



Northeastern University

UPDATE ON SUSTAINABILITY

2005–2025



ISSUED
OCTOBER 2017



Environmental sustainability is an issue of local, national, and global significance. The consequences of inaction would be shared by all humanity. All individuals and institutions share responsibility for taking action to create a sustainable environment. The leadership of Northeastern University is fully committed to this effort.

President Joseph E. Aoun, 2007



CLIMATE COMMITMENT AND PROGRESS

In 2007, Northeastern became one of the founding signatories to the American College and University Presidents' Climate Commitment (ACUPCC).

By 2050, our commitment is to
REDUCE OUR CARBON FOOTPRINT
by **80%** relative to the 2005 baseline.

Northeastern's ACUPCC reduction commitment goal was **20%** MTCE* reduction/gross square feet (gsf) from 2005–2015.

EXCEEDED THIS GOAL by realizing
36% MTCE reduction/gsf from 2005-2016.

\$9.7 MILLION INVESTED in capital initiatives from 2005-2014 to realize energy usage reduction.

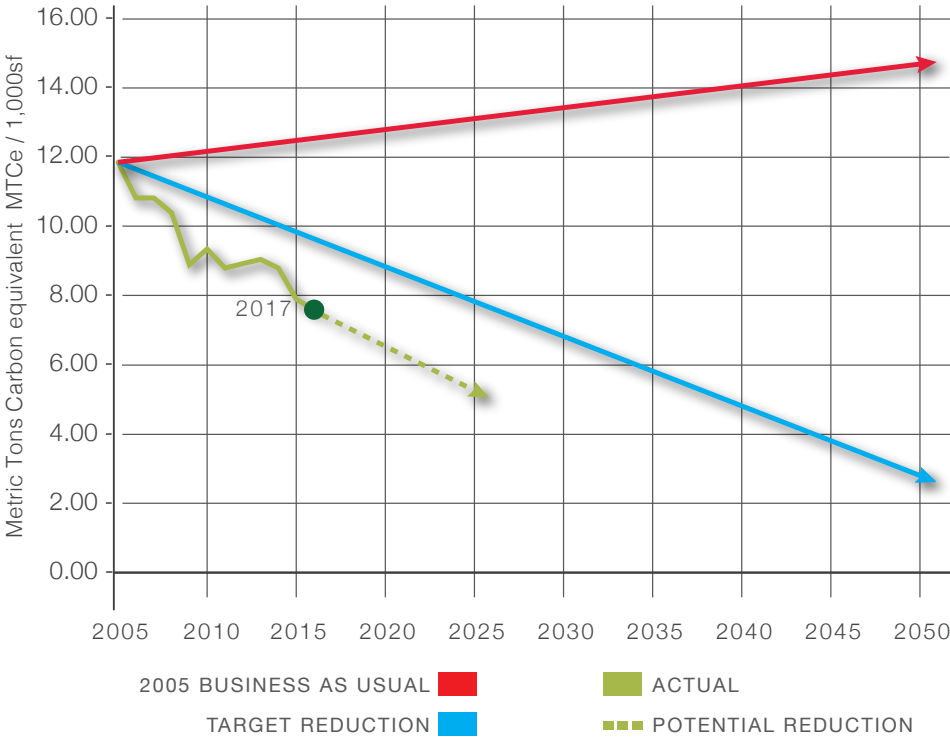
\$31M CUMULATIVE COST SAVINGS from energy efficiency, conservation, and operational initiatives 2005–2016.



Green roof, International Village

* MTCE = Metric Tons Carbon equivalent

CARBON FOOTPRINT GOALS AND PROGRESS



GREEN BUILDING DESIGN



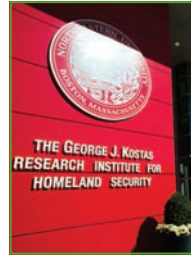
3 LEED™ GOLD CERTIFIED BUILDINGS



International Village



Dockser Hall



Kostas Center



East Village

ISEC designed to achieve LEED™
GOLD CERTIFICATION



SUSTAINABILITY is a
central element

of the Northeastern University Guidelines for
Capital Project Design and Implementation

The goal identified in the Northeastern University Guidelines for Capital Project Design and Implementation is for new construction and major renovations to achieve **LEED™ GOLD CERTIFICATION** or better.

