



2017-2018

**TEMPLE UNIVERSITY**

ANNUAL REPORT ON SUSTAINABILITY

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## INTRODUCTION

Temple celebrated ten years of climate action during the 2017-2018 academic year. Since the formation of the Sustainability Advisory Task Force in 2007, the university has worked to achieve its commitment to reaching carbon neutrality by 2050, integrating sustainability into the academic curriculum and raising awareness of sustainability both on and off campus. During FY18, Temple embarked on a new chapter in its climate leadership – updating its climate action plan to reflect the university’s changing understanding of climate change and sustainability, and addressing climate resilience for the first time.

In accordance with its 2016 Climate Leadership statement, Temple formed a university-wide working group to develop recommendations for the climate action plan update and resilience assessment. The membership of the working group and its six subcommittees reflected the diversity in role and staffing of the university, drawing on representatives from academic, administrative, operations, and research portfolios. Most significantly, each working group and subcommittee was staffed with engaged students. This was just one of the steps taken to ensure that the revised Climate Action Plan was reflective of student voices and addressed their vision of a sustainable Temple University.

In FY18, Temple’s Office of Sustainability focused on listening. Whether meeting with subject matter experts and implementers, or conducting town halls across campus to understand students’ priorities for sustainability, the Office of Sustainability aimed to build a new understanding of what sustainability, resilience, and climate leadership meant to the Temple University community. This annual report shares lessons learned and provides updates on the university’s progress towards its existing climate action goals.



## GREENHOUSE GAS EMISSIONS

Each year, Temple publishes its annual greenhouse gas inventory, which measures the university's progress in reaching its carbon neutrality goal. The sources of emissions on campus include stationary sources on campus (fuel burned on campus), purchased electricity, transportation, solid waste, and other small contributors (refrigerants, fertilizers, purchased steam and transmission and distribution losses). Between FY2006 and FY2018, greenhouse gas net emissions on campus have decreased from 213,560 to 197,554 MTeCO<sub>2</sub>. This change occurred while the university added 2,242,837 gross square feet and 9,342 FTE students.

The FY2018 GHG Inventory indicates that buildings operations (stationary sources, electricity, steam) account for 75% of greenhouse gas emissions. During the Climate Action planning process, the Climate Leadership Working Group, the Energy subcommittee and the Sustainable Design subcommittee explored how the university could mitigate the emissions associated with its built environment, including discussions around energy procurement strategies, the design process, and energy efficiency investments within its existing building stock. Emissions associated with waste and transportation were of primary concern to students during the Climate Action town halls, and were also discussed within the Operations subcommittee, as well as the broader Climate Leadership Working Group. As Temple works to revise the Climate Action Plan, the Climate Action Working Group will carefully consider the progress the university has already made and the obstacles it still needs to overcome in all these areas.





## **BUILDINGS AND ENERGY**

The shape and operation of campus has transformed dramatically over the last ten years when the university committed to limiting its environmental footprint. Since 2007, Temple has adopted a new approach to design and operation, looking to its green building policy and commitment to LEED to govern its built form.

During FY18, the Temple community witnessed great changes to the campus landscape, with the revitalization of beloved campus landmarks, such as the Bell Tower and Founder's Garden, and the introduction of new building projects including the completion of the Temple University Aramark Student Training and Recreation (ASTAR) complex and the construction of the Charles Library in the heart of Main Campus. These campus changes continue to reflect the university's commitment to sustainable design and operation. The ASTAR, Charles Library, and 1810 Liacouras Walk projects are registered LEED projects, and are currently in the documentation phase of the LEED process. Green stormwater management practices were incorporated into the Founder's garden, providing Main Campus with its first pervious pavement.

The ASTAR project features a bio-retention basin with gabions made from recovered bricks from the demolished Barton Hall. While LEED remains the standard in green building design, the university also registered its first International Living Future Institute's Living Building Challenge project – the student designed and constructed Tiny House. This project is small, but enables the university the opportunity to explore the rating system and its implication for future design projects.

While new buildings capture much of the Temple community's imagination and attention, updates and improvements to the existing building stock make a significant impact on the university's greenhouse gas emission totals. In FY18, the university completed 8 new energy efficiency projects that reduced the university's greenhouse gas emissions by 4,850 MTeCO<sub>2</sub> and saved \$926,444 annually. Example projects included lighting upgrades, HVAC upgrades, and pipe insulation.

