# Table of Contents

Introduction p. 3  
A letter from the President p. 4  
The University of Miami’s commitment p. 5  
STARS benchmarking (Sustainability Tracking Assessment Rating System) p. 6  
Our sustainability goals at a glance p. 9

## OUR ROAD MAP FOR 2019

### Academics
- Curriculum p. 12  
- Research p. 14

### Engagement
- Campus Engagement p. 18  
- Public Engagement p. 22

### Operations
- Air & Climate p. 24  
- Buildings p. 29  
- Energy p. 33  
- Food & Dining p. 38  
- Grounds p. 42  
- Purchasing p. 44  
- Transportation p. 47  
- Waste p. 50  
- Water p. 54

### Planning and Administration
- Coordination & Planning p. 56  
- Diversity and Affordability p. 57  
- Wellbeing & work p. 59
Introduction

The University of Miami’s 2017-19 Sustainability Action Plan is the culmination of efforts lead by the entire UM community. From energy conservation, waste diversion to participatory governance or community partnership, our institution has always shown leadership. In the way we build, the way we teach, the way we do research, all aspects of sustainability have been imbedded in the life of our campuses.

Our commitment to carbon emission reduction and the creation of our office of sustainability in 2007 have helped coordinate those efforts, but we felt that we needed a more comprehensive and systematic approach to track and report them.

Our Interim Report published in 2015 followed the steps of our first Climate Action Plan published in 2010. This report intended to give a snapshot of the state of green initiatives and achievements at UM. To fulfill long-term goals of greenhouse gas emission reductions, UM has committed to various programs, projects and policies, outlined in that document. However, we were looking for a better way to track, assess and benchmark those endeavors. As an active member of the American Association for the Advancement of Sustainability in Higher Education, choosing STARS was an evidence. The Sustainability Tracking, Assessment & Rating System™ (STARS) “is a transparent, self-reporting framework for colleges and universities to measure their sustainability performance”2. We applied for the first time in 2017 and received a Silver rating.

We would not have been able to complete our Sustainability Action Plan without the holistic and efficient tool that STARS represent. We first collected all the data, enter it into the STARS online platform and from there, were able to benchmark with other similar institutions in the country. This allowed us to build a gap analysis for every credit we’ve submitted, and start designing a series of goals to fill those gaps. The approach used to develop this plan measures the university’ sustainability performance, builds, capacity among staff and yields environmental, economic and social benefits.

The goals are outlined on each section of this plan, and constitute the roadmap that the University will follow in its journey towards carbon neutrality. We will evaluate the implementation of this plan in 2019, when we will be ready for our second STARS submission.

2- https://stars.aashe.org/
May 11, 2017

STARS Steering Committee
Association for the Advancement of Sustainability in Higher Education
2401 Walnut Street, Suite 102
Philadelphia, PA 19103

Dear Members of the STARS Steering Committee:

On behalf of the University of Miami, I am pleased to endorse the report submitted to the Association for the Advancement of Sustainability in Higher Education (AASHE) Sustainability Tracking Assessment Rating System (STARS). Our report reflects the progress and accomplishments of faculty, staff, and students to advance sustainability at our University and in the Miami-Dade County area.

The University of Miami is committed to developing and implementing educational, facility, and community outreach programs that are aimed at reducing our environmental impacts as well as fulfilling our commitment under the 2nd Nature - American College and University Presidents' Climate Commitment. The STARS program provides a way for us to track the progress of our initiatives. All our programs and initiatives have a strong educational component that focuses on developing a pledge to sustainability across our campuses and surrounding communities. UM's Office of Sustainability is charged with monitoring initiatives, delivering education programs, and implementing new projects in conjunction with our stakeholders.

One of the University's most significant achievements in recent years was the opening of the first LEED Platinum three floor building in higher education institutions in the region. With a 70 KW photovoltaic system, electrochromatic windows, and a rainwater harvesting system that connects to the toilets flushing system, the new Frost School of Music Studio is regarded as a benchmark building.

Sincerely,

We are proud to participate in the AASHE STARS program and look forward to our continued involvement. Thank you for your important work to encourage behaviors that will sustain and improve our environment.

