Lehigh University Sustainability Plan and Initiatives

Mid-Atlantic Renewable Energy Association (MAREA) Webinar | October 26, 2021

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AGENDA

- Sustainability at Lehigh
- Sustainability Plan 2030
- Climate Action Strategy
- Energy Efficiency and Renewable Energy

SUSTAINABILITY VISION AND MISSION

We envision an inclusive Lehigh community where sustainability is an integral part of the institutional ethos, which inspires ecologically sound, socially just, and financially prudent action that improves the well-being of people and the environment, and positions Lehigh as a local and global leader.

Our mission is to advance solutions to support long term sustainable change in operations, academics, and administration to meet the evolving challenges of a changing world, mitigate the effects of climate change, and develop and empower future leaders.

RECENT NATIONAL RECOGNITIONS

- 25% of participating schools have received a gold rating
- Lehigh has the 6th highest STARS score among comparable institutions

U.S. DEPARTMENT OF EDUCATION

GreenRibbonSchools

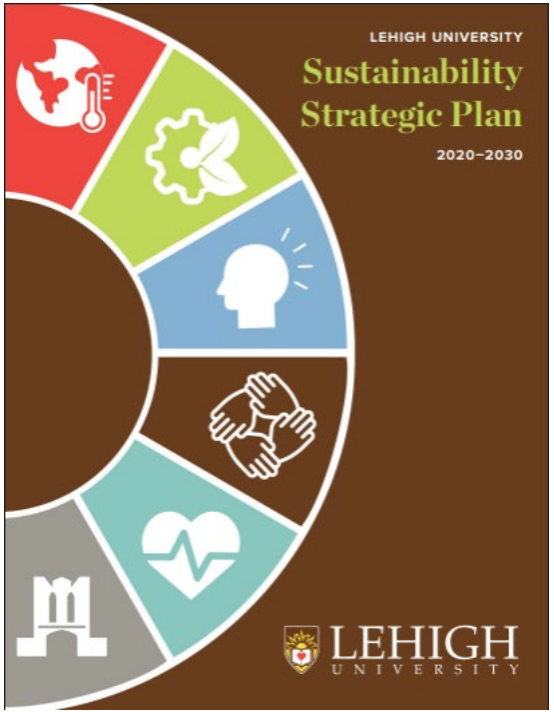
Lehigh Named Green Ribbon Schools Postsecondary Sustainability Awardee

The university was just one of five postsecondary institutions to be honored by the U.S. Department of Education.

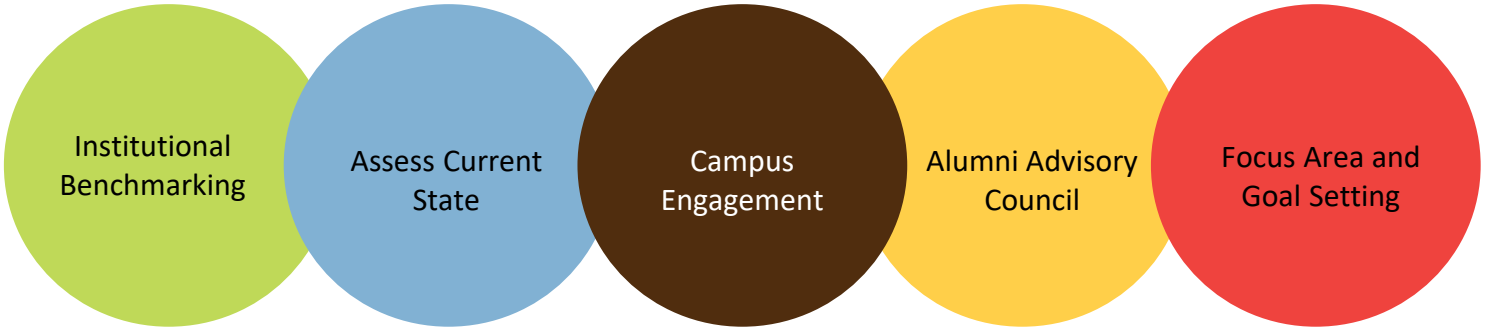
LEHIGH UNIVERSITY

SUSTAINABILITY STRATEGIC PLAN 2030

- 10 years. 6 focus areas. 113 goals.
- Establishes long-term vision
- Interdisciplinary and interdepartmental effort
- Fully integrated across Lehigh
- Operational efficiencies and cost savings
- Positive impact on our students



STRATEGIC PLANNING PROCESS



2030 PLAN FOCUS AREAS

Climate Action

Campus Operations

Educational Experience

Culture & Engagement

Health and Wellness

Focused Leadership

LEHIGH'S PARTNERSHIP WITH THE UN

- Lehigh's strong affiliation with the UN
- Global significance of UN SDGs
- Each goal in 2030 plan mapped to one or more UN SDGs

SUSTAINABLE DEVELOPMENT GOALS

LEHIGH

SUSTAINABLE DEVELOPMENT GOALS
1 NO POVERTY
2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS
SUSTAINABLE DEVELOPMENT GOALS

CLIMATE ACTION

Resiliency

Greenhouse Gas Emissions

**DEVELOP A CLIMATE ACTION STRATEGY BY

2021

that establishes a carbon neutrality goal, subject to board approval

**OFFSET

100%

of Lehigh's electricity consumption with renewable energy in 2023

**CONDUCT A RESILIENCY ASSESSMENT BY

2023

and implement the assessment's recommendations in a phased manner

**Develop a plan to fully transition the campus fleet to

RUN EXCLUSIVELY ON RENEWABLE ENERGY BY

2030

EDUCATIONAL EXPERIENCE

Academic Integration

Experiential Learning

Research

CONDUCT SUSTAINABILITY LITERACY ASSESSMENT

twice

a year of the entire student body to identify knowledge gaps

Create and launch the

CAMPUS SUSTAINABLE IMPACT FELLOWSHIP PROGRAM BY

Spring 2021

Develop a SUSTAINABILITY FRAMEWORK for use in college-level strategic planning efforts by