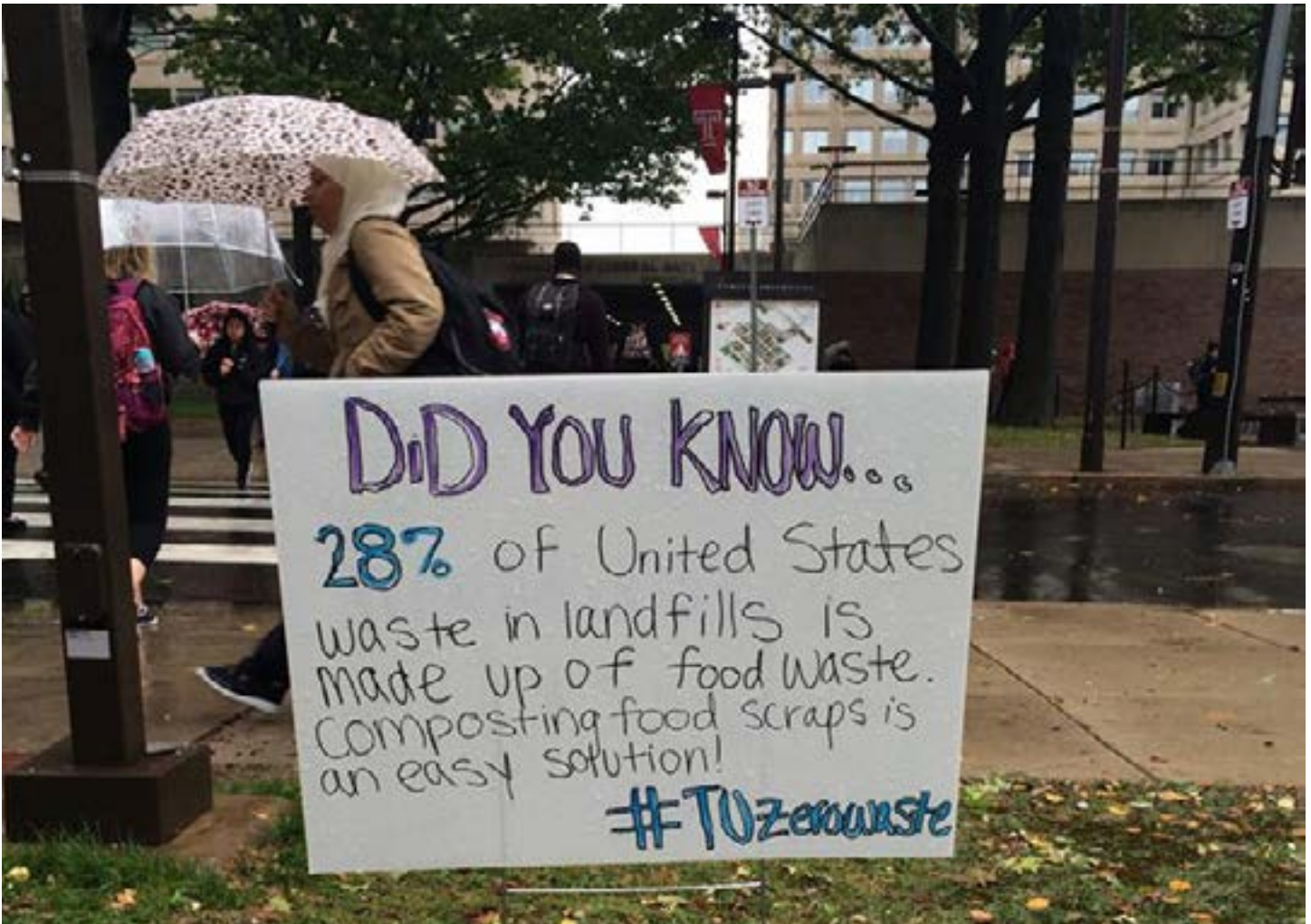


## TRANSPORTATION

Temple's domestic campuses are well positioned within the Philadelphia region to take advantage of the area's sustainable transportation infrastructure. Served by SEPTA's extensive regional rail and transit system, the university is able to offer its community multi-modal access to Ambler, HSC, Podiatry, and Main campuses.