Julio Frenk
The University of Miami’s Commitment

The university strives to educate future leaders, and to “transform lives through teaching, research, and service”. The culture transformation the University has embarked on in the last few years embraces Sustainability as one of its guiding principles. In 2005 the University launched Green U, the Office of Sustainability, under the direction of Alan J Fish (Vice President of Business Services at the time) to have a more comprehensive approach to the numerous sustainability efforts the University was conducting.

The Green U – Office of Sustainability is supervised by the Environmental Health and Safety department (EHS). This department reports to Business Services, a division that oversees many branches of the school involved in sustainability projects.

In 2007, President Donna E. Shalala signed the American College and University Presidents Climate Commitment. This historical event sent a strong and unequivocal message about University of Miami’s dedication to sustainability. Since then, The University of Miami has taken steps towards carbon neutrality and made reducing Greenhouse Gas emissions a priority. The American College & University Presidents’ Climate Commitment (ACUPCC) is a “high-visibility effort to address global climate disruption undertaken by a network of colleges and universities that have made institutional commitments to eliminate net greenhouse gas emissions from specified campus operations, and to promote the research and educational efforts of higher education to re-stabilize the earth’s climate”.

“The University of Miami is recognized for preparing students to be environmental thinkers and responsible citizens of the world. Now we are making a commitment to a sustainable future by broadening our approach to educating students on environmental sustainability and by fostering a culture of environmental awareness at the University.”

President Shalala on her historic signing (April 18th, 2007)

http://www.presidentsclimatecommitment.org/
STARS (Sustainability Tracking and Assessment Rating System)

About STARS

STARS is a transparent, self-reporting framework for colleges and universities to measure their sustainability performance. It was developed by the Association for the Advancement of Sustainability in Higher Education (AASHE) with broad participation from the higher education community. STARS participants submit data to earn a Bronze, Silver, Gold or Platinum rating, or recognition as a STARS Reporter. The credits included in STARS span the breadth of higher education sustainability and are organized into four categories: Academics, Engagement, Operations, and Planning & Administration. As of July 2016, 637 STARS reports have been submitted by 398 institutions in 9 countries. All reports are publicly accessible on the STARS website.
STARS is designed to:

- Provide a framework for understanding sustainability in all sectors of higher education.
- Enable meaningful comparisons over time and across institutions using a common set of measurements developed with broad participation from the campus sustainability community.
- Create incentives for continual improvement toward sustainability.
- Facilitate information sharing about higher education sustainability practices and performance.
- Build a stronger, more diverse campus sustainability community.

STARS is intended to engage and recognize the full spectrum of colleges and universities—from community colleges to research universities, and from institutions just starting their sustainability programs to long-time campus sustainability leaders. STARS encompass long-term sustainability goals for already high-achieving institutions as well as entry points of recognition for institutions that are taking their first steps toward sustainability.

About AASHE

STARS is a program of AASHE, the Association for the Advancement of Sustainability in Higher Education. AASHE is a member-driven organization with a mission to empower higher education to lead the sustainability transformation.
**About University of Miami application:**

Our three campuses are the main campus of Coral Gables which houses seven schools and two colleges including the University of Miami School of Law, and has over 6,000,000 sq ft of building space; the Rosenstiel School of Marine and Atmospheric Science campus, adjacent to the Miami Seaquarium has over 400,000 sq ft of building space; the Leonard M. Miller School of Medicine campus, located in Miami city consists of 68 acres within the 153 acres University of Miami/Jackson Memorial Medical Center complex, and has over 3,000,000 sq ft of building space. We decided to include the Richmond Campus, a 76 acres site housing the Center for Southeastern Tropical Advanced Remote Sensing (CSTARS). Excluded from this report are the three hospitals currently in operation on the Miller School of Medicine campus, as well as all our health care facility satellites. Hospitals and health care facilities are managed through a different leadership, and their sustainability performance is monitored in partnership with a local hospital association sustainability collaborative.

