renewable fuels.	2017
		Develop a strategy to convert campus fleet to renewable fuel vehicles.	2018
		Establish a policy to purchase electric vehicles for all applicable campus fleets.	2021

NO.	OBJECTIVES	STRATEGIES / ACTIONS	TARGET
Initiative: Cycling			
2.6	Increase bike commuting by 10 percent (from 2016 baseline).		2021
		Establish baseline for the number of employees currently commuting via bike.	2016
		Increase membership of Divvy bike share program.	2017
		Prioritize cycling and pedestrian transit during the 2017 update of the University's Campus Circulation and Campus Transportation and Parking Plans to improve streets, pathways, and infrastructure, including parking and storage.	2017
		Increase covered bike parking.	2018
		Assess feasibility of expanding bike share program.	2018
2.7	Achieve Bicycle Friendly University Platinum status through the League of American Bicyclists.		2021
		Develop a strategy to achieve platinum status.	2019
		Leverage the University's Transportation Master Plan to support the development of protected bike lanes to and from campus.	Ongoing
		Add a Commuter Pre-Tax benefit for bicyclists to Northwestern's commuter benefits program.	2018
2.8	Establish a bike management plan and program.		2019
		Establish a Bike Program Coordinator position to oversee the Bike Management Program.	2019
		Develop a campus bike hub as a central location for cycling resources and bike repairs.	2020
		Install bike repair stations on the Chicago campus.	2017
		Develop a bike path map for better wayfinding throughout campus.	2018

NO.	OBJECTIVES	STRATEGIES / ACTIONS	TARGET
Initiative: Electric Vehicles			
2.9	Provide new and renovate or retrofit existing parking facilities to increase and incentivize the use of environmentally sustainable transportation.		2021
		Develop electric-vehicle charging equipment specifications.	2017
		Identify additional locations in order to double electric-vehicle charging stations.	2018
		Establish baseline of existing usage of discounted parking permits for hybrid and electric vehicles.	2017
		Increase awareness and usage of discounted parking permits for hybrid and electric vehicles.	2017
		Upgrade existing electric-vehicle charging stations with smart technology to provide usage reporting and cost recovery.	2018
2.10	Establish an electric-vehicle charging policy.	Maximize the use of electric-vehicle charging stations by imposing time limits and establish cost recovery methods to support sustainable transportation.	2017

3. RESOURCE CONSERVATION

NO.	OBJECTIVES	STRATEGIES / ACTIONS	TARGET
Initiative: Waste Reduction			
3.1	Increase landfill diversion rate to 50 percent of total waste generated.		2020
		Establish normalized metrics to include per capita diversion rate.	2017
		Complete solid waste audit to identify waste composition and opportunities for increased diversion.	2017
		Develop training protocols with custodial service provider for ongoing engagement of custodial staff in diversion efforts.	2018
		Establish cost-effective reusable servingware option for retail, catering, and campus events.	2018
		Evaluate event reservation and catering forms to include sustainable options.	2017
		Increase awareness and usage of reusable servingware by the campus community and event hosts.	2018
		Develop a strategy to increase compost collections.	2018
		Track tonnage of waste resulting from construction and demolition (C&D).	2018
		Establish a printing and copying policy.	2018
		Audit procurement practices to identify opportunities to reduce waste.	2019
		Track waste generation in ENERGY STAR Portfolio Manager®.	Ongoing
		Increase number of hydration stations to support reduced use of single-use bottles.	Ongoing

NO.	OBJECTIVES	STRATEGIES / ACTIONS	TARGET
3.2	Develop systematic, centralized waste-minimization guidelines—including solid, universal, hazardous, and electronic waste.	Institutionalize comprehensive waste policy.	2017
		Increase awareness of best practices and opportunities for waste minimization.	2018
		Develop guidelines for waste handling which address solid, universal, hazardous, and electronic waste.	2017
3.3	Establish a University surplus program.		2021
		Develop a master plan to support the establishment of a surplus operation on campus.	2019
		Establish a protocol for Project Managers to repurpose, reuse, and salvage fixtures and furnishings.	2018
		Establish relationships and memorialize contracts for furniture surplus and donation outlets to channel items not needed on campus to others in the community and beyond.	2019
Initiative: Environmentally Preferable Purchasing			
3.4	Establish procurement guidelines effective as of 2017 that prioritize the purchase of durable, reusable, recyclable, compostable, and environmentally conscious goods and services.		2017
		Audit procurement practices to identify opportunities to reduce waste.	2018
		Establish reduced packaging efforts and take-back programs with contractors and suppliers.	2019

