Sustainability successes during 2013-2014 built on Ohio State’s long-term planning and implementation efforts.
The Ohio State University strives to be a leader in global sustainability by demonstrating the integration of sustainable practice and programming across all university functions, spanning academics, research, operations, administration, and engagement. This brochure is a celebration of the university’s accomplishments in sustainability during the 2013-2014 academic year.

Ohio State’s Sustainability Principles and Practices

The Ohio State University, as a flagship institution of public education and research, recognizes its responsibility to provide the sustainability leadership that society so critically needs. Ohio State defines sustainability as adopting business strategies and activities that meet the needs of the university and its stakeholders today while protecting, sustaining, and enhancing the human, fiscal, and natural resources that will be needed in the future.

This university is committed to placing sustainability at the core of its mission by:

- Making sustainability principles integral to the fulfillment of research, teaching, and operational objectives
- Taking positive actions to promote continual improvement in the environment and quality of life, both locally and globally
- Setting and achieving clearly defined sustainable development goals and objectives that encourage social and environmental stewardship in a fiscally responsible manner.

Strategic Planning at Ohio State

Planning at Ohio State is grounded upon the university vision, mission, and values through extension of the core goals and discovery themes.

Core Goals

- Achieving excellence in four institution-wide areas is fundamental to Ohio State’s mission and future success:
  - Teaching and Learning
  - Research and Innovation
  - Outreach and Engagement
  - Resource Stewardship

Discovery Themes

The university’s move from excellence to eminence will be founded in three Discovery Themes:

- Energy and Environment
- Food Production and Security
- Health and Wellness

Ohio State’s dedication to innovation for energy and the environment is evidenced by elevation of the issue to a Discovery Theme. The university is committing a share of its $400 million Discovery Theme investment to the hiring of 500 theme and cross-theme faculty by 2022.
With core goals of education, research, and outreach for the well-being of society, Ohio State incorporates sustainability teaching into our students' academic and research opportunities. Ohio State has more than 400 faculty working in energy and environment areas.

**EEDS Major**

During the 2013-2014 academic year, Ohio State introduced its first sustainability major: Environment, Economy, Development and Sustainability, a cutting-edge major that provides the core knowledge and skills to launch a career in sustainability in the private, public or non-profit sectors. EEDS has four specialization options: Sustainability in Business, Environmental Economics and Policy Analysis, Community Development, and International Development.

**ENCORE Solar House**

Ohio State students designed and built enCORE, a solar-powered, 1,000 square foot house, in 2011 as part of the national DOE Solar Decathlon competition. In October 2013, the house was installed on campus as a research, education and outreach facility available to the campus community as well as the central Ohio region.

**Environmental March Madness**

In April 2013, Ohio State was named ‘National Champion’ of the 2nd Annual Environmental March Madness tournament. The award was based on demonstrated excellence in environmental academics and sustainability, as well as outstanding student and faculty engagement during the tournament.

**Laying the Foundation for Campus Sustainability**

Ohio State established a dedicated energy and sustainability office in 2006, and continues to leverage resources to ensure that sustainable practices are woven into the fabric of its culture.

**Integrated Energy and Environment Strategic Plan**

The Integrated Energy and Environment Strategic Plan outlines the university’s combined energy and environment goals and serves as the framework for the implementation of initiatives to achieve these goals in the coming years. The plan guides the integration of sustainability efforts across four arenas: Education; Research; Operations; and Planning, Administration, and Engagement.

**STARS Rating at All Ohio State Campuses**

The Sustainability Tracking, Assessment & Rating System (STARS) is a transparent, self-reporting framework for colleges and universities to measure their sustainability performance. In 2013, Ohio State’s Columbus, Lima, Mansfield, Marion, and Newark campuses earned a STARS Silver rating for sustainability performance.
Ohio State continues its building energy conservation performance contract, targeting five of the university’s most energy intensive buildings: Biomedical Research Tower, Physics Research Building, Recreation and Physical Activities Center, Scott Laboratory, and the Veterinary Hospital. These buildings account for less than 8% of the university’s total building space, but more than 12% of its energy consumption. The project is expected to reduce the energy utilization index of the buildings by an average of 30% and mitigate nearly 15,000 metric tons of greenhouse gas emissions annually.

INTERNAL ENERGY AUDITS

The ongoing energy management strategy has included the completion of internal building energy audits and the implementation of energy conservation measures. Energy auditing is the practice of evaluating a building’s operations and identifying opportunities to conserve energy. Internal audits and implemented energy conservation measures have resulted in the mitigation of nearly 19,000 metric tons of GHG emissions.