The performance year of the STARS report is Fiscal Year 2015. Its baseline is FY 2013, except for credit OP1 – Green House Gases Inventory, where we picked our original Climate Commitment FY 2005 baseline.
Our sustainability goals at a glance

State of implementation:

- Early phase of implementation
- In the process of implementation
- Implemented

**ACADEMICS**

**CURRICULUM**

- 20% of our courses will address sustainability
- Increase the number of departments that include sustainability as part of their learning outcomes
- Create a "Sustainability at the U" survey sent yearly to faculty and staff.
- Work with the College Curriculum Committee on a "Sustainability" designation in our catalog.
- Build a multidisciplinary “Sustainability in the Curriculum” workshop for faculty. “Ongoing professional development and mentoring are essential aspects of becoming and remaining a great teacher, and excellent teaching is at the heart of educational innovation”. (Road map to our new century: Educational Innovation p.5)

**RESEARCH**

- Work with our Research Development & Strategy group in the Office of the Vice Provost for Research to complete an inventory of all sustainability research at the U.
- Integrate sustainability in the UM Laboratory for Integrated Knowledge (U Link) project. “The ULink will encourage a spirit of experimentation and innovation through a dedicated space for researchers and practitioners interested in interdisciplinary problem solving, like environmental health risks” (Road map to our new century: Interdisciplinary Collaboration p.3)
- Work on an open access comprehensive profiling research database of UM faculty. “Develop interactive information capability that would facilitate collaboration across discipline”. (Road map to our new century: Educational Innovation p.7)

**ENGAGEMENT**

**ACADEMIC ENGAGEMENT**

- Work with Housing and Residential Life on an ECO Rep program and reach out 90% of our students.
- Create a "Sustainability at the U" Orientation module, mandatory for all freshmen.
- Create a “Green Liaisons” program: each department will designate a Green liaison to disseminate Sustainability values and practices in the workplace in coordination with the Office of Sustainability.
<table>
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<tr>
<th><strong>PUBLIC ENGAGEMENT</strong></th>
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<td>- Implementing the Metro Lab partnership with our local governments.</td>
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<td>- Continuing Education: offer 2 courses that address Sustainability in their curriculum, and offer one sustainability-focused professional certificate program (e.g. LEED Green Associate)</td>
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<td>- Increase the number of community services hours reported from 10 to 15 hours per student per year</td>
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<th><strong>OPERATIONS</strong></th>
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<td><strong>CLIMATE</strong></td>
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<tr>
<td>- Reduce our scope 1 and 2 GHG emissions per weighted campus user: 14% to 20% reduction by 2020</td>
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<td><strong>GREEN BUILDINGS</strong></td>
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<tr>
<td>- Identify 2 buildings to be certified LEED Operation &amp; Maintenance</td>
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<tr>
<td>- Work with our team of project managers, faculty experts, students and partners to build a Sustainable Operations and Maintenance guide for the University of Miami.</td>
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<td><strong>ENERGY</strong></td>
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<tr>
<td>- Invest in Energy Efficiency retrofits, Operations &amp; Maintenance, as well as conservation campaigns to reach 2% yearly reduction in MMBtu/Gross Sq Ft.</td>
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<td>- Seek agreements with utilities to incentivize largescale rooftop solar installations on campus.</td>
</tr>
<tr>
<td><strong>FOOD &amp; DINING</strong></td>
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<tr>
<td>- Establish a Sustainable Food Inventory that will serve as our baseline for future reports.</td>
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<td>- Create pilot programs: Pre-consumer composting in one of our dining halls, targeted post-consumer composting, campus herb garden sourcing the Dining halls, and a low-impact dining event (e.g. Meatless Mondays).</td>
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<tr>
<td>- Publish our sustainable dining guidelines online</td>
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<tr>
<td><strong>GROUNDS</strong></td>
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<tr>
<td>- Increase managed land using a four-tiered Integrated Pest Management plan from 76% to 100% and publish a comprehensive IPM Plan online.</td>
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<tr>
<td>- Target areas to extend organic management buffer for our water ways.</td>
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Purchasing
- Establish specific sustainability guidelines for the following areas of procurement: Food; Fuel and Transport; Lighting and energy efficient products.
- Create a short survey to track sustainability attributes in our new vendors.
- Target an increase from 73% to 80% EPEAT certified electronics.

Transportation
- Improve modal split value between students and employees.
- Introduce a Bike Share program on our main campus.
- Establish a university-wide yearly Transportation survey to fine-tune our commuting carbon emissions tracking.
- Adoption of mobile applications to facilitate carpooling or other alternative transportation modes.
- Enhance our Telecommuting program.

Waste
- Reduce our waste generation by 5% from our FY2013 baseline.
- Perform a waste audit on the main areas of our campuses, and use the results to build a comprehensive waste reduction strategy.
- Increase our diversion rate from 31% to 40%.
- Implement a pre-consumer composting program in one of our dining halls.

