

# Sustainability at Penn State

2018-2019 Highlight Report



PennState

sustainability  
INSTITUTE



2 ZERO HUNGER



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



14 LIFE BELOW WATER



Bowen Zheng, a nutritional sciences major, completed his undergraduate field experience at the Student Farm at Penn State. His roles included learning about food production, applying his nutrition training to develop new materials for the farm and teaching Community Supported Agriculture members and students in the dining commons about healthy eating and cooking. Image: Dennis Maney

## Table of Contents

Message from President Barron	2
Message from Paul Shrivastava	3
Sustainable Development Goals	4
<b>Research</b>	<b>5</b>
Support for Sustainability	7
<b>Teaching &amp; Learning</b>	<b>9</b>
Living Labs	11
<b>Community Engagement</b>	<b>13</b>
The Art of a Sustainable University	15
<b>Student Engagement</b>	<b>16</b>
Sustainability at the Stadium	17
<b>Faculty &amp; Staff Engagement</b>	<b>18</b>
Technology Geared Toward Change	19
<b>Operations &amp; Energy</b>	<b>20-23</b>
Sustainability Milestones at Penn State	24
<b>Sustainability Councils</b>	<b>25</b>
Your Role in Sustaining Penn State	26

On the cover: A team of researchers led by Hu Wong, professor of landscape architecture (far right), collects water samples at University Park for its project, "Greening our stormwater: using campuses as living labs for green stormwater infrastructure," an initiative funded in Spring 2019 by the University's Strategic Plan Seed Grant program. Image: Pamela Krewson Wertz/Penn State.

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*Message from President Eric J. Barron*

In teaching, research and service, Penn State strives to impact the world by solving pressing global challenges. Climate change certainly ranks among the top issues of our day, and I'm pleased that Penn State is working for a sustainable future.

Three years ago, I stood on a platform that was used to push coal into the furnaces at Penn State, and we celebrated the "last shovelful of coal" at our steam plant. On that day, our steam plant completed the transition to natural gas—after 160 years of using coal-fired furnaces for its heat and electricity.

This fall, we celebrated the groundbreaking for the largest solar farm in

Pennsylvania's history in partnership with Lightsource BP. That solar project will provide Penn State with 25 percent of our electricity over the next 25 years, while helping us meet our goals of reducing greenhouse gases. It will also cut our energy costs, provide research opportunities for students and faculty, help regenerate farmland, and support the Penn State Strategic Plan, which cites stewardship of the planet's resources as a key priority.

We have been able to do this and much more through partnerships—with the Office of Physical Plant, faculty, students, alumni, legislators, philanthropists, and community and business leaders. Through work with academic collaborators and public-private partners, Penn State is translating research into results-producing projects, and we're just getting started.

Penn State has more than 300 individual investigators across 11 colleges working in energy research, and offers nearly 100 programs focused on energy and the environment. Our university also has several dedicated institutes that foster and facilitate interdisciplinary research, which is helping to diversify how we think about these challenges. In countless ways, people, programs and research come together from across all disciplines to address the interconnected nature of a thriving planet, thriving people, and a thriving economy.

We're proud of the major strides Penn State has made in advancing sustainability in its research, academics, engagement and operations efforts, many of which are outlined in this report curated by the Sustainability Institute. Still, our capacity for positive impact continues to expand in the Commonwealth of Pennsylvania, the nation and around the world. It is the passionate and engaged individuals who comprise our student body, faculty, staff and alumni network who have the greatest potential to improve the outlook of our future. More than a university, Penn State is a global network of some of the brightest leaders and innovators in the world who can collectively improve the health of communities everywhere.

Thank you for your interest in Penn State and the Sustainability Institute. Together we can use our large geographic footprint, our global network of leaders and our core values to shift Penn State, Pennsylvania and the planet into a direction that creates a prosperous and peaceful environment for all.

A handwritten signature in black ink that reads "Eric J. Barron". The signature is written in a cursive, flowing style.

Eric J. Barron  
President, The Pennsylvania State University

Dear Friends,

What does sustainability mean to you? While there are many definitions of sustainability, there is no single perfect definition of the term. The Sustainability Institute looks to the Global Sustainable Development Goals (SDGs) of the UN Agenda 2030 as a framework to prioritize our strategies. These 17 goals, outlined on the following page, encompass more than environmental issues, recognizing that “ending hunger, reducing poverty, fostering health and well being, provisioning clean food, water and energy for all, must go hand-in-hand with strategies that reduce inequality, and healthy jobs and communities - all while tackling climate change and working to preserve our oceans and forests.”

This report highlights key ways Penn State is advancing sustainability in the areas of research and curriculum, student and staff engagement, community outreach, finance and business, and operations. Of course, it would not be possible to include every achievement and initiative in one single report, so the stories and examples we included can be viewed as snapshots representing many more significant achievements of Penn State’s faculty, staff and students.

As you explore this report, consider the ways you contribute to a more sustainable future. The Sustainable Development Goals may reveal ways you’re currently tackling local and global challenges. Or perhaps you’ll identify opportunities to collaborate with us.

Connecting people in order to bridge opportunities with solutions is a top priority for the Sustainability Institute. The need to address today’s global challenges is an urgent one, which is why the Institute is working to with Penn State colleges, campuses, and units to build a network of Sustainability Councils, detailed on page 25. The network of Sustainability Councils and Affiliates Network is continually growing, and I encourage everyone to become a part them this year.

My hope is that these stories inspire you to play your own unique role in ensuring a sustainable future for Penn State, Pennsylvania and the planet.

Sincerely,  
Paul



**Dr. Paul Shrivastava**

Chief Sustainability Officer,  
The Pennsylvania State University  
Director, Sustainability Institute  
Professor, Management & Organization,  
Smeal College of Business



# The Sustainable Development Goals:

A shared blueprint for peace, prosperity and a healthy planet by 2030

## An Urgent Call to Action

*"The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries - developed and developing - in a global partnership. [The goals] recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth—all while tackling climate change and working to preserve our oceans and forests."*  
- United Nations, [sustainabledevelopment.un.org](http://sustainabledevelopment.un.org)

## The SDGs and Penn State

Much of Penn State's Strategic Plan includes elements that advance the Sustainable Development Goals. For example, thematic elements and foundational elements such as *Enhancing Health, Stewarding Our Planet's Resources, Enabling Access to Education, Driving Economic Development, Fostering and Embracing a Diverse World, and Ensuring a Sustainable Future* are all connected to the SDGs. As Penn State achieves its strategic goals, there is great potential to make a positive and immediate impact on today's global challenges.

## SUSTAINABLE DEVELOPMENT GOALS



## Penn State's Potential for Impact

In a 2018 ranking of each state's performance on the Sustainable Development Goals, Pennsylvania placed 30th out of 50 states. Moreover, PA is one of only 19 states that is currently not on track to achieve any of the 17 goals by 2030.<sup>1</sup>

With a budget of \$6.8 billion and a geographic footprint that includes 24 campuses in Pennsylvania, Penn State is uniquely positioned to make a positive impact on communities throughout Pennsylvania and the SDGs.

## Penn State's Sustainability Institute

The experts at the Sustainability Institute at Penn State serve as consultants and coaches who guide and bolster sustainability efforts at the University. However, in order for sustainability to be fully institutionalized at the University, leadership must take place on the unit and college level. For this reason, the Institute supports the formation of Sustainability Councils, explained fully on page 25, that are supported by a dean or chancellor and charged with creating a unique charter tailored to that college's or unit's specific mission and goals.

<sup>1</sup>SDG USA. Sustainable Development Report of the United States, 2018. [sdg.usa.org](http://sdg.usa.org)

# Research: Addressing today's challenges with a fresh approach

The way research methods and teams work to address global sustainability challenges is of great importance to Penn State, a top 25 research university with research expenditures of \$968 million in 2018-2019. This is especially true as we enter the Anthropocene, a period characterized as a time when the Earth and climate systems are being altered by human activities.

One specific approach to research, *transdisciplinary research*, is especially key to advancing sustainability in today's world. This style of research goes beyond interdisciplinary research by utilizing knowledge and research from other fields to form new approaches for applying solutions to real-world problems. Transdisciplinary research engages individuals and community partners outside of academic and research communities to fully understand the 'big picture' and to identify ways to make a positive impact on issues we are facing today.



