



2018 - 2019

TEMPLE UNIVERSITY

ANNUAL REPORT ON SUSTAINABILITY

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INTRODUCTION

In fall 2018, the Intergovernmental Panel on Climate Change (IPCC) released The Special Report on Global Warming of 1.5°C, which announced that the global community has only a small window of time to hold climate change to a 1.5°C increase in temperature, the target defined in the Paris Climate Agreement. The IPCC warned that warming beyond a 1.5°C increase could lead to irrevocable change and the destruction of ecosystems. The report stated that greenhouse gas (GHG) emissions need to be reduced by 45% by 2030, and 100% by 2050 in order to limit warming to the critical 1.5°C mark. In its strongest language yet, the IPCC urged members of the global community to take action, challenging individuals and organizations at all levels to prioritize the future of the Earth's climate.

While dire, the IPCC report has galvanized a renewed focus on climate change and the role individuals, organizations, and governments can play in creating a sustainable and resilient future. In January of 2019, Governor Wolf signed Executive Order 2019-01, which acknowledged the impacts of climate change and established a goal for state government to reduce greenhouse gas emissions 80% by 2050. The executive order also encouraged independent agencies, state-affiliated entities and state-related agencies to meet the aforementioned performance standard. Locally, the City of Philadelphia announced that it will continue with its Greenworks Plan and intends to meet the greenhouse gas reduction levels defined in the Paris Climate Agreement. In late 2018, the City signed a Power Purchase Agreement to source 22% of its municipal electricity from a new, local solar field.

For its part, Temple embarked on a new chapter in its climate leadership - updating its climate action plan with a clear path to carbon neutrality and strategies for building a more resilient university. Our 2019 Climate Action Plan, adopted in April of 2019, serves as our framework for advancing a holistic approach to sustainability and resilience. It sets forth measurable goals with defined timeframes, university-wide standards, and guiding principles for action. This plan challenges the Temple community to work together, across silos, disciplines and hierarchical levels to take charge in creating a more sustainable future.



GREENHOUSE GAS EMISSIONS

Each year, the university publishes its annual greenhouse gas (GHG) inventory, which measures the university's progress in reaching its carbon neutrality goal by 2050. Sources of emissions on campus include stationary sources (fuel burned on campus), purchased electricity, transportation, solid waste, and other small contributors (refrigerants, fertilizers, purchased steam and transmission and distribution losses).

In FY 2019, Temple University's total gross emissions were 157,290 metric tons of carbon dioxide equivalent (MTeCO₂). Of the total emissions, 34% were attributable to purchased electricity consumption, 35% to stationary sources, and 27% to transportation activities with a large portion attributable to commuting. Mobile sources (university fleet), refrigerants, fertilizers, purchased steam, and transmission and distribution losses made up the remainder, approximately 4% of the total emissions.

The primary emission sources were: purchased electricity, stationary combustion, and staff, student, and faculty commuting. Collectively they accounted for approximately 93% of total annual gross emissions.

Temple University's Office of Sustainability, in collaboration with campus partners, are committed to investigating opportunities to both increase efficiency and decarbonize our energy sources.



BUILDINGS AND ENERGY

In 2017, Temple University adopted a new approach to design and operations, governed by its green building policy and commitment to the Leadership in Energy and Environmental Design (LEED) rating system. In the years since, the Temple community has seen dramatic changes to the university's landscape, most recently and vividly with the completion of Charles Library. Fifty-three years after the opening of Paley Library, the new Charles library serves as a shining example of Temple's vision for the future.

Charles Library embodies Temple's deep commitment to green building policy and sustainable design from top to bottom. It houses one of the largest green roofs in Pennsylvania to help to manage stormwater and conserve energy. Below the library, another intricate stormwater management system, including additional pervious pavers to extend the impact of the Founder's Garden project completed in FY18. The new library is currently under review for LEED gold certification.

Beginning in FY19, the Anderson and Gladfelter terrace deck is the latest construction project on campus and the most ambitious renovation undertaken at Anderson and Gladfelter halls since the opening of the academic building in 1973. Renovations to the terrace deck will transform the current courtyard and offer a home to the College of Liberal Arts' academic advising and professional development centers. The renovation project will elevate the existing terrace through the addition of green space and abundant outdoor seating. The completed project will integrate stormwater management practices onto the terrace while also increasing accessibility.

Also in FY19, our own Temple Tiny House became the first International Living Futures Institute's Living Building Challenge Petal Certified building in all Philadelphia, signifying Temple's leadership in the regenerative design movement. As the most rigorous sustainable design framework in practice today, ILFI's petal certification process challenges us to reimagine buildings as living. Not unlike a flower, the building supplies more renewable energy than it consumes, and through its various functions, creates positive impact on the human and natural systems with which it interacts. The Tiny House sets a high standard for design as a net positive building with respect to energy and as an innovative space which nurtures community and grows quality organic produce facilitating generosity and promoting healthy lifestyles for everyone.