Water
- Reduce our Potable water use per weighted campus user by 3% from our FY2013 baseline.

Planning & Administration

Coordination & Planning
- Use STARS to build a triennial Sustainability Action Plan covering all areas of Sustainability.
- Include a sustainable living section in our online Student Housing Village resources.
- Include our Sustainability Mission Statement in one of the University published strategic plans endorsed by the Board of Trustees.

Diversity & Affordability
- Study feasibility of a program specifically designed to recruit faculty from underrepresented groups
- Increase the percentage of students graduating with no interest-bearing student loan debt or for whom no out-of-pocket tuition is required
Sustainability:

AASHE defines sustainability in a pluralistic and inclusive way, encompassing human and ecological health, social justice, secure livelihoods, and a better world for all generations. STARS attempt to translate this broad and inclusive view of sustainability to measurable objectives at the campus level. Thus, it includes credits related to an institution’s environmental, social, and economic performance.
Percentage of courses that are sustainability course offerings: 18%
Percentage of academic departments with sustainability course offerings: 39%

Sustainability courses can provide valuable grounding in the concepts and principles of sustainability, help build knowledge about a component of sustainability, or introduce students to sustainability concepts. Conducting an inventory of academic offerings provides an important foundation for advancing sustainability curriculum.

**SUSTAINABILITY ACTION PLAN 2019 GOALS**

- 20% of our courses will address sustainability
- Increase the number of departments that include sustainability as part of their learning outcomes
- Create a “Sustainability at the U” survey sent yearly to faculty and staff.
- Work with the College Curriculum Committee on a “Sustainability” designation in our catalog.
- Build a multidisciplinary “Sustainability in the Curriculum” workshop for faculty. “Ongoing professional development and mentoring are essential aspects of becoming and remaining a great teacher, and excellent teaching is at the heart of educational innovation”. (Road map to our new century: Educational Innovation p.5)
By researching sustainability issues and refining theories and concepts, higher education institutions can continue to help the world understand sustainability challenges. The University of Miami is focused on developing new technologies, strategies, and approaches to address those challenges.

**Research**

Sea Level Rise requires research from many different fields, from architecture to science and engineering. Miami is considered ground zero and UM must be at the forefront looking for solutions. (STEM p.7)

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<th>Credit</th>
<th>Status</th>
<th>Points</th>
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<tbody>
<tr>
<td>Research and Scholarship</td>
<td>Complete</td>
<td>4.90 / 12.00</td>
</tr>
<tr>
<td>Support for Research</td>
<td>Complete</td>
<td>3.00 / 4.00</td>
</tr>
<tr>
<td>Open Access to Research</td>
<td>Complete</td>
<td>0.00 / 2.00</td>
</tr>
</tbody>
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The grey bar displays the scores for all STARS rated institutions of the same basic type as the institution featured in the report (Associate, Baccalaureate, Master, or Doctorate) in quartiles. Hovering over the bar reveals the 1st quartile score (75% of institutions scored above this figure); Median (or 2nd quartile) score (50% of institutions scored above this figure); 3rd quartile score (25% of institutions scored above this figure); Top score for all institutions of the same basic type.
The College of Engineering encourage faculty to conduct research within one of the three research thrust areas of the College. The college hosts Collaborative Research Exchange Forums (CREFS) on a yearly basis. One of the forums focused specifically on Environmental Sensing. The sustainability research in the college of engineering is referred to as Sustainable and Smart Systems. We have various research projects on energy efficiency, nanotechnology, materials, and water reuse.

**Groundbreaking Research at Rosenstiel School of Marine and Atmospheric Science:**

The University of Miami’s Marine Technology & Life Sciences Seawater Complex was inaugurated in 20014 at the Rosenstiel School of Marine & Atmospheric Science. The new complex provides research and teaching laboratories in two critical areas: air-sea interactions and biology of living marine organisms, including a wind-wave-storm surge simulator capable of generating Category 5 hurricane-force winds in a three-dimensional test environment. [http://climate.miami.edu](http://climate.miami.edu)

- **Percentage of the institution's faculty and staff researchers engaged in sustainability research:** 8%
- **Number of academic departments (or the equivalent) that include at least one faculty or staff member that conducts sustainability research:** 23%