2021

and work with deans to integrate by

2023

Establish at least one

SUSTAINABILITY LEARNING OUTCOME

in each of the five colleges by

2025

CAMPUS OPERATIONS

Connections & Mobility

Purchasing

Surplus Property

Waste

Water

Land Stewardship

Built Environment

Develop a comprehensive plan to make all on-campus

FIRST-YEAR ORIENTATION ACTIVITIES ZERO WASTE BY

2025

Develop an

INTEGRATED PEST MANAGEMENT PLAN

by 2021 and implement in

100%

of eligible areas

Install

5-8

additional

ELECTRIC VEHICLE CHARGING STATIONS

on campus

Publicly report to

ECOVADIS BY

2030

CULTURE & ENGAGEMENT

Communications

Diversity, Inclusion, Equity

Campus Involvement

Include sustainability in

LEHIGH'S ANNUAL REPORT BY

2021

Create and sustain a campus culture that

ACKNOWLEDGES AND CELEBRATES DIVERSITY,

FOSTERS INCLUSIVE EXCELLENCE, AND

and is committed to being

antiracist

Fully integrate the ECO-REP LEADERSHIP PROGRAM by reaching

80%

awareness among residents by 2024 and

90-100%

by 2027

Expand the SUSTAINABLE OFFICE PROGRAM to reach

70%

of full-time faculty and staff by 2024, 85% by 2026, and

90-100%

by 2030

HEALTH & WELLNESS

Food

Well-being

Healthy Infrastructure

Develop and implement a

SUSTAINABLE AND HEALTHFUL FOOD PURCHASING POLICY

in 2021

INCREASE PARTICIPATION IN LEHIGH'S EMPLOYEE WELLNESS PROGRAM TO

50% by 2022,

60% by 2025, and 75% by 2030

By 2022

develop university-wide SUSTAINABLE CATERING STANDARDS and implement in phases by 2025

Partner with a local farm and pilot a

COMMUNITY-SUPPORTED AGRICULTURE (CSA) PROGRAM BY

2022

FOCUSED LEADERSHIP

External Partnerships

Committments & Accountability

Finance

Alumni Relationships

Establish the

PRINCIPLES OF A SUSTAINABLE CAMPUS COMMUNITY

by 2022

DEVELOP A SELECTED PILOT FOR AN EARLY CAREER MENTORSHIP PROGRAM

with current Lehigh students interested in sustainability and alums in the sustainability field

by 2022

RANK IN THE TOP

100

schools on the Sierra Club Coolest Schools List by 2024

ACHIEVE AASHE STARS

GOLD

by 2022 and AASHE STARS platinum by 2030

LEHIGH CLIMATE ACTION STRATEGY

- Roadmap for measuring, planning, and reducing GHG emissions
  - Largest and most cost-effective emissions reductions
- Developed a 'Pathway to Zero' to reach net carbon neutrality by a target date

LEHIGH SUSTAINABILITY

LUFACILITIES

Industrial Assessment Center
U.S. DEPARTMENT OF ENERGY

trust

THE STONE HOUSE GROUP
BUILDING STEWARDSHIP

LEHIGH
ENERGY SYSTEMS ENGINEERING

SUSTAINABILITY FEATURES OF NEW BUILDINGS

- LEED and fitwel certifications
- Energy-Use-Intensity (EUI) targets
- Condensing hot water boilers
- Air-cooled, and heat-recovery, chillers
- Air-handlers/DOAS with enthalpy recovery
- Chilled beams
- LED lighting and controls: occupancy sensors; daylight sensors in public spaces
- Advanced rain screen and curtain wall system
- Native plants, pollinator-friendly landscapes
- Green roofs or rainwater collection, storage, and re-use or release

ENERGY-EFFICIENCY IN EXISTING BUILDINGS

- Existing lighting replacements with LEDs in 14 buildings and parking garages in last three years, plus partial replacements in two more buildings and some street lights. Three more buildings will be completed this calendar year.

The completed projects have saved about 1.75 million kWh/year or 1,250 MTCDE/year

- Mountaintop Campus boiler plant economizer
- Adding variable frequency drives to motors
- STEPS laboratory building energy recovery unit replacements
- STEPS laboratory building automation system (BAS) reconfiguration
- BAS upgrades at Zoellner Arts Center and Mountaintop Campus Buildings
- Heat pumps instead of electric resistance heat for five emergency generator engine blocks
- Mudd and Neville Hall BAS reconfiguration is in progress

The completed projects have saved about 2.6 million kWh/year or 1,840 MTCDE/year.

RENEWABLE/SOLAR ENERGY ON-SITE & OFF-SITE

LEHIGH UNIVERSITY

Muhlenberg College

LAFAYETTE COLLEGE

Dickinson College

The four schools, together called the Pennsylvania Higher Education Cohort, entered into a collective Virtual Power Purchase Agreement (VPPA) for a Texas-based solar project - the largest-ever solar purchase from an unaffiliated group of higher education institutions. The deal will enable each cohort member to address 100% of their annual Scope 2 emissions.

QUESTIONS?

More information:
https://sustainability.lehigh.edu/about

LEHIGH UNIVERSITY