

# 1. BUILT ENVIRONMENT

NO.	OBJECTIVES	STRATEGIES / ACTIONS	TARGET
<b>Initiative: Energy</b>			
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

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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
<b>Initiative: Renewable Energy</b>			
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
<b>Initiative: Infrastructure</b>			
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

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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
<b>Initiative: Water and Land</b>			
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
<b>Initiative: Greenhouse Gas Emissions</b>			
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