One example of transdisciplinary research at work at Penn State is **The Center for Pollinator Research.**

Pollinator health is critically important for our food supply and economy, with Pennsylvania growers obtaining approximately \$250,000,000 in economic value from crops where pollination increases production. Yet, many species of pollinators have experienced huge declines in population. The Center for Pollinator Research involves 30 independent faculty, including researchers, educators, extension specialists and outreach coordinators from multiple departments

and colleges working together to study the factors impacting pollinator health and develop solutions for pollinator conservation. A true collaboration, the center is supported by the Penn State College of Agricultural Sciences and the Huck Institutes of the Life Sciences and maintains partnerships with the Pennsylvania State Beekeepers, the Penn State Master Gardeners, the Penn State Horticulture Extension Team and the PA Department of Agriculture's Entomology Program.

**Transdisciplinary research: the holistic co-creation of knowledge between disciplines to solve real-world problems**

Currently, the center is working to maximize the sustainability of utility-scale solar projects by exploring ways to incorporate pollinator-friendly plants into the site

design process to better understand how plant and pollinator communities can enhance the local agricultural industry while the land is simultaneously being utilized to harvest solar energy.

13 CLIMATE ACTION



**Sustainable Climate Risk Management (SCRiM)** is another transdisciplinary research network

made up of 19 universities and 5 research institutions across 6 countries and centered at Penn State. SCRiM

works to answer the question, "What are sustainable, scientifically sound, technologically feasible, economically efficient and ethically defensible climate risk management strategies?" SCRiM projects cover a range of issues and challenges including intra-regional equitable climate policy and developing and applying advanced tools for trade-off and global sensitivity analysis for climate risk management.

**"Sustainability and conservation aren't just things that happen in a nature reserve; they happen in our backyards."  
-Christina Grozinger,  
Director of the Center for Pollinator Research**



"We are entering the Anthropocene, a period characterized by the alteration of Earth and climate systems by human and social activities, causing sustainability challenges at a global scale. These challenges include the food-water-energy nexus, loss of biodiversity, increasing urbanization, threats to human health and well-being, declining ocean health, socio-economic transformation, etc. In this context, transdisciplinary research on sustainability issues, especially attempts to combine the natural sciences with arts, humanities and law, is vital for solving real-world sustainability problems."

- Dr. Paul Shrivastava, Penn State's Chief Sustainability Officer and Director of the Sustainability Institute at Penn State



A leader in maximizing transdisciplinary connections at Penn State, **Dr. Chris Forest**, associate director of SCRiM and professor of Climate Dynamics in

the Department of Meteorology and Atmospheric Science, is one of many Penn State faculty members who relies on work and research from many colleges and departments to explore causes, effects, solutions and predictions related to climate change.

Recently Dr. Forest, an associate of the Earth and Environmental Systems Institute, the Institute for Cyber Science, and the Institutes of Energy and the Environment, worked with a team of researchers to find how farms across the globe, especially dairy farms, could adopt beneficial management practices to reduce total projected global warming by up to 6%.

Forest is one of several Penn State faculty members to contribute to key reports for the Intergovernmental Panel on Climate Change (IPCC) and was lead author on a report for the U.S. Climate Change Science Program that examined the estimates of temperature trends in the atmospheric and surface climate data.

In May 2019, Forest was named a Senior Fellow of Project Drawdown, a research organization committed to identifying global climate solutions.

"To provide useful guidance to decision makers and policy makers, we must gather the best science from all disciplines and assess what's relevant to specific questions or decisions that cannot be answered within typical core domains," says Forest. "These transdisciplinary approaches must take account of the key elements from each domain to address the multiple objectives and needs of the wide range of stakeholders. These issues are often called 'wicked problems' because they require this broad approach to problem solving."

The first international conference on Drawdown, *Research to Action: The Science of Drawdown*, was hosted at Penn State in September in 2019 by the Institutes of Energy and the Environment. Hundreds attended in person from around the globe and thousands more continue to view the archived sessions with topics that covered food, land use, materials and waste, oceans, women and girls, transportation, electricity and the built environment.





In Fall 2017, the Office of the Executive Vice President and Provost made funds available through seed grants to fund strategic initiatives in support of Penn State's strategic plan. Since then, 43 strategic plan seed grants have been awarded in support of the five thematic elements of the University's strategic plan. Many of the seed grants address priorities outlined in the UN Sustainable Development Goals.

## Strategic Plan Seed Grants: Examples of funded initiatives

2 ZERO HUNGER



### **A Systems Approach for Meeting Local and Global Food-Energy-Water Nexus Challenges**

aims to unite the Penn State community in developing and testing models of varied food-energy-water nexus

challenges in select communities in Pennsylvania and Africa to help guide interventions that promote sustainable development and foster capacity building with local and global partners.

8 DECENT WORK AND ECONOMIC GROWTH



### **Employee Community Networks at Penn State**

is a limited scale pilot program to create "Employee Community Network" groups, supported by the Office of Educational Equity, and to develop

improvements for increased satisfaction and sense of belonging to enhance recruitment and retention of diverse talent at Penn State.

17 PARTNERSHIPS FOR THE GOALS



### **The SoVA Studio for Sustainability and Social Action (SoVAS3A):**

The School of Visual Arts Studio for Sustainability and Social Action promotes the development of arts courses and minors

through curriculum coordination, public art collaborations throughout the commonwealth, a biennial symposium and art exhibition, as well as lectures and workshops by high profile artists.

15 LIFE ON LAND



### **Greening Our Stormwater**

focuses on using campuses as living labs for green stormwater infrastructure during a time when stormwater pollution and flooding are issues of growing global

concern. Using Penn State's multi-campus network, this project creates a living laboratory for green stormwater infrastructure (GSI) research, education and innovation and aims to transform Penn State into a national GSI leader, building community capacity in the long term to implement cost-effective solutions.

10 REDUCED INEQUALITIES



### **Integrated Data Systems Solutions for Health Equity**

aims to develop the capacity to access and link administrative data from different collecting agencies to advance understanding of health disparities

and provide direction for public policy in the Pennsylvania.

11 SUSTAINABLE CITIES AND COMMUNITIES



### **Growing Food, Leaders and Community: Expanding Sustainable Food Systems Learning Across Commonwealth Campuses**

extends concepts learned during the development of

the Sustainable Food Systems Program (SFSP) and Student Farm at Penn State University Park (UP) to the Beaver and Behrend campuses.



# Looking into past and future support for sustainability

7 AFFORDABLE AND CLEAN ENERGY



Prior to strategic plan seed grants, Penn State invested more than **\$875,000 into projects, coursework, service and internships related to sustainability** through the Reinvention Fund, managed by the Sustainability Institute. Between 2014-2015, over 30 initiatives were launched, involving more than 80 faculty, 60 staff and 150 students. Many initiatives launched from the fund continue to grow and thrive today. For example, the Office of the Physical Plant continues to use a fleet of electric vehicles and a solar array, built with the help of students, to power them. Similarly, a small grant from the Reinvention Fund launched the Lion's Pantry, a food pantry at University Park, and it has been operating since 2014, serving between 20-30 students each week.

4 QUALITY EDUCATION



Looking ahead, a new endowment, the Dr. John Roe Fund for a Just and Sustainable Future in Penn State Outreach, was established in October 2019 by Liane Roe in honor of her late husband. John Roe was a professor



Dr. John Roe at Glacier Point in Yosemite National Park.  
Image: Liane Roe

in the Department of Mathematics at Penn State for more than 20 years, and served as department head for five years. He was committed to promoting equity for marginalized individuals and had a passion for the outdoors. John created a course, Mathematics for Sustainability, asking his students: "You must take a math course. Would you rather learn the quadratic formula, or would you rather save the planet?"

Penn State Outreach and the Sustainability Institute at Penn State will manage the endowment, which will support student and faculty engagement opportunities geared toward integrating sustainability throughout the University.



Penn State students outside of the Lion's Pantry  
Image: Penn State

# Education: Learning to ensure a sustainable future for all

In an ongoing effort, Penn State is prioritizing an infusion of sustainability concepts into the curricula of its academic programs on every level, from those for first-year students to those of Ph.D. candidates.

13 CLIMATE ACTION



Penn State currently offers around 400 courses related to sustainability across 11 colleges, many of which are cross-listed between colleges. For example, **The Ethics of Climate Change** combines a basic introduction to the science of climate change with an overview of key ethical issues and is cross-listed with philosophy, meteorology and religious studies.

8 DECENT WORK AND ECONOMIC GROWTH



In the **Smeal College of Business**, over 14,000 undergraduates have gone through a required course in sustainability that includes critical topics such as diversity and ethics, and 800 MBA students from across the country have participated in Smeal's Sustainability Case Competition. Smeal hired a full-time director of sustainability in 2015 and will open the Center for the Business of Sustainability in 2020 to advance efforts that integrate sustainability in business.