During FY18, the university enhanced its current sustainable transportation options through important operational changes and enhanced biking amenities. These changes were driven by feedback from the Temple community on ways that the university could support their commuting needs. For example, Temple updated its Ambler shuttle schedule to more closely align with course offerings on the Ambler campus, thereby making it easier for students to use the shuttle to attend their evening courses. In addition to the shuttle schedule shift, the university has also worked to make the campus more bike friendly during FY18. The City of Philadelphia added new bike signage and bike infrastructure along 13th and 15th streets. Building on that investment, Temple increased its end of trip amenities on Main Campus, including the addition of two covered bike parking shelters near the Howard Gittis Student Center and Ritter Hall. A secure and covered bike parking facility was also installed near the College of Engineering. The Bike Temple program also expanded its programming, organizing its first ever inter-departmental competition during National Bike-to-Work month and scheduling non-riding events, like cycling documentary screenings. Through a new partnership with Advanced Sports, Inc., Temple staff and faculty now have access to a 30% off discount at Performance Bikes. Additionally, Human Resources have added bicycling events to its Health Rewards eligible programming.





## WASTE MINIMIZATION & RECYCLING

Temple has a long commitment to recycling and waste reduction, launching its first recycling program in the early 1980's. Following the announcement of its ACUPCC climate commitment, the university established clear waste minimization and diversion targets aimed at reducing the greenhouse gas emissions associated with its trash. While the university has achieved and exceeded those goals, it continues to expand its efforts to manage items as they reach their end of life. In FY18, Temple incorporated recommendations gleaned from conversations with students, staff, and Temple neighbors to grow a culture of recycling and limiting trash.

Through climate action town halls and meetings with key stakeholders, the Office of Sustainability learned that many within the Temple community struggled with accessing recycling due to multiple factors, including a lack of receptacles, unclear recycling procedures, or inconsistent messaging. In FY18, the university began addressing these concerns. In fall 2017, the Office of Sustainability partnered with Campus Safety to distribute nearly 200 recycling containers to students living off-campus. The students had their house numbers sprayed onto their containers and were given information from the city's recycling program on what is recyclable in their home. The Office of Sustainability provided similar education in the residence hall, where it distributed over 2,000 recycling containers along with informational materials on Temple's recycling program and waste diversion goals.

Temple also aimed to improve the recycling facilities within university buildings. New standard recycling containers and signage were installed across university buildings. This university wide standard facilitates the recycling process for users, as they are able to quickly identify which receptacle is for recycling and learn what is recyclable at the point of action. The loading docks also received an upgrade, with the addition of material stream specific signage on compactors, dumpsters, and totes. With the new signage, housekeeping staff can be certain about which container services which stream.



In FY18, Temple also expanded its secondary and specialty material recycling programs. During the spring 2018 semester, the university piloted three biodigesters on campus, locating one in each major dining facility on campus to manage food waste. This is a shift from the previous composting program, and provides the university with an opportunity to capture both pre and post-consumer food waste and process it on-site. Additionally, the computer recycling center launched online auction sales for bundled electronics on the GovDeals site, and the Temple surplus program expanded its registered users in all auction tiers (Temple, public, non-profit donation tiers). The campus move-out program had its first series of Temple Thrifts in the fall 2018 semester, during which the Temple community was able to purchase items donated during the residence hall move out the previous summer. The \$4,600 in funds raised through the program were donated to help seed the Cherry Pantry on campus. The university also held two shred day events for the Temple community, one during the week and a second on a weekend targeting neighborhood residents. These events provided an opportunity for participants to advance data security while also adding to the university's recycling stream.







## OUTREACH AND PROGRAMMING

Since its inception, Temple's Office of Sustainability has focused its efforts on building community around climate action and working collaboratively to achieve change. Engaging sustainability champions and working to understand department cultures remains key to change efforts on campus. As the university endeavored to revise its Climate Action Plan, the Office of Sustainability returned to campus partners, students, staff, and faculty to listen to their climate concerns and bring them to the forefront of the planning process. The outreach and programming efforts in FY18 emphasized that the Office of Sustainability is not solely responsible for the university's climate commitment, but rather that partners, both on and off campus, are integral in achieving Temple's sustainability goals.