**SUSTAINABILITY ACTION PLAN 2019 GOALS**

- Work with our Research Development & Strategy group in the Office of the Vice Provost for Research to complete an inventory of all sustainability research at the U.
- Integrate sustainability in the UM Laboratory for Integrated Knowledge (ULink) project. “The ULink will encourage a spirit of experimentation and innovation through a dedicated space for researchers and practitioners interested in interdisciplinary problem solving, like environmental health risks” (Road map to our new century: Interdisciplinary Collaboration p.3)
- Work on an open access comprehensive profiling research database of UM faculty. “Develop interactive information capability that would facilitate collaboration across discipline”. (Road map to our new century: Educational Innovation p.7)
Academics and Research

The Center for Ecosystem Science and Policy (CESP): The CESP creates innovative, interdisciplinary initiatives that bridge the gap between science and environmental policy. The Center offers an Environmental Sustainability Certificate.

Knowledge of sustainability is now a requisite for a growing number of professions, as businesses, organizations, and educational institutions confront the challenges of a rapidly modernizing and increasingly connected world subject to climate change, mass movements of people, limits to energy and water supplies, and diminishing biodiversity. The program serves as a curricular adjunct to sustainable initiatives at UM, fosters a culture of conservation, enhances students’ preparation for a variety of careers (engineering, architecture, business, marketing, government), and affirms UM’s commitment to sustainability, complementing its efforts to enhance environmental education.

The Climate Studies Group:

The Climate Studies Group at the UM Rosenstiel School involve faculty members from all six Rosenstiel School divisions (Applied Marine Physics, Marine and Atmospheric Chemistry, Marine Affairs and Policy, Marine Biology and Fisheries, Marine Geology and Geophysics, Meteorology and Physical Oceanography). Research and course work are designed to address fundamental questions about the Earth’s climate and its impacts on society using a broad range of approaches.

College of Engineering: Professors from the College of engineering are partnering with UM Facilities Management Dpt to started a Living Lab pilot project around a crucial topic in Green Building engineering: Building Energy Modeling.

Research Institutes: The Clean Energy Research Institute at the College of Engineering, University of Miami, led by Hongtan Liu, Ph.D., professor of mechanical and aerospace engineering, focuses on issues of clean energy sources. The Clean Energy Research Institute houses the Dorgan Fuel Cell Laboratory. The lab focuses on fuel cell technology and other clean energy technologies. In 2009, The FPL Endowed
Student Scholarship Fund awarded $250,000 in scholarships to engineering students pursuing a career in the emerging fields of clean energy and fuel cell technology.

**School of Architecture:**

Partnerships with the community allow students to work on projects like the Underline from Miami Dade County Mass Transit System. The Underline will connect communities, improve pedestrian and bicyclist safety, create over a hundred acres of open space with restored natural habitats, encourage a healthy lifestyle, provide an easily accessible place to exercise, create a mobility corridor that integrates transit, car, biking and walking, provide a 10-mile canvas for artistic expression, attract development along US1, and generate significant economic impact.

The Center for Urban and Community Design is part of the UM School of Architecture and fosters a collaborative interdisciplinary approach that supports the people, places and processes essential for creating and sustaining family oriented and environmentally responsible communities as near as West Coconut Grove and as far as Mexico.

**School of Communication:**

Professor Chatterjee is producer, co-director and writer of a global motion picture project about our changing relationship to fresh water entitled “One Water”. An international television version of the film was completed in 2009 for which Chatterjee wrote a new script narrated by actor Martin Sheen and has reached over 4 million television households worldwide.

**School of Law:**

Founded in 2012, the Environmental Justice Project works to increase awareness and provide support to communities affected by issues related to environmental justice throughout Miami-Dade County, Florida. Currently research is focused on the site placement of a City of Coral Gables trolley depot in a residential West Coconut Grove neighborhood.
Engaging in sustainability issues through co-curricular activities allows students to deepen and apply their understandings of sustainability principles. Institution-sponsored cocurricular sustainability offerings, often coordinated by student affairs offices, help integrate sustainability into the campus culture and set a positive tone for the institution.

Faculty and staff members’ daily decisions impact an institution’s sustainability performance. Equipping faculty and staff with the tools, knowledge, and motivation to adopt behavior changes that promote sustainability is an essential activity of a sustainable campus.