INFRASTRUCTURE UPGRADES

- South Campus Central Chiller Plant
  - Provides cooling power to the Health Sciences district
  - Reduces maintenance and operating costs
- East Research Park Plant
  - Provides chilled water to North Academic Core
- Projected 30% energy savings
- Geothermal Plants
  - Provide heating and cooling to residence halls
  - Projected to provide 30-35% increase in energy efficiency

INFRASTRUCTURE AND ENERGY CONSERVATION PROJECTS

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ENERGY RECOGNITIONS AND AWARDS

In October 2013, Ohio State was selected a USEPA Green Power Partnership of the Year for augmenting campus electricity resources with wind power. Only four organizations nationwide received this designation.

USEPA GREEN POWER PARTNER OF THE YEAR

Ohio State earned many energy, efficiency, and sustainability awards during 2013-2014, including these listed below, and was selected a finalist for the 2014 Second Nature Climate Leadership Award.

- USEPA GREEN POWER PARTNERSHIP
  - The Environmental Protection Agency’s Green Power Challenge works with organizations to lead by example by reducing their carbon footprint and investing in renewable energy. With Ohio State’s 2012 purchase of 50MW of wind energy generation capacity from an Ohio wind farm, the university became the largest direct purchaser of green power in the state of Ohio. In FY 2014, Ohio State’s Columbus campus received 23% of its electricity from wind power generation.

BIG 10 CONFERENCE GREEN POWER CHAMPION

Ohio State was named the 2013-2014 Big 10 Conference Champion of the EPA Green Power Challenge, for the second consecutive year, for using more green power than any other school in the Big 10 Conference. Ohio State won by using nearly 134 million kilowatt-hours (kWh) of green power, representing 23% of the annual electricity usage.

Ohio State was the host university for the 2013-2014 and 2014-2015 Big 10 and Friends Energy and Mechanical Conference. More than 300 energy experts in higher education, research and industry from across the country travelled to Columbus to discuss the latest developments in building efficiency and energy monitoring and usage.
Through efforts across the university, Ohio State is moving towards its goal of becoming a zero-waste campus by 2030.

**GAME DAY CHALLENGE**

The Game Day Challenge promotes waste reduction at football games. In 2013, Ohio State was named National Diversion Rate Champion for the second year in a row, after achieving a 98.5% landfill diversion rate during the Ohio State v. Wisconsin football game on September 28, 2013. Ohio Stadium achieved a zero waste diversion rate of 90.5% for the 2013-14 football season.

**ZERO-WASTE FACTS**

- Since 2004, Ohio State has increased its landfill diversion rate from 16.1% to 32.1% in 2013.
- The Schottenstein Center is using President and Provost’s Council on Sustainability grant funds to improve recycling and composting rates.
- The Ohio State University Wexner Medical Center established a zero-waste team in 2014.

**OHIO STATE-MARION ZERO WASTE STUDY**

Learning from zero waste best practices at Ohio Stadium, Ohio State-Marion conducted a feasibility study to move that campus towards zero waste, and setting the stage for a university-wide zero waste initiative. The Marion campus zero waste program was implemented in 2014 and has already achieved a diversion rate of over 67%.

**MOVING TOWARDS A ZERO WASTE CAMPUS**

In FY2013, Ohio State diverted 2,112 tons of organic waste from landfills by diverting the organics to both compost facilities and an aerobic digestion renewable energy system.

**ORGANICS DIVERSION RATE**

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**Diversion Rate Trends 2004-2013**

In 2013, Ohio State achieved a 32.1% landfill diversion rate for the Columbus campus.
IMPROVING THE CAMPUS NATURAL HABITAT

OLENTANGY RIVER RESTORATION

The Olentangy River Restoration continues towards its goal of returning the river to its natural flow through campus, improving the water’s quality and its ecosystem. Excavation work is complete and wetlands are being established. Ohio State contributed to the funding of the removal of the Fifth Avenue Dam and restoration of the Olentangy River corridor, improving the river’s water quality and eco-system.

TREE CAMPUS USA

Each year since 2011, Ohio State has received the Tree Campus USA designation, recognizing our outstanding campus tree management program as well as student and community engagement. Last year, more than 294 trees were planted at Ohio State. More than 18,000 trees have been mapped by students, faculty, and staff as part of an ongoing tree inventory project, which will guide university management of a diverse tree canopy.

MIRROR LAKE IMPROVEMENTS PROJECT

As part of the university’s work to address sustainability across campus, Mirror Lake is undergoing construction for enhancement of sustainability and safety features. The President and Provost’s Council on Sustainability secured funding to initiate the Mirror Lake Enhancement Study, to focus on examining ways to resolve the loss of water from leaks in the bottom of the lake, and to find solutions to reduce the domestic water consumption of the lake.

HOWLETT HALL GREEN ROOF

A 12,000 square foot green roof installed on Howlett Hall is a beautiful garden respite with several sustainable benefits, including:

- mitigation of 200,000 gallons of polluted stormwater from the Olentangy River each year
- reduction of heating and cooling costs for the food science pilot plant below the roof
- additional biological diversity in our urban environment from insects, birds and bees
- irrigation provided by rain water collected into bladders from adjacent greenhouse roofs.

ECOLOGICAL FUNCTION