## CLIMATE ACTION TOWN HALLS

In fall 2017, Temple's Office of Sustainability, in partnership with Temple Student Government and Housing and Residential Life, kicked off programming by hosting Climate Action Town Halls in every school, college, and residence hall. At the Town Halls, attendees were briefed on Temple's current Climate Action Plan, existing initiatives to reduce greenhouse gas emissions, and the university's progress so far. Attendees were then presented with the prompt "What does a sustainable Temple University look like for you?" Attendees were encouraged to engage with members of the Office of Sustainability to ask questions and to offer feedback, suggestions, and critiques about the sustainability initiatives on Temple's campus. The responses from students were vast, covering everything from introducing small incentives for sustainable behavior to macro-level institutional change.

Students on the Climate Leadership Working Group aggregated and analyzed the responses in order to identify patterns and determine which sustainability issues mattered most to students. Among the top concerns were sustainability in dining halls and on-campus food vendors, accessibility (prevalence of tools and resources for sustainable behavior on campus), outreach & education, sustainable energy use, sustainable design, and academic and research opportunities. The most prominent responses were compiled into a report that was presented to the Climate Leadership Working Group. The findings provided the framework for the goals and strategies being incorporated into the revised Climate Action Plan.



## PROGRAMMING

The university has a number of partners in advancing Climate Action in the Delaware Valley region. One important partner is the City of Philadelphia. During FY18, Temple's Office of Sustainability developed programming centered on two of their key climate initiatives – zero waste and resilience.

In the fall, Campus Sustainability Week focused on the theme of "Zero Waste" and included two tours of the Temple Surplus Warehouse, reusable water bottle distribution, a tour of the Biogas Cogeneration Facility of the Philadelphia Water Department, a Pop-Up Temple Thrift and Second Hand Cycles Sale, a composting workshop at Temple Community Garden, a movie screening of Wall-E, and a block clean-up. All of the events were intended to inform students of the sustainability efforts on campus and around the city, and also to give them tangible ways to practice sustainable lifestyles such as donating their unwanted food and clothing, purchasing second-hand, reusing items whenever possible, and keeping their neighborhoods litter-free. This week of programming served as a build up to Temple's hosting of the Post Landfill Action Network (PLAN)'s annual Students for Zero Waste Conference. During this weekend long conference, over 500 students, activists, and community organizers from across the country met on Temple's campus for workshops, panel discussions, case study sessions, and a keynote from Kate Bailey, the Director of Solutions for Eco-Cycle.

Spring Campus Sustainability Week introduced the campus community to the concept of climate resilience. Each of the events aimed to provide context for conversations around resilience by introducing some of the aspects that work together to build resilient institutions. Events included a presentation from a faculty expert on extreme heat and urban heat mitigation strategies, an information session on cooperative businesses as tools of resilient communities, a panel discussion on the importance of community organizing in urban revitalization, and forum on resilience through a regenerative lens, a planting day, and a tour highlighting the sustainable design elements that Temple has added over the years. The 6 events throughout the week garnered over 300 attendees, with an average attendance of 50 attendees per event.



The RecycleMania Competition is another fixture of sustainability programming that the Office of Sustainability continued this year. This 8-week long competition challenges colleges and universities across the nation to see who can recycle the most and waste the least. In an effort to meet the university's goal of 350,000 pounds of recyclables, the Office of Sustainability distributed reusable water bottles to students, visited every department on campus to encourage them to donate their unused office supplies to TOSS, and hosted six events about waste minimization including a clothing swap, a community organizing workshop, a movie screening of Landfill Harmonic, a block clean-up, a panel discussion featuring Social Entrepreneurs in Philadelphia, and a discussion of Philadelphia's Zero Waste Plan. At the end of the 8-week period, the university wildly exceeded its goal by recycling 536,724 pounds of material, which earned Temple the #1 ranking in Pennsylvania for Total Recycling and Paper.