**Megan McCarthy works on an outdoor art installation for her Recreation, Park, and Tourism class, Principles of Interpretive Materials. Image: Joshua Potter**

4 QUALITY EDUCATION



A **Minor in Sustainability Leadership** is offered to Penn State students seeking to promote environmental, social and economic sustainability in their personal and professional lives. Administered by a University-wide faculty committee, the minor provides opportunities for students to develop sustainability leadership competencies through a variety of tracks.

## Tracks offered for the Sustainability Leadership Minor:

Sustainability and Food Systems

Humanistic Understanding of Sustainability

Educating for Sustainability

Design for Sustainable Communities

10 REDUCED INEQUALITIES



**Penn State World Campus** is advancing the Sustainable Development Goals in several unique ways. World Campus has been offering quality online education to students since 1998 and by 2018 had reached an enrollment of 14,000, the second-highest of all Penn State campuses. World campus students have access to 150 degree programs from around the globe, making it possible for students to achieve their educational and professional goals regardless of their proximity to a campus or their work schedules. Many students are reducing their carbon footprint as well, by taking classes remotely, eliminating the need to commute to and from campus.



# Student competitions put sustainability to the test

Student competitions challenge students to work across disciplines and colleges to utilize the latest knowledge and technology to design and to bring to life projects that not only excel in national energy competitions, but also influence today's energy and infrastructure industries.

11 SUSTAINABLE CITIES AND COMMUNITIES



An interdisciplinary team of students won **first place in the 2017-2018 Race to Zero contest for Suburban Single-Family Housing**, which challenges contestants to design an affordable, net zero energy

home that meets DOE's Zero Energy Ready Home guidelines. Penn State has participated in the design competition since 2014.

7 AFFORDABLE AND CLEAN ENERGY



An interdisciplinary team of 17 Penn State students **placed first overall in the 2019 Department of Energy Collegiate Wind Competition**, a contest designed to challenge undergraduate students to create

unique solutions to complex wind energy projects, including financial analysis related to the projects. This is Penn State's fourth victory in the competition in the last six years.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



In June 2019, Penn State Behrend's Society of Automotive Engineers (SAE) Club took first place in the **International Supermileage Challenge**, held at Eaton Corporation's Marshall Proving

Grounds test track in Michigan. For the competition, students created vehicles to achieve the highest possible mileage out of a single tank of high-octane gasoline. The Behrend vehicle traveled 3,013 miles on one gallon of gas, a **new United States record**.



Next Generation Building Solutions/Penn State student team Image: Penn State



Members of the 2019 Penn State Department of Energy Collegiate Wind Competition team. Image: Penn State



Team of students from Penn State Behrend's Society of Automotive Engineers Club. Image: Penn State

*"The Race to Zero project has been the most rewarding experience of my college career. I was able to learn about concepts outside of my field and expand myself socially and educationally."*

- Sean Copeland, Race to Zero team member

# Campus as a Learning and Living Lab...

A Penn State education extends far beyond the classroom. Living Labs provides students with one-of-a-kind, hands-on, real-world learning experiences. Through collaboration and research, Living Labs create an educational framework for students and faculty to address University and community challenges. Academic enhancement, community partnerships and engaged scholarship are at the forefront of what a Living Lab looks like.



2 ZERO HUNGER

## Growing minds, community and food:

The Student Farm at Penn State is run by students, for students. The farm has three main goals: to help students understand and address the complex issues facing our modern

food system, to remain rooted in community, and to build and demonstrate a local and sustainable food system. With these goals in mind, the farm, a piece of the Sustainability Institute's Sustainable Food Systems Program, allows students to link their classroom education with experiential learning, research and community outreach. Most Penn State campuses have a student farm or community garden, and food security initiatives are available at 23 Penn State campuses.



Image: Penn State

In 2019, the Penn State Student Farm sold 10,021 pounds of produce and facilitated the donation of 25,512 pounds from its farm and other community farms.

4 QUALITY EDUCATION



## Wind turbine, charging station, solar home and more:

The Sustainability Experience Center at Penn State lies on the edge of Penn State's University Park campus and provides a living laboratory for students, faculty and the community to research and learn about sustainability. This nine-acre site is under the stewardship of the Sustainability Institute and is home to the Community Garden, the EcoMachine™, two wind turbines, two groves of trees for research and the MorningStar Solar Home. The SEC offers many features for visitors to explore food, energy, water, land and community systems. In the 2018-2019 academic school year, the Sustainability Experience Center hosted 885 visitors of all ages from a variety of schools and organizations.



885 visitors to the SEC in 2018-2019

The Nittany Lion stands in front of the MorningStar Solar Home, built by students in and powered by solar energy. Image: Penn State

11 SUSTAINABLE CITIES AND COMMUNITIES



## Making a difference in Pennsylvania's cities:

A program of Penn State Outreach, Penn State's City Semester program offers students and community members opportunities to work together in order to make a

positive impact in urban communities. City Semester Pittsburgh participants gain leadership skills in addressing urban sustainability and resiliency while working with one of many community partners. City Semester Philadelphia students are placed with community partners that are working toward advancing equity, inclusion, social justice and quality of life in Philadelphia's communities.

# CITYSemester

# Penn State's newest living lab...

7 AFFORDABLE AND CLEAN ENERGY

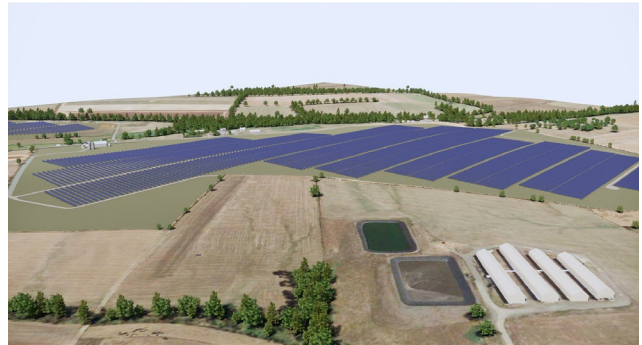


## The largest solar project in Pennsylvania:

In February 2019, Penn State and Lightsource BP announced the development of a 70-megawatt solar project that will produce 25% of the university's

electricity, state-wide, over 25 years through a Power Purchase Agreement (PPA). Three arrays of utility-scale ground mounted solar panels will be spread across 500 acres in Franklin County, Pennsylvania, near Penn State's Mont Alto campus. The project will be operational by Summer 2020.

Not only will the project help Penn State reach its goal by 2020 to reduce greenhouse gas emissions by 35% from 2005 levels, it will also serve as a living laboratory for Penn State students and community members looking to explore and develop practical



Site design proposal for the 70 MW Solar Project in Franklin County, PA. Image: Lightsource BP

real-world experience in designing utility solar projects that help conserve the environment. Internships, research projects and tours at the solar sites will enrich student's learning experiences while maximizing the sustainability of the utility-scale solar projects in a way that supports local economies and habitats.

# ...and one of its earliest

6 CLEAN WATER AND SANITATION



## A unique solution for water treatment:

In the 1960s, Penn State began researching the land application of wastewater after issues with wastewater disposal methods that negatively impacting stream

health. The research led to the development and implementation of a 'living filter' to process some of its wastewater more sustainably.

The living filter is a 600-acre area of land located about 2.5 miles from the University Park campus center. Wastewater from Penn State is treated and then land applied, where it naturally filters through plants, soil and rocks before recharging the regional water table. Over 500 million gallons of water are recycled each year. With the living filter in operation, there has been no direct discharge from the wastewater treatment plant to a surface stream since 1983.



Corn Irrigation at Penn State's "Living Filter" Image: Emily Woodward/Penn State

The Office of the Physical Plant has sponsored over \$200,000 per year of research at the Living Filter since 1999, with over \$2 million for impact studies related to crop management, forest management and effects on birds, small mammals, reptiles and invertebrates. Many postgraduate students have earned their masters and/or Ph.D. with living filter research.

# Community Engagement: Connecting unique perspectives with shared goals

## Sustainable Communities Collaborative (SCC)

The Sustainable Communities Collaborative (SCC), a program of the Sustainability Institute, connects University Park faculty, students and staff with community organizations to address sustainability challenges through an engaged, collaborative effort. Each project is a facilitated effort between faculty, students, community leaders and the Sustainability Institute working together to support thriving, healthy communities. Below are highlights from just four of 88 projects from the 2018-2019 academic year.

11 SUSTAINABLE CITIES AND COMMUNITIES



### Arts Festival Succession Plan

**Class:** Penn State University Park LER 460 with Tom Hogan

**Partner:** Central Pennsylvania Festival of the Arts

**Project:** Students created a succession plan for the non-profit organization responsible for the Central Pennsylvania Festival of the Arts and First Night State College events which draw thousands of visitors to State College each year. The succession plan outlines how operations can continue successfully for the small non-profit should a key team member become unexpectedly unavailable. Students inventoried volunteer positions and job descriptions and made recommendations to build a repository for volunteer information, feedback and data.