“The Green Committee works with the Student Government Energy & Conservation Organization to carry out sustainable initiatives on the University of Miami campus. The committee is highly involved in being the face of sustainability on campus by hosting events, supporting other sustainable organizations, educating student peers, and creating an environment where green ideas are celebrated, expanded on and then put into action.” Student Government ECO Agency
### Percentage of students served by a sustainability peer-to-peer educator program: 65%

### Percentage of employees served by a sustainability peer-to-peer educator program: 4%

### SUSTAINABILITY ACTION PLAN 2019 GOALS

- Work with Housing and Residential Life on an ECO Rep program and reach out 90% of our students.
- Create a "Sustainability at the U" Orientation module, mandatory for all freshmen.
- Create a “Green Liaisons” program: each department will designate a Green liaison to disseminate Sustainability values and practices in the workplace in coordination with the Office of Sustainability.
In 2005, the University launched Green U, under the direction of Alan J. Fish (The Vice President of Business Services at the time) to officially categorize and direct the numerous sustainability efforts of the University.

Programs for staff:

- **The Green Office Certification program** is a voluntary program. It helps Faculty and Staff to go green in the workplace with easy step by step guidelines. All applicants receive 50 points on their Well’ Canes account.

- **The Green Team Program**: Comprised of small groups of faculty, staff, or students who are passionate about the environment and willing to volunteer to take on innovative sustainability projects.

- **Sustainability 101**: This is a 1h30 webinar open to anybody who wants to learn about sustainability at UM. The workshop is mandatory for green leaders applying to the Green Office certification program. It will introduce the participant to environmental science and climate change science basics. More than a theoretical approach to pollution and the environment, the workshop offers solutions in the workplace for environmentally minded workers who want to make a change at UM.

- **Green Event Certification**
  
  “Don’t feel bad if you think that your events are generating too much impact on the environment, Green U can help!” This program is an easy way to make sure events will be green.

- **Green Lab Certification**: 
  
  “If you work in a lab, manage a lab, study in a lab, and you want to make it more sustainable, Green U is here to help!” Green Lab offers a practical way to implement sustainable practices in our labs.
Programs for students:

- **Our Green Patrols** are here to help the Office of Sustainability follow up with programs like our Single Stream Recycling or our Toner recycling program. Students spend a few hours a week monitoring our recycling bins, report anomalies, survey or promote our programs.

- **Green U internships**: under the validation of our Toppel Center “Internship at UM” program, 1 to 2 interns work every semester on specific sustainability projects.

- **Student Orgs**: There are several environmental related student groups at UM. These organizations have greatly contributed to the University’s Sustainability efforts. The **Student Government ECO Agency** determines and implements sustainable initiatives to "green" the U. They are inspired by our students, faculty, campus, the local environment and current green choices being made globally.

### CALENDAR of EVENTS SAMPLE: 2015

**January:**

*ENVIRONMENTAL LAW AND JUSTICE* symposium with the School of Law: Taking a closer look at the Miami Environmental Movement

**February:**

- Green U - Sustainability manager, Teddy Lhoutellier spoke about UM ’s efforts to conserve water on our 3 campuses at the *WATER CONSERVATION EXPO & VENDOR FAIR*

  - **World Water Day**: Join Take Back the Tap University of Miami, Engineers Without Borders - University of Miami, Green U, USAID at UMiami and University of Miami Student Government ECO Agency for a day of celebration all about H2O!

**March:**

- University of Miami - Green U is proud to support **Coral Gables 2015 Bike Day**!

  - On Saturday **March 7**, for the CGIU big luncheon, Butler Center, **Green U and ECO Agency**’s trained volunteers will be present to help attendants recycle their waste.

**April:**

- University of Miami HR Benefits invites you to celebrate the **WEEK of WELL-BEING 2015**. new workshop: “HOW TO BUILD YOUR EDIBLE ECO GARDEN”

  - **Get excited for University of Miami’s Earth Week 2015!**

    Each day we will have ECO-activities, free sustainable food, and eco-prizes.

**July:**

- **Green U Hosts Sustainability Forum for South Florida Hospitals**, hosted by The University of Miami’s Office of Sustainability

**August:**

- **REUSABLE WATER BOTTLES**: As Orientation week kicks in, a Green U and ECO tradition is back: a reusable bottle was offered to every freshman.

**October:**

- **Food DAY**: Food Day inspires Americans to change their diets and our food policies.