Other outreach efforts included: increased event signage and advertisements across campus, building the Office of Sustainability's social media presence, introducing a monthly newsletter, and increasing the Office of Sustainability's presence on campus through 22 tabling events. By diversifying outreach locations and methods, the university was able to engage with a much wider audience and appeal to their different interests in sustainability.



# CURRICULUM AND CO-CURRICULAR ACTIVITIES

Temple students have a legacy of driving change on campus. In 2007, the Sustainability Advisory Group was formed in response to student leadership and action. In 2008, the Office of Sustainability was founded on a recommendation submitted by students, staff, and faculty leaders. Ten years later, students continue to drive climate action on campus. In FY18, Temple's Office of Sustainability nurtured the development of student leaders through its Sustainability Living Learning Community, project based learning opportunities, and working with student organizations. In FY18, the Office of Sustainability sponsored 15 project based learning opportunities, reaching 341 students. Examples of projects included a course in which students developed podcasts about sustainability in Philadelphia and several courses focused on providing the Climate Leadership Working Group with case studies and best practices for the climate action planning process.

A key role of Temple's Office of Sustainability is to provide interdisciplinary collaboration opportunities.

In FY18, Temple hosted SPARK, a think-tank style competition that gives students from different disciplines the opportunity to solve real-world sustainability problems alongside professional engineers, scientists, and corporate representatives. Held at Temple, the event welcomed students from Villanova, University of Pennsylvania, and Drexel to work with Temple students to creatively problem solve. In addition to SPARK, the Office of Sustainability continued to use the Tiny House for learning opportunities. The project is registered as a Living Building Challenge project, and students from Engineering, Environmental Studies, and Architecture are working collaboratively to produce the documentation for this cutting edge sustainable building rating system. Temple also welcomed three new student organizations focused on sustainability – Defend Our Future, Temple Bae (People of Color Environmental Club), and Temple Ecological Eating. The three student organizations built on the current work being done by existing sustainability student organizations and were quickly welcomed at the table of the Green Council, a coalition of sustainable student organizations that collaborate to promote sustainability on campus, and form a mutually supportive network for the organizations respective projects. In the residence halls, students elected Sustainability Representatives for each RHA community council. Sustainability Representatives inspired behavior change amongst their peers by promoting recycling and waste minimization, hosting informational sustainability fairs, and organizing campus clean-ups.





## DIVERSITY AND INCLUSIVITY

Diversity and inclusivity are core values of Temple, and have been since the institution's founding. To honor this core value, Temple University not only offers programs to ensure the safety and comfort of its diverse population, but also actively works to identify and address barriers to inclusivity on campus through programming, course offerings, policies, and initiatives. In FY18, partners from around the campus worked to advance a more diverse and inclusive Temple University.

The Office of Institutional Diversity, Equity, Advocacy, and Leadership (IDEAL) continued to offer a robust programming platform, including trainings, workshops and dialogues on topics including race relations, microaggressions, social justice, gender & sexuality, gentrification, and bystander intervention. IDEAL also works closely with the Wellness Resource Center and the Office of University Housing to offer programs promoting LGBTQIA+ awareness and inclusion including Safe Zone Trainings, National Coming Out Week, and OuTU. In addition to training and programming, IDEAL offers extensive resources including a Social Justice Library opened in FY2018, and online resources for commonly used terms in social justice spheres, a list of gender inclusive restrooms, and information on campus resources for people of color and the LGBTQIA+ community.

Temple University's facilities also reflect its commitment to inclusivity. In FY18, the Office of University Housing and Residential Life launched Gender Inclusive Housing (GIH) in Morgan Hall North, Temple Towers, White Hall, and 1940 Residence Hall. With GIH, students may opt in to housing options that place students in a room with other student in the program regardless of sex, gender expression, gender identity, or sexual orientation.

Another step towards ensuring the safety and comfort of Temple's diverse population was taken this year when Temple was awarded over \$25,000 through the "It's On Us PA" grant to prevent sexual assault and harassment on campus. This is the second "It's On Us PA" grant that Temple has received, the first being awarded last year. The University is directing the grant funds towards expanding students access to supportive services and resources, and designing programs intended to improve education about issues of consent and sexual assault. Through these interventions, the university hopes to eliminate barriers to reporting cases of sexual assault or harassment for student of color, international students, students with disabilities, and LGBTQIA+ students, bring awareness to the importance of supporting survivors of sexual assault, and prevent future occurrences from happening.