NO.	OBJECTIVES	STRATEGIES / ACTIONS	TARGET
3.5	Increase the purchase of environmentally preferable goods and services by 10 percent (from 2018 baseline).		2021
		Establish a baseline for environmentally preferable goods and services purchased as defined in the Sustainable Procurement Guidelines.	2018
		Incentivize the purchase of energy efficient laboratory equipment in support of the Green Lab Certification Program.	2019
		Organize the iBuyNU catalog to prioritize visibility of environmentally preferable goods and services.	2018
3.6	Increase recycled content of paper purchased to 40 percent postconsumer content by 2021 and 60 percent by 2030.		2021, 2030
		Establish a baseline for recycled content paper purchases.	2018
		Develop strategies to increase the percentage of recycled paper purchased.	2018
3.7	Support Northwestern's Business Diversity Strategy, with a focus on increasing partnerships with diverse businesses year over year.		2021
Initiative: Sustainable Food			
3.8	Participate in the Real Food Challenge to achieve a 20 percent level of "real food" on campus.	Identify opportunities to increase purchases which meet the goals of the Real Food Challenge.	2020
3.9	Increase the use of sustainable food served in University dining facilities to 20 percent (from 2018 baseline) of total food purchases.		2021
		Develop criteria to define sustainable food and tracking mechanisms for reporting purposes.	2017
		Establish baseline for sustainable food purchases.	2018
		Establish partnerships with suppliers, local farmers, and producers to increase sustainable food purchases.	2018
		Expand student farm programs (e.g., hydroponics, urban farming).	2019
		Develop a strategy to measure and increase sustainable food purchases through caterers and outside dining providers.	2019
3.10	Achieve Green Restaurant Certification for all dining halls.	Support Green Restaurant Certification process with dining provider.	2018

4. EXPERIENTIAL LEARNING

NO.	OBJECTIVES	STRATEGIES / ACTIONS	TARGET
4.1	Establish a Living-Learning Lab Program.		2018
4.2	Identify courses that lend themselves to hands-on experiential learning.	Partner with faculty to identify hands-on learning opportunities within existing curriculum.	2018
		Facilitate access and transparency via a website and provide resources through engagement.	2018
		Expand beyond individual academic programs and help identify cross-disciplinary opportunities.	2018
		Look beyond the campus experience (e.g., to local public schools, churches, and community efforts) and open the Living-Learning Lab Program to our host communities.	Ongoing
4.3	Increase student sustainability literacy.	Conduct a student sustainability-literacy survey at first-year orientation and prior to graduation.	Ongoing, beginning 2018
		Incorporate the sustainNU and Living-Learning Lab Program into student orientation programming.	2018

5. COMMUNICATIONS AND ENGAGEMENT

NO.	OBJECTIVES	STRATEGIES / ACTIONS	TARGET
Initiative: Faculty and Staff Engagement			
5.1	Double the number of offices participating in Northwestern's Green Office Certification Program annually and increase their engagement in sustainability initiatives.		2021
		Participate in the Health and Benefits Fair each fall to promote the Green Office program.	Annually
		Engage existing Green Office leaders in recruiting other staff members to participate.	Annually
		Host workshops for Green Office participants to share best practices and maintain ongoing engagement. Engage at least 75% of certified offices.	Annually
		Host celebration for certified offices to recognize leaders. Engage 75% of certified offices.	Annually
		Host a lunch-and-learn for offices considering Green Office certification. Engage at least 20 staff members.	Annually
		Develop and distribute signage, web content, and social media content to help certified offices highlight their accomplishments.	2017
		Identify synergies with YourLife Wellness program.	Ongoing
		Develop a myHR Learn training module for the Green Office Certification Program.	2018
		Expand the website list of certified Green Offices to include profiles for each office.	2017
		Pilot an energy conservation office challenge.	2018
		Present about Green Office at the HR administrative meeting.	Annually