The Central PA Festival of the Arts draws 150,000 visitors to downtown State College and campus every July. Image: Penn State



The Sustainable Communities Collaborative pairs Penn State classes with community organizations to solve problems and build lasting partnerships. Image: Jon Blauvelt

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



### Alternative Energy Sources For Augmentative Devices (NRG/ Goal Zero)

**Class:** Penn State Hazleton ENGR 490 with Joseph Ranalli and Will Yourey

**Partner:** Anthracite Region Center for Independent Living

**Project:** Assistive technology empowers individuals with disabilities to live independently. However, technological solutions often require access to electrical power to function. This project focused on designing a solution that can provide power to critical communication technologies, such as augmentative communication devices, during electrical blackouts. This project not only explored new tools and their applications available to disabled communities, but also identified the need and opportunities that exist within special communities.

*"The Arts Festival staff enjoyed the experience of working with students studying Human Resources Management as we started to wrestle with the idea of Succession Planning, both for our small staff and also for the dedicated core team of volunteers who handle critical functions of the festival in about fifteen different areas. What we learned from both the Penn State students and our own volunteers will help to smooth our leadership transitions as they come along." - Jennifer Shuey, Central Pennsylvania Festival of the Arts*



**Trail Stabilization Project / Altoona**  
 Class: Penn State Altoona BE 460/466 with Megan Marshall  
 Partner: Blair County Planning Commission

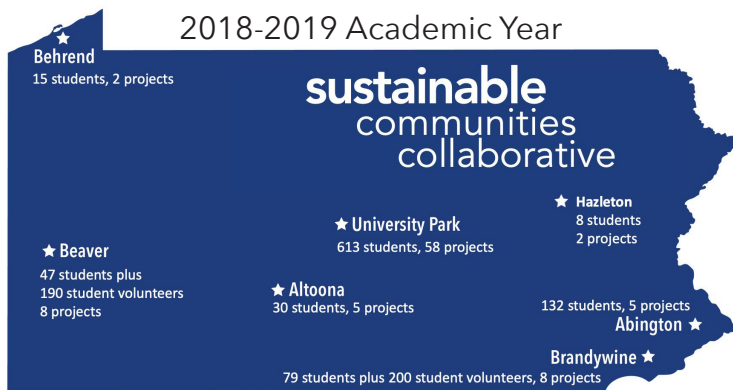
**Project:** Chimney Rocks Park, located in Hollidaysburg, PA, showcases panoramic views of the area as well as limestone rock formations shaped like spires. To access some scenic overlooks at the park and the chimney rocks, park visitors must use a half-mile, steep trail that has become very uneven in some stretches due to channels that have been created by runoff. The trail is also sometimes unstable in the winter and spring due to mud. Students developed a detailed site plan, including recommended best management practices, to minimize erosion and stabilize the trail, allowing three-season access to the overlook. The project tied in with two existing Blair County initiatives - promoting community wellness by improving "active living" infrastructure and managing stormwater. Student work informed next steps for the planning department and park management.



**WPSU Discussion Guide to Accompany Video: Managing Risk in a Changing Climate**

Class: Penn State University Park CED 475 with Tim Kelsey  
 Partner: WPSU and Rob Nicholas, associate research professor, Earth & Environmental Systems Institute

**Project:** *Managing Risk in a Changing Climate*, a short documentary film created under the guidance of the Sustainable Climate Risk Management Network (SCRiM), highlights how decision makers can work with researchers and the community to address the challenges of climate change in and around coastal Louisiana. Discussion materials and related resources were needed to expand the film's reach, and Kelsey's students provided valuable tools and resources to the filmmakers for designing additional educational and outreach materials. The project made it possible to expand use of the film to promote community discussions on preparing for and responding to climate change.



**involved in SCC during the 2018-2019 academic year**

SCC is supported in part by a grant from PepsiCo.

Pictured below: Students display posters describing their Sustainable Communities Collaborative projects during the 2019 Fall Sustainability Expo & Awards. Image: Penn State





Julie Heffernan's "Sky Burial," (diptych), 2016, oil on canvas, 54 x 100 inches was on display at the Palmer Museum of Art in summer 2018.

## The art of a sustainable university

A sustainable university is a creative university. When art intersects with science, new stories are uncovered, making it possible for individuals to better understand, and make more personal connections with, the environmental, social, political and economic factors that advance, or stand in the way of, our ability to achieve the Global SDGs.



In Spring 2018, a national exhibit was brought to the Palmer Museum of Art that resulted in historic attendance to the museum when **over 1,000 visitors per week** came to experience "Plastic Entanglements: Ecology, Aesthetics, Materials" and explore humans' relationship to plastic through the past, present and future. The exhibit featured 60 works, including videos,



and sculptures and drawings and photographs by 30 artists who collectively provided a new perspective on the way people of all ages and backgrounds interact with plastic and how these interactions impact our world today and in the future.

Aurora Robson's "Isla," 2014, was on display during the "Plastics Entanglements" exhibit at the Palmer Museum of Art in Spring 2018.

17 PARTNERSHIPS FOR THE GOALS



"When the Water Rises: Recent Paintings by Julie Heffernan" explored relationships between people and the environment in an exhibit brought to the Palmer during summer 2018.

Heffernan's paintings explore colorful, imaginative habitats in a universe altered drastically by environmental disasters, challenging visitors to imagine how climate change is causing humankind to adapt on many levels.

13 CLIMATE ACTION



In January 2019, the Sustainability Institute launched its **Intersections Film Series** to bring awareness and a different perspective to issues through films varying in length, style and subject matter. In Spring 2019

the series explored labor issues in partnership with the Center for Global Workers' Rights while the 2019-2020 series *Limits of the Imagination* series asks viewers to see possibilities, not limits, when confronting seemingly daunting challenges like climate change. As of November 2019, total attendance for the film screenings, which are always free and open to the public, had exceeded 1,200.



# Student Engagement: Learning and leading the (sustainable) way

Penn State students understand that they can contribute to creating a more sustainable future long before they earn a degree. While the university has been guiding graduates-to-be since 1855, today's students are true leaders when it comes to inspiring and guiding faculty, staff and administration to continually strive to advance sustainability at Penn State.

There are more than **100 student organizations that have committed to advancing one or more Sustainable Development Goals**, with more than 15 organizations highly engaged and active in sustainability work, and hundreds more that touch on sustainability throughout their activities.



The **Penn State Council of Sustainable Leaders (CSL)**, a Sustainability Institute affiliate, was founded in 2015 with a goal to support sustainability-related groups across the University and enhance student and faculty

engagement in sustainability-focused programming. Some initiatives led by the CSL include:

**Sustainability Showcase Speaker Series:** A weekly speaker series that highlights a broad range of topics and speakers on varying issues related to the SDGs.

**EcoCoin:** A program that gives customers at stores on campus an option to refuse a plastic bag for their purchases and donate five cents to charity instead.

**Friday Night Lights Out:** A partnership with the Office of the Physical plant and students to turn off lights and save energy during weekends when buildings are not in use.

In Spring 2019, the CSL awarded the first-ever **Student Sustainability Awards** to recognize "outstanding students and student organizations at all Penn State campuses who demonstrate a sincere commitment to transforming Penn State into a leader in and living laboratory for sustainability."

One CSL Student Sustainability Award recipient, Marissa Bufalini, a junior in administration of justice at Penn State Beaver, was instrumental in starting the food pantry on the Beaver campus, worked as an intern for the campus garden and took a leadership role in the Community Table program with the Salvation Army.



Marisa Bufalini, award recipient. Image: Penn State

"Being selected for this award gives me more opportunities to educate my community on what sustainability entails," said Marisa. "It's an honor to be acknowledged

for something which I've grown to be so passionate about."



The **Penn State Student Sustainability Advisory Council**

helps advance Penn State's strategic goals for sustainability by studying and researching particular issues

and making recommendations to Penn State administration. The council is comprised of students with experience and interest in studying, advancing and promoting sustainability as well as appointed faculty and administrators from the Sustainability Institute, Finance and Business and Student Affairs.



Paul Shrivastava and Sam Anwalt plant a tree on campus in spring 2019 to commemorate Sam's Sustainability Leadership Tree Award from SSAC for his work to establish the EcoCoin program and service as the executive director of the Council of Sustainable Leaders.



**THON**, the largest student-run philanthropy in the world, raised \$10,621,683 for children and families affected by childhood cancer in 2019, while also reducing the carbon footprint of its events through efforts

such as sustainability and recycling education sessions and more effective compost methods. THON is working toward an 80% waste diversion rate with support from its OPPerations Committee and the Sustainability Institute.