## WELLNESS AND EQUITY

The natural and built environment clearly have a large impact on Temple’s sustainability as a whole. However, another important factor is the sustainability of the social environment. This not only includes fostering a safe and welcoming environment for people of every background, but also ensuring that everyone on campus has access to crucial emotional and physical health resources which enable students, faculty, and staff to excel in their academic, professional, and personal lives. As Temple sets more goals for resilience in the upcoming Climate Action Plan – public health and social equity of the university’s campus will be a more prominent part of Temple’s sustainability efforts.

During FY18, Temple University formed a task force to look at food insecurity facing students on campus. According to a report released by Dr. Sara Goldrick-Rab, approximately  $\frac{1}{3}$  of Temple students are food insecure. In response to this information, the university launched the Cherry Pantry, a food pantry that is open to individuals with a Temple ID. The Cherry Pantry is such an important resource because food insecurity—or lacking access to nutritious food because of financial strain—can have devastating impacts on a student’s capacity for success in school, their ability to connect with their peers, and their self-image. The Cherry Pantry, which is located on the second floor of the Howard Gittis Student Center, gives any student with a Temple ID the opportunity to procure basic non-perishable food staples such as pasta, rice, granola bars, and canned vegetables for free. Temple Community Garden (TCG) also supported efforts to address food insecurity by starting the Free and Fresh Farm Stand, which distributes vegetables harvested from the garden to members of Temple University and community.

# RESEARCH

Supporting research endeavors of Temple University's students and faculty is an essential part of Temple's role as a large public university. Currently Temple has a number of sustainability-focused research opportunities for students of all educational levels and backgrounds. One such opportunity for undergraduate students is the Creative Arts, Research, and Scholarship (CARAS) Program. Each semester, the Office of the Provost provides funding to a select number of students under the supervision of a faculty member to support their scholarly, research, or creative projects. The Sustainability project for FY2018, included: Emma Krampe "Applying the SWAT Model to Phosphorus Runoff in the Lower Maumee River Watershed."

Another undergraduate research incentive is the Livingstone Undergraduate Research Award, from the Temple University Libraries. Each year, the Library reviews hundreds of submissions for six different categories and distributes awards to the best research projects in each. In 2018, the award in Sustainability and the Environment was given to undergraduate student Elizabeth Shaloka's research, "Choosing Permeable Pavement Design to Maximize Stormwater Management Capabilities".

The Graduate Research Award Sustainability Program (GRASP), which was developed in 2015 by the Office of Sustainability, offers graduate students funding to support their sustainability research. In 2018, the GRASP was awarded to Katherine Brelje for her research into the autonomy of nature.



In addition to funding opportunities, Temple highlights student research with its annual Temple Undergraduate Research Forum and Creative Works Symposium (TURF-CreWS). This competitive showcase of student research featured 15 of this year's most notable sustainability-related research projects in a number of disciplines including economics, history, anthropology, environmental sciences, biology, and community development.

In addition to the independent research conducted on campus, Temple's College of Engineering continued its collaboration with Villanova and PennDOT to manage flooding and reduce pollution along I-95 with the construction of green stormwater. Faculty members for the College of Science and Technology, the College of Engineering, and Tyler School of Art, as well as graduate and undergraduate students have all contributed to this project.

In the spring of 2018, Temple University and the Wisconsin HOPE Lab released the research they conducted on food and housing insecurity amongst students in higher education, "Still Hungry and Homeless in College", which received national recognition. The lead author of the study, a Temple University professor and founder of the Wisconsin HOPE Lab, Sara Goldrick-Rab, was named as one of the 2018 Carnegie Fellows for her research in hunger and homelessness amongst students in higher education.



## HONORS AND AWARDS

Each year, the Association for the Advancement of Sustainability in Higher Education (AASHE) ranks the sustainability merit of colleges and universities across the country through their Sustainability Tracking, Assessment, and Rating System (STARS) program. This year, due to the major advancements Temple has taken to build a more resilient campus, the university was awarded a Silver STARS rating!







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