RECOMMISSIONING EXISTING BUILDINGS

BUILDING SYSTEMS CONTROL

New standard for lab operations will dramatically reduce energy consumption.

REDUCED Behrakis Health Sciences Building's energy consumption by **35%** through the use of sensors and building control sequences.



ROOFS

Replacing roofs with highly reflective white, **HIGH ALBEDO**, materials to reduce cooling cost.

Approximately **34%** of roof square footage is high albedo and lessens the heat island effect of our campus.

EGAN

BEHRAKIS
CONSUMPTION
REDUCTION

35%

\$250,000
ANNUAL ENERGY
SAVINGS

WATER

EFFICIENCY

8% REDUCTION in water use/square foot since 2005

Reduced water consumption resulted in
\$3M UTILITY COST SAVINGS 2005-2016

Regular WATER SYSTEMS AUDITS

STORMWATER CONTROL

17% OF BOSTON CAMPUS roof area discharges
into groundwater recharge areas



WASTE REDUCTION

RECYCLING

41% overall diversion rate in 2016 for campus recycling, as compared to 17% for City of Boston

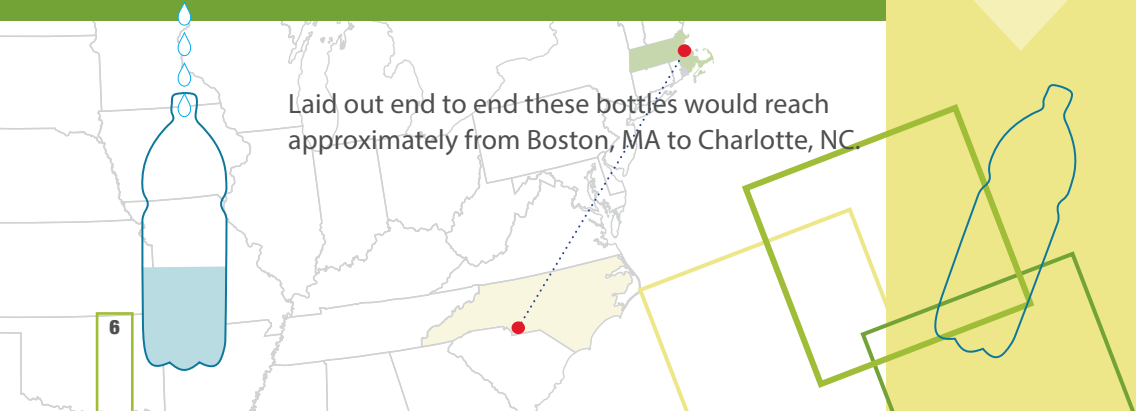
COMPOSTING

OVER **665** tons of food waste composted in 2016, a **353% INCREASE** since the program's inception in 2007

OVER **325 TONS** of landscaping material composted annually



Over 210 refillable water bottle stations have been installed across campus. **PREVENTED 7.2 MILLION 16 OUNCE PLASTIC WATER BOTTLES FROM ENTERING THE WASTE STREAM.**



Laid out end to end these bottles would reach approximately from Boston, MA to Charlotte, NC.

TRANSPORTATION



ALTERNATIVE FUEL

21% of the university's vehicle fleet is **ELECTRIC**

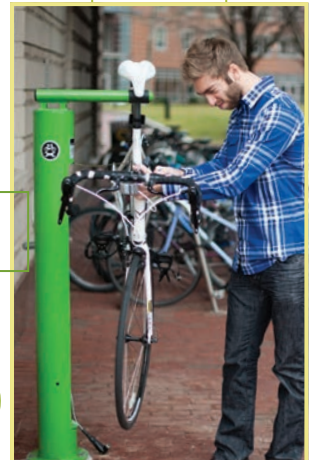
10 **ELECTRIC CHARGING STATIONS** have been added at Columbus Parking Garage