# More than just a game...

Students understand that Penn State football games and related events are an opportunity to demonstrate sustainability to thousands and go the extra mile to make the most out of them.

**EcoReps** Penn State EcoReps are student educators for sustainability at Penn State's University Park Campus. Through a focus on educating first year students in East and Pollock residence areas, EcoReps communicate Penn State's commitment to sustainability from students' very first day on campus.



Penn State EcoReps help the President's Box achieve zero-waste during home football games. Pictured above: Dr. Barron and wife, Molly, with EcoReps during the 2019 season (Image: Penn State).

**Tailgate Ambassadors** is comprised of student volunteers who promote environmentally friendly tailgate practices, especially related to recycling properly, prior to Penn State football games.



Students involved with Penn State Homecoming weekend prioritize sustainability through several goals and initiatives to help the event reach a goal of 80% diversion rate from landfill, such as Recycle Your Float Day the day after the homecoming parade (Image: Penn State).

## Students help NFL fans go green

Last April, 21 Penn State students traveled to the 2019 NFL Draft in Nashville, Tennessee, to help visitors reduce waste and promote sustainability through the NFL Environmental Program.



Image: Penn State

Applicants from the Smeal College of Business and the Recreation, Park, and Tourism Management program in the College of Health and Human Development were selected for the trip, which was made possible by grant funding from Penn State's Student Engagement Network and PepsiCo, and support from the Sustainability Institute.

Over the course of three days, students interacted directly with fans and provided guidance as they disposed of their trash. Some stood beside trash bins to help fans sort their composting, recycling and waste, while others roamed the event and handed out pins and hats to individuals who were spotted recycling properly. "I enjoyed people's pleasant reactions when caught recycling more than anything," said Penn State student Devin Nowacki. "I believe we made an impact on many people's lives, and I look forward to using all that I've learned as I further my knowledge and career."

# Faculty & Staff Engagement: Working together to make a positive impact

8 DECENT WORK AND ECONOMIC GROWTH



Penn State staff and faculty are continually being challenged to transform what and how students learn during a time when change is the only constant. Today, guiding future leaders takes more than the status quo, it requires a personal commitment to sustainable solutions and a willingness to lead by example.

12 RESPONSIBLE CONSUMPTION AND PRODUCTION



The Sustainability Institute developed the **Green Paws** program to offer a simple, yet effective, way for faculty and staff to learn how to use resources efficiently in the office while earning a Green Paws Office Certification for their efforts. In December 2018, Penn State New Kensington became the first Penn State campus to complete all levels of the Green Paws program.

Faculty, staff and students can also voluntarily form **Green Teams** to take specific actions to help their college, department or building operate in efficient, innovative and healthy ways.

17 PARTNERSHIPS FOR THE GOALS



As a way for Penn State Commonwealth Campuses to exchange success stories and tackle challenges related to sustainability, the Sustainability Institute hosts annual **Commonwealth Sustainability Forums**. During the forums, colleagues gather to participate in hands-on workshops, discussion groups and speaker presentations to gain new ideas about incorporating sustainability into their operations, academics and student and staff engagement efforts.

As of spring 2019, faculty, staff and students with a strong commitment to advancing sustainability at Penn State can now join the **Sustainability Institute Affiliate Program**, which recognizes and supports individuals with a dedicated commitment to sustainability.

green  
paws

green  
teams

65+  
individuals

have joined the SI Affiliate Program since spring 2019

2,200  
individuals

have participated in the Green Paws program since 2010

148  
individuals

attended the Commonwealth Campuses Sustainability Forums in 2019

*"The Sustainability Institute recognizes that Penn State has an extensive community of sustainability champions and doers. Through our Affiliate Program, we are seeking to support and amplify the work of these faculty, staff and students who are developing and implementing solutions, performing cutting-edge research, creating critical artwork, teaching or engaging in a myriad of other ways with sustainability."*

- Dr. Peter Buckland, the Sustainability Institute's academic programs manager



Attendees from the 2019 Commonwealth Campus Sustainability Forum at Penn State Beaver. Image: Penn State

# Technology geared toward change



With the help of a little technology, some lesser-known initiatives also make a big impact reducing the Penn State community's greenhouse gas emissions.

**Zagster Bike Share:** Penn State offers a bike sharing program to students, faculty, staff and community members through Zagster. The bike share offers on-demand bicycle access as an affordable and healthy way to get around campus. There is an annual membership fee of \$25 per year for students, who can access 110 bikes from 21 station locations throughout the University Park campus. As of September 2019, over 50,000 rides had been taken.

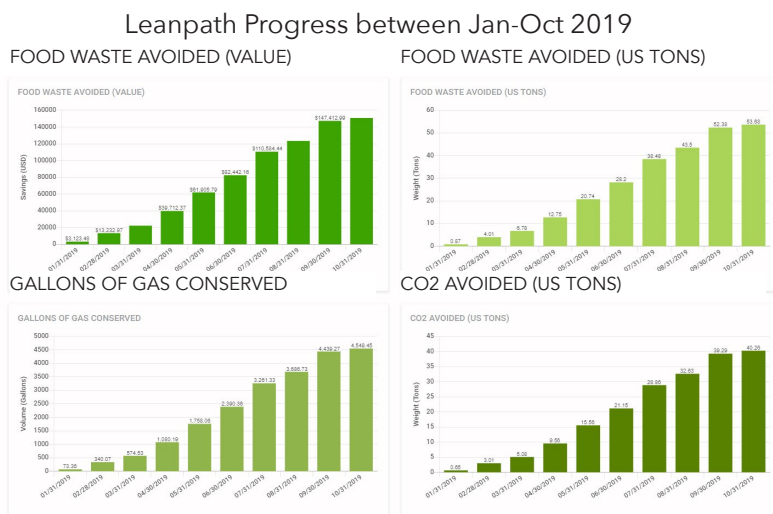
**Zimride:** Zimride is Penn State's ride-matching network that matches students, faculty and staff who are going the same way to share seats in their vehicle or catch a ride. The Zimride platform is the largest web-based ride-sharing/carpooling network in North America, but the Penn State network is private, and only open to Penn State students, faculty and staff with a valid PSU access ID.

**Events2HVAC:** The Office of the Physical Plant is utilizing software to reduce the University's carbon footprint and energy use in classrooms and meeting rooms across campus. Events2HVAC makes it possible to proactively set a room's HVAC controls according to room schedules so that rooms are only heated and cooled when in use. After running Events2HVAC across 300 rooms, a 72-percent reduction in occupied time was noted.

**Leanpath:** Penn State is utilizing Leanpath, a food waste tracking system, to reduce food waste on campus. To increase awareness of food waste, unused food is weighed by meal preparers and diners prior to being disposed of at dining halls. Food waste metrics are then displayed on monitors at the dining halls. The program piloted in the South Food District in January 2019 and, as of October, food waste had been reduced by 30%, saving Penn State over \$160,000 and reducing its carbon footprint by the equivalent of over 5,000 gallons of gas. Leanpath will soon be implemented at Commonwealth Campuses and all University Park dining halls.



Image: Penn State



**over 100,000 tons**

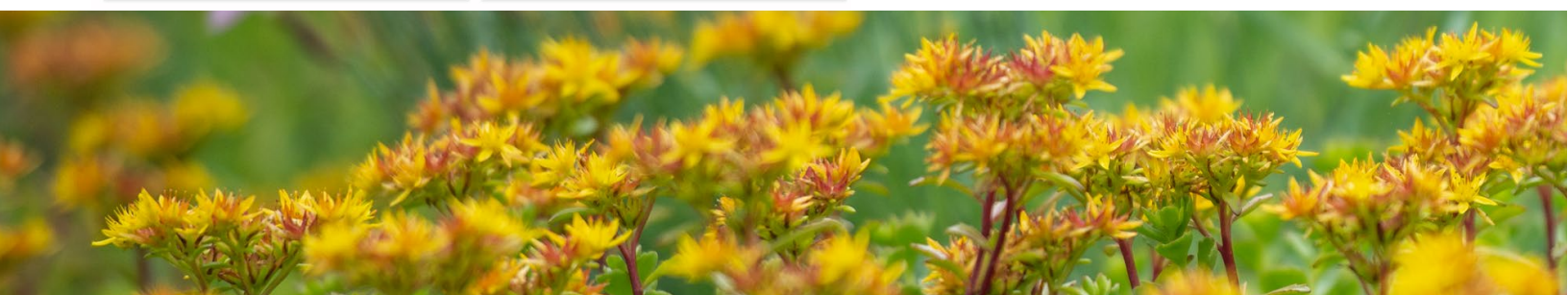
of food saved between Jan-Oct 2019 with food waste reduction technology