NO.	OBJECTIVES	STRATEGIES / ACTIONS	TARGET
5.2	Establish a Green Labs Program.		2020
		Establish a multidisciplinary committee to set program objectives and guidelines.	2018
		Develop Green Lab certification processes and materials.	2018
		Pilot the Green Labs program with three lab spaces.	2018
		Engage at least ten new lab spaces in the Green Labs program from a 2017 baseline.	Annually
5.3	Integrate sustainability into programs and learning opportunities for University staff.		Ongoing
		Incorporate sustainability information into new-staff orientation trainings and materials.	Annually
		Participate in at least two staff events annually.	Annually
		Work with Human Resources to develop a sustainability module in myHR Learn online training resources.	2018
Initiative: Student Engagement			
5.4	Restructure Northwestern's Eco-Reps program as a means of engaging students in residence halls.		2018
		Establish an effective partnership with Residential Life to develop the program structure.	2018
		Establish a recruitment and retention plan to ensure that an Eco-Rep is in place for each campus residence.	2018
		Establish annual program goals and allocate resources.	2018
		Establish a Green Room Certification program.	2019

NO.	OBJECTIVES	STRATEGIES / ACTIONS	TARGET
5.5	Facilitate collaboration among sustainability-focused student organizations and their involvement with the wider University community.		2017
		Conduct survey of student environmental and sustainability organizations.	Annually
		Establish a Student Sustainability Roundtable to serve as a primary hub for collaboration and convene regular meetings.	Quarterly
		Identify synergies between student organizations and University academic and operational departments and implement joint projects.	Ongoing
5.6	Engage students in sustainability-themed events and activities.		Ongoing
		Incorporate sustainability into Wildcat Welcome programming.	Annually
		Partner with student organizations to increase the visibility of sustainability at athletic events.	Ongoing
		Increase student participation in Green Cup.	Annually
		Engage students in sustainability efforts through Earth Week programming.	Annually
5.7	Incorporate sustainability into programs targeting student organizations.		2020
		Reduce paper consumption at the SOURCE from the 2016 baseline.	2020
		Incorporate sustainability into trainings for student organizations and advisers.	Annually
		Incorporate sustainability into student organization fairs.	Annually
		Develop a guide to hosting more sustainable events.	2017

NO.	OBJECTIVES	STRATEGIES / ACTIONS	TARGET
Initiative: Community Engagement			
5.8	Collaborate with Northwestern's host municipalities to engage community members in joint sustainability initiatives.		Ongoing
		Promote sustainability efforts through community events hosted by municipalities. Participate in at least two events annually.	Annually
		Support Neighborhood and Community Relations and Government Relations in incorporating sustainability into community events hosted by the University.	Annually
		Host sustainability event open to the broader community.	Annually
		Connect the broader community with University resources that can help achieve sustainability goals.	Annually
5.9	Partner with the Office of Alumni Relations and Development to build support for University sustainability initiatives.		Ongoing
		Include sustainability content in alumni communications at least twice per year.	Semi-annually
		Identify opportunities to include sustainability in events for alumni such as reunion events.	Annually
Initiative: General Awareness and Visibility			
5.10	Increase the visibility of campus sustainability activities among students, faculty, staff, and other key stakeholders.		Ongoing
		Partner with operational and academic departments to distribute information about sustainability activities and initiatives.	Annually
		Build readership of the sustainNU email newsletter.	Annually
		Increase traffic to the sustainNU website.	Annually
5.11	Promote Northwestern's sustainability initiatives to audiences outside the University via publications and associations.		Ongoing
		Place stories in news outlets and other publications outside the University.	Annually
		Distribute information about sustainNU activities through professional associations focused on sustainability or higher education.	Annually

ACRONYM KEY & DEFINITIONS

adapted plants: Adapted plants are those that were not originally part of the natural ecosystem but have evolved to a point where the physical conditions such as soil, climate, and geology are conducive for healthy growth.

climate action plan: A set of strategies intended to guide efforts for climate change mitigation.