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 FY19, the university enhanced its current sustainable transportation options through the addition of new bike amenities. A new Indego bike station was installed along the intersection of Broad Street and Diamond Street, providing the Temple community with greater access to low-carbon transportation alternatives. Furthermore, an increase in bike parking and fix-it stations around the new Charles library and outside Anderson Hall provide safe, accessible parking and repair options.

During the fall of FY19, the Temple Transportation Fair offered the Temple community resources to travel around Philadelphia safely and sustainably. The Transportation Fair showcased Bike Temple's urban riding basics and repair courses, the SEPTA mobile Key Card kiosk, Indego bike share program, Clean Air Council's green transportation advocacy campaigns including GoPhillyGo and Feet First Philly, local bike shop discounts, and free bike locks from Campus Safety.

FY19 saw one of the most robust Bike Temple program offerings in its history. The Office of Sustainability oversaw another successful Secondhand Bike Sale, wherein abandoned bikes are rehabbed and sold back to the student body at an accessible, affordable price point, ten different Urban Riding Basics safety courses, and a dozen group rides around the city to notable Philadelphia landmarks and cultural sites such as the Philadelphia Art Museum and Schuylkill River Trail, across the Ben Franklin Bridge, and even all the way down to the Navy Yard.



WASTE MINIMIZATION & RECYCLING

Since the inception of the first recycling program at Temple in the early 1980's, the university has been committed to recycling and waste diversion efforts. Following the announcement of its ACUPCC climate commitment, the university established clear waste minimization and diversion targets aimed at reducing greenhouse gas emissions associated with its trash. This commitment was further bolstered in 2016, as the university reaffirmed its commitment by signing the Climate Leadership Statement, a new comprehensive climate commitment that incorporates carbon neutrality and resiliency as complementary strategies for addressing climate change.

In FY 2019 to ascertain how waste collection and recycling function on campus, establish a baseline to measure recovery rates and determine the issues and recommendations to reduce carbon emissions through waste reduction, recycling, and collection efficiency.

Results from the waste composition study provide recommendations in three broad categories: operational, administrative, and education & promotion. The recommendations serve to provide greater opportunities to increase recycling rates, reduce waste, better manage organics, and educate the Temple community on waste diversion and recycling practices. Temple University is committed to using data from the waste composition study to further goals outlined in the Climate Action Plan, including a 50% diversion rate and 30% increase in core recycling rate by 2020.

The end of year campus move out program, "Give + Go Green", had a series of successful pop-up Temple Thrift sales during the fall 2018 semester. During a series of sales, the Temple community was able to purchase items donated during the residence hall move-out the previous summer. Donated clothing items provide a low cost shopping alternative during on-campus thrift sales while food items are given to the Cherry Pantry to help alleviate food insecurity and access issues on campus. In recognition its excellence in recycling and diversion efforts, the Professional Recyclers of Pennsylvania awarded "Give + Go Green" the 2018 Daniel G. Weisenbach Environmental Stewardship Award.



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 culture remains key to change efforts on campus.

In FY 19 the Office of Sustainability hosted diverse programming to build a culture of sustainability and promote environmental literacy including Campus Sustainability Weeks in both spring and fall and participation in the national higher ed recycling competition, RecycleMania.



CURRICULUM AND CO-CURRICULAR ACTIVITIES

An important element in Temple's Climate Action Plan is to promote broad sustainability efforts through academic programs that prepare students for leadership in this area. Advances in sustainability curriculum integration during FY 2019 include continued collaboration with long standing partners and the development of new programs.

In FY 2019 the Office of Sustainability awarded its first ever Student Green Grant to Temple Student Government for their student-led bike-powered compost collection service. The Green Grant provided the funds to purchase the necessary supplies and support the development of their program and the Office of Sustainability staff acted as an advisor to the student-led initiative, overseeing its implementation and facilitating its continued success.

The Office of Sustainability continued to work to provide sustainability-focused volunteer and community outreach efforts. Staff and student workers and volunteers gave over two dozen class lectures and campus tours focusing on Temple's institutional mission teaching students, faculty, and staff about our commitment to climate action and offering opportunities for participation.



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 FY19, 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 an extensive programming platform, including trainings, workshops and dialogues on topics including race relations, microaggressions, social justice, gender & sexuality, gentrification, and bystander intervention. In FY19 Temple's Office of Sustainability partnered with IDEAL and Residential Life to register voters in advance of the 2019 midterm elections.

The Office of Sustainability is committed to envisioning a Temple community where student success is not undermined by hunger. To support the Cherry Pantry's mission in supplying nutritious food to the Temple community, Give + Go Green has diverted non-perishable food items to the pantry since 2017 and provided funding through annual Temple Thrift sales.



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.

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 2019, 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 Kyle Schwab for his work to develop sustainable 3D printing with bioink.

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.



HONORS AND AWARDS

In FY19, Temple University's Tiny House received Living Building Challenge Pedal Certification. The Living Building Challenge is an international sustainable building certification program that promotes the sustainability in the built environment. Temple's Tiny House is the first building in Philadelphia to receive this certification.

The 175 square foot net zero structure was designed as a part of an interdisciplinary project-based learning collaboration amongst a diverse group of faculty members, students, and administrative staff from around the university.



Office of Sustainability

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