**60% reduction**

in equipment runtime with Events2HVAC technology

**348,600+ miles**

saved through the Zimride program between fall 2016 and 2019

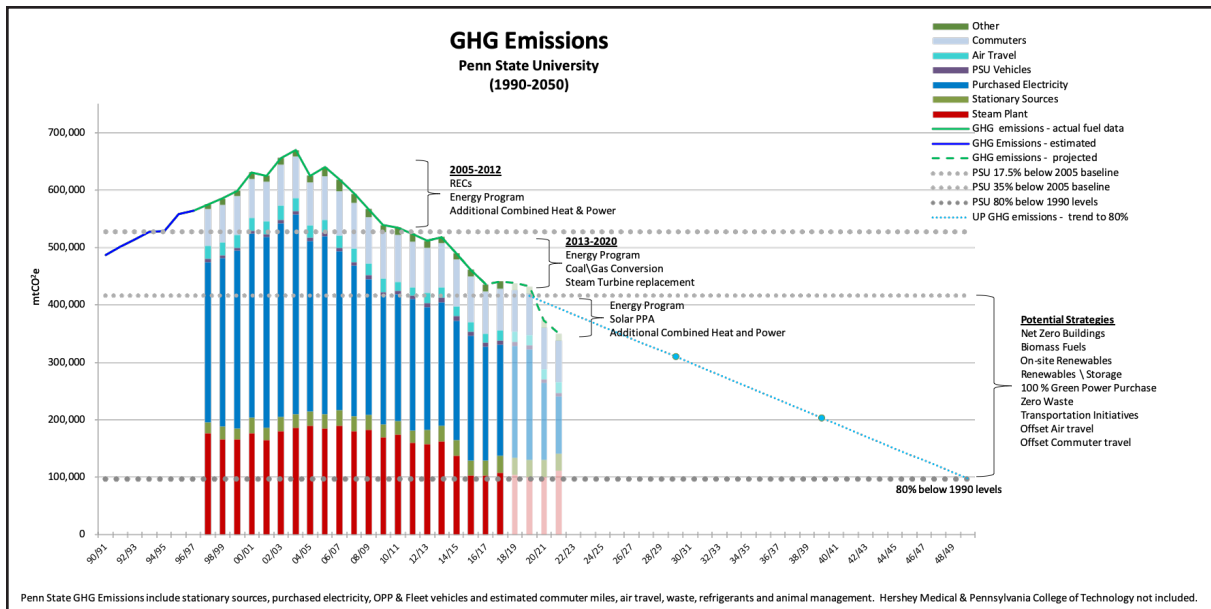


# Operating Sustainably: Energy, Waste and Grounds

Penn State leads by example throughout its operational efforts and its commitment to reduce greenhouse gas emissions. In 2017, Penn State signed the "We are Still In" pledge to continue meeting the United States' responsibilities under the Paris Climate Accord and set a goal to reduce

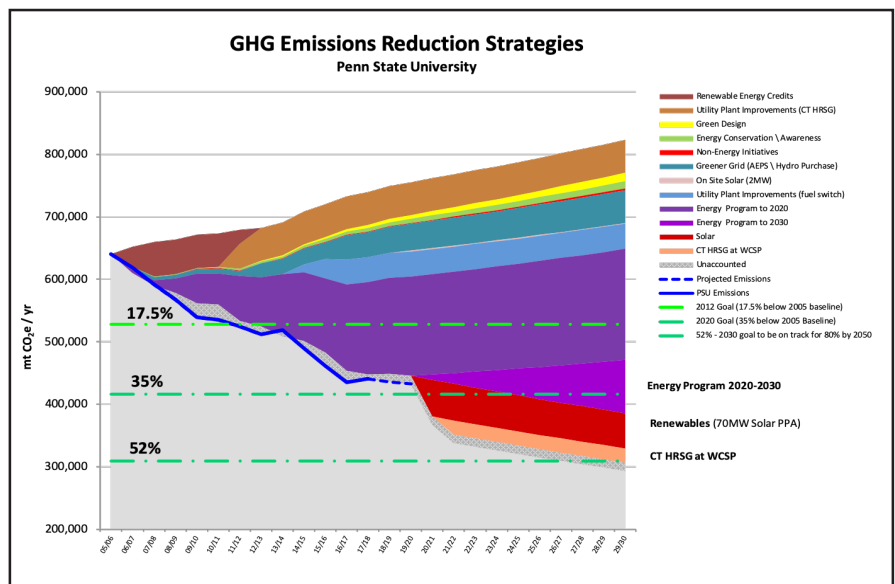
greenhouse gas emissions by 35% below a 2005 baseline by 2020, and by 80% below the 1990 levels by 2050. These goals also reflect Pennsylvania's goals, signed by Gov. Wolf in January 2019, to reduce GHG emissions by 26% by 2025 and by 80% by 2050, compared to 2005 levels.

## Greenhouse Gas Emissions Reduction Goals through 2050



### Reducing Greenhouse Gas Emissions

Energy usage is the largest contributor to Penn State's emissions profile. Penn State has reduced its campus greenhouse gas emissions by 32% since 2005. Penn State's carbon footprint today is the same as it was in 1987, despite growing campuses and enrollment. In addition to converting the university's coal-fired power plant to natural gas, other significant reductions have been achieved by focusing on a foundation of energy conservation, increased efficiency, increased levels of combined heat and power (CHP), increased use of solar power, targeted renewable purchases and awareness strategies.



# Renewable energy and energy conservation

7 AFFORDABLE AND CLEAN ENERGY



## Renewables

**70 MW Solar PPA:** In 2019, Penn State entered into a 25-year Solar PPA (Power Purchase Agreement) with Lightsource BP. With over 150,000 solar panels sited on roughly 500 acres across three locations in Franklin County near Penn State's Mont Alto campus, the arrays will provide 25% of Penn State's statewide purchased electricity requirements over 25 years.

**2 MW Solar PPA:** A 25-year PPA with the Alternative Energy Development Group (AEDG) for a 2MW on-site solar array located on the University Park campus began operating in April 2019 and acts as a true living lab that combines operations with teaching, research and outreach opportunities.

**6 MW Hydroelectric PPA:** In 2013, Penn State entered into a 10-year PPA with Mahoning Creek Hydroelectric Company for energy produced by a hydroelectric generating plant at the existing USACE dam on Mahoning Creek in PA.

**EV Charging Stations:** A solar array outside the main Office of Physical Plant provides power to charge OPP's 100% electric vehicles. Transportation Services, in collaboration with OPP, added three electric vehicle (EV) charging stations at the Nittany Parking Deck, the first at the University Park campus to be available to the public.

## Combined Heat and Power

At University Park, the East and West Campus combined heat and power (CHP) plants, co-generating steam and electricity, serve more than 200 buildings on campus via a network of 17 miles of underground piping. Penn State's District Energy System produces 100% of campus steam needs and

about 20% of campus electrical needs. At an average efficiency of nearly 80%, Penn State's District Energy system is significantly more efficient than a typical utility power station.



## Energy Conservation

Penn State focuses on energy conservation and efficiency projects in building systems and utilities and has committed to a 20% reduction in building energy intensity by 2024 via the Department of Energy's Better Building Challenge. The OPP Energy Program includes a variety of initiatives, including:

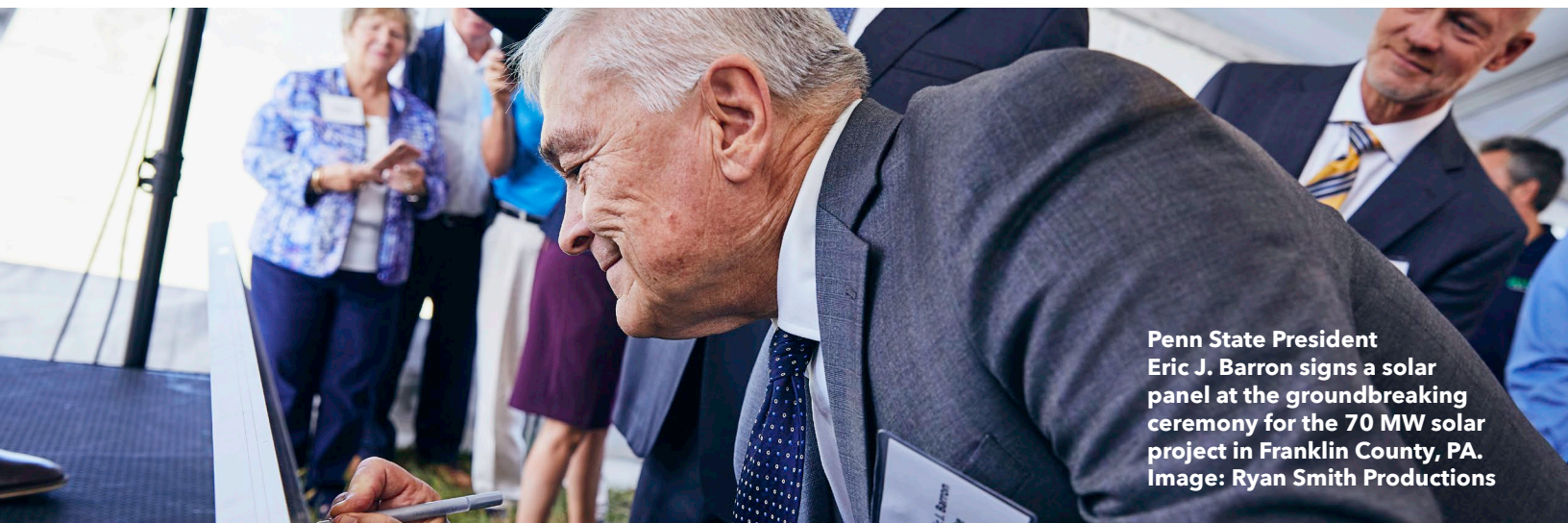
**Energy Savings Program (ESP):** The program has invested over \$100 million with an additional \$79 million in program funding slated in the current Capital Plan. The energy funds, including financing, are recovered through the avoided utility costs over a 10-year payback period. Multiple ESP projects have been completed at University Park and many Commonwealth Campuses.

**Energy Conservation Measures (ECM):** These smaller scope projects, such as installing low-flow water fixtures and using LED lighting, have an average simple payback of less than five years.

**Continuous Commissioning (CCx) Program:** Energy and costs are saved when OPP invests in re-commissioning, retro-commissioning, and maintaining campus buildings.

**Building Automation Systems (BAS):** These systems keep buildings' climates within a specific range and provide lighting based on occupancy schedules.

**Green Design:** Penn State utilizes LEED standards to design and construct university facilities.



**Penn State President Eric J. Barron signs a solar panel at the groundbreaking ceremony for the 70 MW solar project in Franklin County, PA. Image: Ryan Smith Productions**

# Waste Stream Task Force

11 SUSTAINABLE CITIES AND COMMUNITIES



The Penn State Waste Stream Task Force was convened by David Gray, senior vice president for Finance and Business and University Treasurer, in the spring of 2018. The Task Force is cosponsored by Charles Whiteman, dean, Smeal College of Business, and William Sitzabee, Jr., associate vice president of the Office of Physical Plant. The Task Force was charged with creating fiscally, environmentally and socially responsible goals and principles to guide

the University's procurement, operational and solid waste management decisions while also providing opportunity for academic engagement.

The Waste Stream Task Force presented its report and recommendations to Penn State leadership in Fall 2019 for revising procurement policies, strategically communicating and branding Penn State recycling and increasing advocacy for recycling and waste reduction across the University. To see details of the report and learn more about the recommendations, visit [www.wastestream.psu.edu](http://www.wastestream.psu.edu).

# Grounds for Sustainability

15 LIFE ON LAND



Grounds maintenance at Penn State goes beyond providing a beautiful place to work, learn and play. Strategic, environmentally friendly landscaping creates tranquil spaces for all while reducing the urban heat island effect and managing storm water. Living lab opportunities are endless for students across a wide variety of colleges and majors.

In Spring 2018, Penn State University Park replaced 90% of its small, gas-powered lawn equipment with electric equipment. Replacing the fleet of weed trimmers, push mowers, hand-held blowers hedge trimmers, approximately sixty pieces of equipment total, resulted in a reduction of approximately 1,000 gallons of gas annually while also reducing noise pollution.

Penn State University Park is certified as a Bee Campus USA, Tree Campus USA, Bicycle Friendly University (Silver), and received four-star accreditation for landscape management and operations from the Professional Grounds Management Society (PGMS), and received Green Star Awards from PGMS in 2010, 2015, 2018 and 2019.



9,300 trees

located on University Park's core campus

4,460 tons

of carbon stored by the trees, equal to annual emissions of 970 passenger cars

89.7 acres

of tree cover provided by 'urban forest' at Penn State University Park



Composting at University Park is a closed loop system, meaning that food waste and wood waste generated on campus is made into mulch or compost at a facility on campus and used for landscaping projects at University Park. Image: Penn State

# Sustainable Operations Council



The Finance & Business Sustainable Operations Council (SOC) was founded in 2018 with the purpose of supporting the strategic engagement of sustainability as a core business strategy that strengthens and accelerates the ability of Penn State Finance & Business to provide quality service.

The power of the SOC is in bringing together diverse perspectives and operational areas of expertise to enhance and highlight the efforts of all F&B units and facilitate meaningful inter-unit partnerships and engagement opportunities for students, faculty and staff.

As of October 2019, Sustainable Operations Council members were involved with over 140 projects and initiatives to advance sustainable operations at Penn State, many of which are highlighted in this report (70 MW solar project, the Waste Stream Task Force, Leanpath and Zagster).

The SOC is supported by an executive board and the Sustainability Institute. Members of the SOC represent 13 different departments or units at Penn State:

- Athletics
- Auxiliary & Business Services
- Auxiliary & Business Services (Enterprise Services)
- Corporate Controller
- Faculty Senate
- Food Services
- Human Resources
- Information Technology
- Office of the Physical Plant
- Purchasing
- Smeal College of Business
- Sustainability Institute
- Transportation



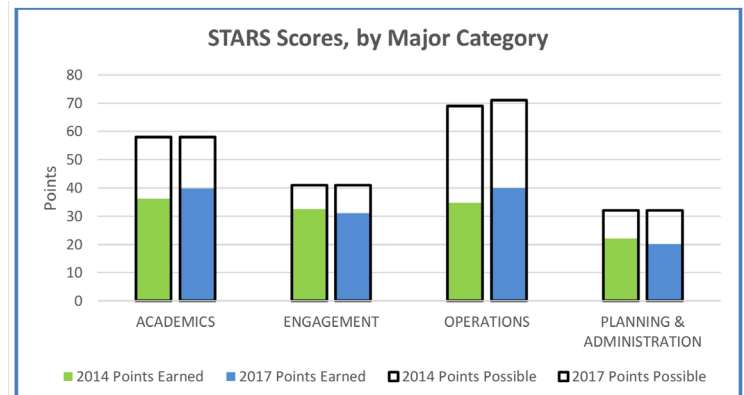
## STARS: Sustainability Tracking, Assessment & Rating System

Since 2011, sustainability efforts at Penn State have been evaluated and reported using

STARS, the Sustainability Tracking, Assessment & Rating System developed by the Association for Advancement of Sustainability in Higher Education (AASHE). STARS rates sustainability performance in 64 different areas covering academics, engagement, operations and planning and administration. In its last assessment in 2017, Penn State earned a gold rating and an overall score of 67.9 out of 100, a score that has improved continually since the first report in 2011 when Penn State scored a 58.8 and earned a silver rating.

The STARS report helps identify the efficacy and feasibility of potential ways to enhance sustainable development at Penn State. While the university has scored consistently high in areas such as research, water use and engagement, scores

are expected to improve over time in areas such as energy and curriculum, as greenhouse gas emissions continue to decrease and more courses connected to sustainability are added to course listings for more academic majors.