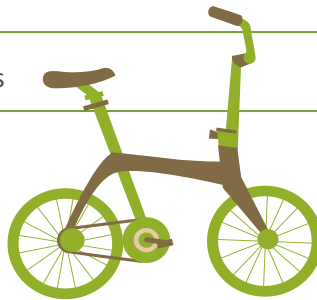
SUSTAINABLE COMMUTING

63% of employees use sustainable commuting options (walk, bike, or use public transportation)

INCREASED BIKE STORAGE by **180%** since 2005, including two indoor bike storage options ISEC and Columbus Parking Garage



3 bike repair stations



CAMPUS RESILIENCE AND BUSINESS CONTINUITY

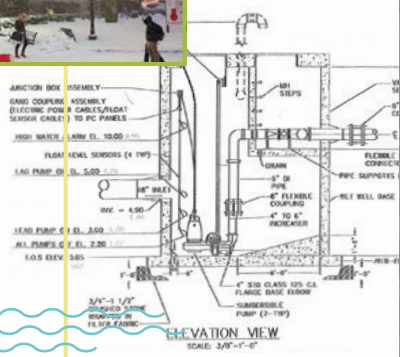
Installed special FLOOD CONTROL DOORS in **6** LOCATIONS which were identified as high risk for flooding

Completed **5** STORMWATER PUMPING STATIONS and **1** BIOSWALE

Built a state-of-the-art EMERGENCY OPERATIONS AND COMMUNICATIONS CENTER to support business continuity in the event of natural disaster



NORTHEASTERN UNIVERSITY
DRAINAGE IMPROVEMENTS AS-BUILT
HURTIG PUMP STATION
BOSTON, MASSACHUSETTS



NORTHEASTERN COMMUNITY INVOLVEMENT

NORTHEASTERN STUDENTS

Northeastern University students are engaged in sustainability both in the classroom and outside

Nearly **200 COURSES**
integrate the topic of sustainability

26 STUDENT ORGANIZATIONS
focused on sustainability efforts

HUSKY ENVIRONMENTAL ACTION TEAM
(HEAT) organized "TRASH 2 TREASURE",
donating over 22,000 lbs of items

NORTHEASTERN FACULTY

\$15.5M funding for
sustainability research in FY 2016

Multiple sustainability **RESEARCH
CENTERS** and institutes across campus



TOWARD A MORE SUSTAINABLE FUTURE 2025 GOALS

CARBON FOOTPRINT

- Achieve cumulative reduction of **50%** from 2005 baseline
ADDITIONAL **24%** MTCe Reduction /gsf
- Study combined heat and power options for campus

GREEN BUILDING DESIGN

- Design all new buildings and major renovations to be LEED certified to a
MINIMUM **GOLD STANDARD**

RECOMMISSIONING EXISTING BUILDINGS

- RECOMMISSION **60** additional buildings

WATER CONSERVATION

- **REDUCE** water use/sf by **ADDITIONAL 10%**
from 2005 baseline through additional monitoring
and operational efficiency

STORMWATER CONTROL

- Increase roof area discharging to groundwater recharge
area to a minimum of **25%** of roof area on Boston campus



WASTE REDUCTION

- Increase recycling diversion rate to over **50%**

TRANSPORTATION

- **INCREASE** the percentage of employees using sustainable commuting options to **70%** by
 - > Doubling bike storage on campus from 2015 storage count
 - > Increasing carpool parking spots
 - > Offering additional public transportation incentives

CAMPUS RESILIENCE AND BUSINESS CONTINUITY

- Draft a campus resiliency plan that identifies climate change vulnerabilities and proposes adaptations to mitigate risks

NORTHEASTERN COMMUNITY INVOLVEMENT

- Increase student, faculty, and staff awareness of opportunities to decrease their personal carbon footprint through a variety of programs including **“SUSTAINABILITY POP UPS”** and **GREEN OFFICE CERTIFICATION**
- Connect faculty research on sustainability and climate change to sustainability efforts on campus





Northeastern University

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www.northeastern.edu/sustainability/update/2005-2025.pdf