The Climate Registry: A nonprofit organization governed by US states and Canadian provinces and territories. TCR designs and operates voluntary and compliance greenhouse gas reporting programs globally, and assists organizations in measuring, reporting and verifying (MRV) the carbon in their operations in order to manage and reduce it. TCR also consults with governments on all aspects of GHG measurement, reporting, and verification.

Complete Streets policy: Policies that formalize a community's intent to plan, design, and maintain streets so they are safe for all users of all ages and abilities. Policies direct transportation planners and engineers to consistently design and construct the right-of-way to accommodate all anticipated users, including pedestrians, bicyclists, public transportation users, motorists, and freight vehicles.

Eco-Reps: A student organization that works to promote sustainable practices on campus, with a focus on encouraging waste reduction and energy and water conservation in campus residences.

energy management information system (EMIS): A broad family of tools and services to manage commercial building energy use. These technologies include, for example, energy information systems; equipment-specific fault detection and diagnostic systems; benchmarking and utility tracking tools; automated system optimization tools; and building automation systems.

energy use intensity: A unit of measurement that describes a building's energy use, relative to its size, on an annual basis. The common metric is kBtu/square foot/year.

environmentally preferable purchasing: Purchase of products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose.

ENERGY STAR® program: A US Environmental Protection Agency voluntary program that helps businesses and individuals save money and protect the environment through superior energy efficiency.

green labs program: A program dedicated to minimizing energy, water, and material goods consumption in labs through occupant engagement and behavioral changes.

Green Restaurant Certification: A certification process created by the Green Restaurant Association.

greenhouse gas emissions (GHG): Emission of gases, such as water vapor, carbon dioxide, tropospheric ozone, methane, and low-level ozone, that are transparent to solar radiation but opaque to long-wave radiation, and that contribute to the greenhouse effect.

LEED (Leadership in Energy and Environmental Design): A rating system devised by the US Green Building Council to evaluate the environmental performance of a building and encourage market transformation toward sustainable design. The system is credit based, allowing projects to earn points for environmentally friendly actions taken during construction and use of a building.

net zero emissions: Producing no greenhouse gas emissions or offsetting any emissions through means such as carbon sequestration or the purchase of carbon credits.

real food: Food that is local and community based, produced in fair and safe conditions, and ecologically sound and humane (i.e., no added hormones or nontherapeutic antibiotics).

Real Food Challenge: A national organization that provides institutions with tools and strategies to support the development of a sustainable, local, fair, and humane food system through responsible procurement decisions.

renewable energy: Energy sources that are not depleted by use. Examples include energy from the sun, wind, and small (low-impact) hydropower, plus geothermal energy and wave and tidal systems.

retro-commissioning: A process that determines the extent to which a building is operating as intended. It helps identify improper equipment performance, what equipment or systems need to be replaced, opportunities for saving energy and money, and strategies for improving performance of various building systems.

solar photovoltaic system: A photovoltaic system, also PV system or solar power system, is a system designed to supply usable solar power by means of photovoltaics. It consists of an arrangement of several components, including solar panels to absorb and convert sunlight into electricity, and a solar inverter to change the electric current from DC to AC, as well as mounting, cabling, and other electrical accessories to set up a working system.

Scope 1 emissions: Direct emissions from sources that are owned or controlled by the reporting entity; Scope 1 includes on-site fossil fuel combustion and fleet fuel consumption

Scope 2 emissions: Indirect emissions from sources that are owned or controlled by the reporting entity; Scope 2 includes emissions that result from the generation of electricity, heat, or steam purchased by Northwestern from a utility provider.

Scope 3 emissions: Indirect emissions, such as those resulting from the extraction and production of purchased materials and fuels, transport-related activities in vehicles not owned or controlled by reporting entity, and electricity-related activities.

universal waste: A category of waste materials designated as hazardous, but containing materials that are very common. Universal waste includes: batteries, pesticides, mercury-containing equipment (including many thermostats), and lamps containing mercury (e.g. fluorescent lamps, including compact fluorescent lamps). Businesses and other generators of such waste are required to provide for its proper disposal.

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**together,
we will sustainNU**

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