# Sustainability Highlights at Penn State

- February 22, 1855** Penn State chartered with a goal to apply scientific principles to farming
- April 20, 1970** Penn State celebrates the planet's first Earth Day
- 1995** Center for Sustainability founded
- 2000** Green Destiny Council releases Penn State Indicators Report: Steps Toward a Sustainable University
- Fall 2008** Campus Sustainability Office created
- 2009** Penn State's community garden is founded
- Spring 2010** Green Paws Program and Green Teams are established at Penn State
- September 2011** Student Sustainability Advisory Council formed
- Fall 2011** Penn State offers new minor in sustainability leadership
- Fall 2011** Penn State Board of Trustees adopts Sustainability Strategic Plan
- January 2013** Sustainability Institute established
- Fall 2013** Sustainable Communities Collaborative launched
- October 2013** Sustainability Institute launches the Reinvention Fund to expand sustainability efforts at Penn State
- September 2015** Council of Sustainable Leaders formed
- 2016** Student Farm at Penn State is established
- 2017** Paul Shrivastava becomes the first Chief Sustainability Officer in the Big Ten; Sustainable Communities Collaborative reaches 500 student participants
- June 5, 2017** Penn State signs "We Are Still In" pledge to continue meeting US greenhouse gas emissions targets under the Paris Accord
- August 2017** Zagster bike-sharing program launches at Penn State University Park
- Fall 2017** City Semester Pittsburgh and Philadelphia launch; First round of strategic seed grants offered through the Office of the Executive Vice President and Provost
- April 2018** The last shovel-full of coal is loaded into Penn State's power plant as the plant converted to a lower-emissions fuel source
- May 2018** EcoCoin launched to reduce the use of single-use plastic bags
- May 7, 2018** Commonwealth Campus Sustainability Forums launched
- July 2018** Sustainability Institute begins stewardship of the Sustainability Experience Center
- Fall 2018** Council of Student Leaders host its first Sustainability Showcase Speaker Series
- October 2018** Sustainable Operations Council formed
- December 2018** Seed grants awarded to expand sustainable food systems program to Penn State Behrend and Beaver
- January 2019** Penn State Dining launches Leanpath to reduce food waste in dining halls; Sam Mason becomes first Sustainability Coordinator hired at a Commonwealth Campus at Penn State Behrend
- April 17, 2019** First Student Sustainability Awards Ceremony is hosted by the Council of Sustainable Leaders
- May 2019** Penn State Dining reports 31% reduction in food waste in South Food Districts since introducing Leanpath
- August 2019** Sustainability Experience Center reaches 885 visitors in its first year over 64 tours
- September 2019** Groundbreaking event held to celebrate 70 MW solar project in Franklin County, PA that will provide 25% of Penn State's purchased electricity over 25 years; Plans announced to more than double the size of the Penn State Student Farm
- October 2019** Dr. John Roe Fund for a Just and Sustainable Future in Penn State Outreach is established

**97,000+**  
students



**692,000+**  
living alumni



**27,000+**  
faculty and staff



*Penn State Factbook, 2018, factbook.psu.edu*

# Sustainability Councils & the 3 C's



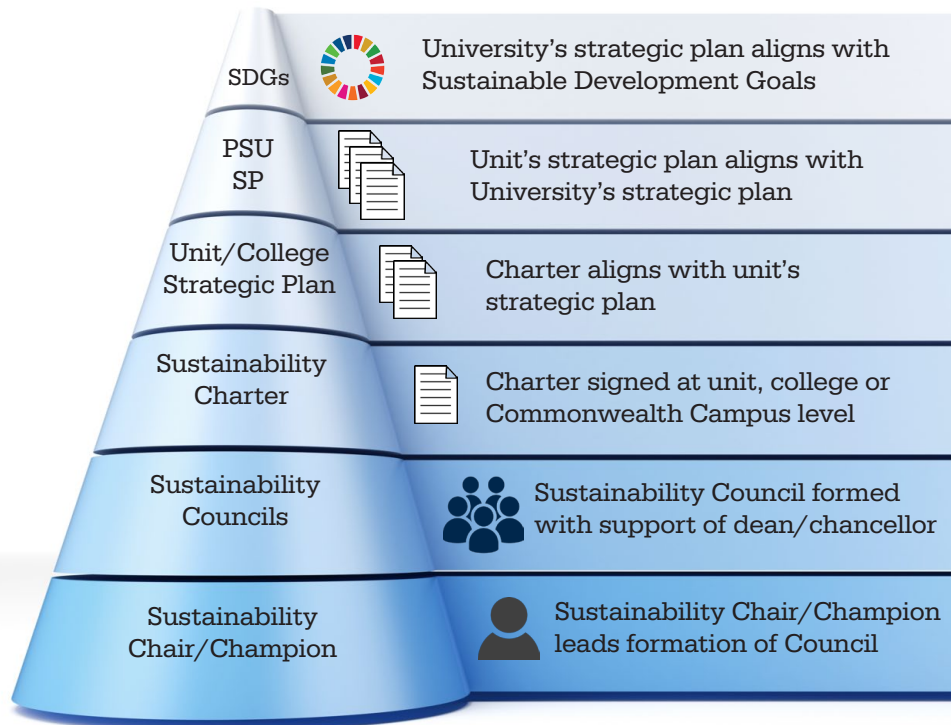
The Sustainability Institute at Penn State supports the development of **Sustainability Councils**. Councils are formed at the college, campus or unit level and offer the flexibility and freedom to approach unique challenges related

to sustainability in ways that make sense for the unique mission of that particular college, campus or unit.

While each Council will develop its own strategy to achieve its own goals, there are some similarities

between them all, referred to as the 3 C's. Sustainability **C**ouncils are supported by the dean or chancellor, led by an individual **C**hair, and charged with creating a **C**harter that outlines goals, strategies and timeliness for sustainable development.

This new model recognizes that sustainability cannot be institutionalized throughout the University from one central unit. Sustainability Councils make it possible for colleges and units to tailor their sustainability efforts.



## Current Sustainability College & Campus Councils

Between Fall 2018 and 2019, nine Penn State colleges and two Commonwealth Campuses have established Sustainability Councils, with a goal for all colleges, campuses and units to form a council in the near future.

### College of Engineering

Council Chair: Rachel Brennan

### College of Medicine

Council Chair: Sarah Bronson

### College of Nursing

Council Chair: Darlene Clark

### Smeal College of Business

Council Chair: Erik Foley

### College of Health and Human Development

Council Chair: Carter Hunt

### Penn State College of Arts & Architecture

Council Chair: Mihyun Kang

### College of Liberal Arts

Council Chair: Janet Swim

### College of Earth and Mineral Sciences

Council Chair: Tim White

### Eberly College of Science

Council Chair: Charles T. Anderson

### Penn State Altoona

### Penn State Mont Alto

# Finding *your* unique role in advancing sustainability at Penn State

We can improve our lives and the lives of others by taking steps large and small, every day, in a direction toward ensuring a sustainable future for all. From reducing our consumption of the planet's finite resources, to contributing to efforts that reduce social inequalities and poverty to expanding what we know about creating safe and just communities, there's no better time to start than today.

The Sustainability Institute invites you to explore and build your own role in advancing the 17 Sustainable Development Goals. Perhaps there are certain goals that your work is connected to or you feel passionately about advancing. Regardless of your level of expertise or knowledge, there is a place for you to contribute.

## Engagement Opportunities for Everyone

- Sign up to receive Mainstream, the bi-weekly newsletter from the Sustainability Institute
- Join the SI Affiliate Program
- Attend sustainability-related events

## Engagement Opportunities for Students

- Join a student organization that advances one or more of the Sustainable Development Goals
- Consider whether the sustainability leadership minor might be a right fit for you
- Understand the roles of student government organizations at Penn State
- Dig into programs related to the Student Farm at Penn State and other campus gardens

## Engagement Opportunities for Faculty & Staff

- Join or establish a Green Team in your office
- Lead your office in its Green Paws certification
- Connect with the Sustainability Council at your college, campus or unit
- Request information about the Sustainability Planning Guidebook

## Giving Opportunities

Those seeking to make a positive difference through advancement of sustainability efforts at Penn State and around the globe can do so through a contribution to the Sustainability Institute. Contact the Institute today to discuss the many opportunities to make an impact.

## Partnership Possibilities

Corporate sponsorships make it possible for the Sustainability Institute to reach more individuals and sustainability goals throughout the year. Please contact Meghan Hoskins, Director of Operations and Partnerships at the Sustainability Institute to discuss partnership possibilities: meh200@psu.edu.

## Connect with the Sustainability Institute:

email: [sustainability@psu.edu](mailto:sustainability@psu.edu)

web: [www.sustainability.psu.edu](http://www.sustainability.psu.edu)

social: @sustainPSU

More ways at: [sustainability.psu.edu/sustainPSU](http://sustainability.psu.edu/sustainPSU)

**sustainability**  
INSTITUTE



17 PARTNERSHIPS FOR THE GOALS



Corporate engagement opportunities make it possible for programs of the Sustainability Institute to reach even more individuals throughout the year. Support from PepsiCo, for example, has contributed to the continued growth and success of SI programs, including the Student Farm at Penn State and the Sustainable Communities Collaborative, as well as projects connecting students with the NFL Environmental Program mentioned on page 17 of this report. Pictured: Students host a public event at the Student Farm at Penn State. Image: Penn State



PennState

# sustainability INSTITUTE

Land & Water Research Building  
University Park, PA 16802  
web: [sustainability.psu.edu](http://sustainability.psu.edu)  
email: [sustainability@psu.edu](mailto:sustainability@psu.edu)  
social: @sustainPSU



A view of the Sustainability Experience Center in front of Mt. Nittany  
Image: Steve Tressler