**November:**

- **Green Fair**: Carbon Footprint Interactive displays, ECO Art happenings, Recycling games, Art Craft with reused material (soap, bags, and t shirt...) Learn how to get engaged with UM’ Sustainability programs.

**December**: “**CLIMATE CHANGE: What lies ahead?”**

  Panel discussion- A first-hand report of the Climate Change Summit (COP21)
Engagement in community problem-solving is fundamental to sustainability.

By engaging with community members and organizations in the governmental, non-profit and for-profit sectors, institutions can help solve sustainability challenges. Community engagement can help students develop leadership skills while deepening their understandings of practical, real-world problems and the process of creating solutions.

The MetroLab Network is a group of more than 35 city-university partnerships focused on bringing data analytics, and innovation to city government. The Network was launched as part of the White House’s Smart Cities Initiative in September 2015. The University of Miami, Miami Dade County, City of Miami, City of Miami Beach, Florida International University and Miami Dade College have signed the Metro Lab groundbreaking agreement to identify and undertake at least three research, development and deployment projects addressing the challenges of urbanization, globalization and climate change.
Community Scholars in Affordable Housing is an innovative program designed to familiarize emerging leaders and young professionals with best practices in community development and affordable housing policy and practices in the United States. This collaboration between the Office of Civic and Community Engagement; School of Education and Human Development; the South Florida Community Development Coalition and Catalyst Miami has trained 46 emerging professionals working in non-profit, for-profit and government sectors over the last two years. Participants have the opportunity to engage with local and national experts to explore techniques and concepts in development of affordable housing, including critical issues facing South Florida, such as funding, design, special needs populations, home ownership, advocacy, markets, engaging stakeholders, and resilience.

**SUSTAINABILITY ACTION PLAN 2019 GOALS**

- Implementing the MetroLab partnership with our local governments.
- Continuing Education: offer 2 courses that address Sustainability in their curriculum, and offer one sustainability-focused professional certificate program (e.g. LEED Green Associate).
- Increase the number of community services hours reported from 10 to 15 hours per student per year.
Global climate change is having myriad negative impacts throughout the world, including increased frequency and potency of extreme weather events, sea level rise, species extinction, water shortages, declining agricultural production, and spread of diseases. The impacts are particularly pronounced for low income communities and countries. In addition, institutions that inventory and take steps to reduce their air pollutant emissions can positively impact the health of the campus community, as well as the health of their local communities and regions.

Groundbreaking Research at RSMAS:

The University of Miami’s Marine Technology & Life Sciences Seawater Complex was inaugurated in 20014 at the Rosenstiel School of Marine & Atmospheric Science. The new complex provides research and teaching laboratories in two critical areas: air-sea interactions and biology of living marine organisms, including a wind-wave-storm surge simulator capable of generating Category 5 hurricane-force winds in a three-dimensional test environment.
Carbon Emissions by type - FY2015

Air & Climate

4.82 / 11.00

The grey bar displays the scores for all STARS-rated institutions of the same basic type as the institution featured in the report (Associate, Baccalaureate, Master, or Doctorate) in quartiles.

Hovering over the bar reveals the 1st quartile score (25% of institutions scored above this figure); Median (or 2nd quartile) score (50% of institutions scored above this figure); 3rd quartile score (75% of institutions scored above this figure); Top score for all institutions of the same basic type.

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<td>Complete</td>
<td>4.82 / 10.00</td>
</tr>
<tr>
<td>Outdoor Air Quality</td>
<td>Complete</td>
<td>0.00 / 1.00</td>
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- **2nd Nature-ACUPCC target**: 20% CO2e emission reduction by 2020 from a 2005 baseline
- Percentage reduction in adjusted net Scope 1, 2 and 3 GHG emissions per fulltime enrollment from a 2005 baseline to 2015: 22.4%
- Percentage reduction in adjusted net Scope 1 and Scope 2 GHG emissions per weighted campus user from baseline to 2015: 14%

**SUSTAINABILITY ACTION PLAN 2019 GOALS**

- Reduce our scope 1 and 2 GHG emissions per weighted campus user:
  - From 14% to 20% reduction by 2020
- Reduce our scope 1, 2 and 3 GHG emissions per fulltime enrollment:
  - 22% to 40% reduction by 2030
Dr. Ben Kirtman is a professor at the University of Miami’s Rosenstiel School of Marine and Atmospheric Science and is co-chair of the NOAA Climate Prediction Task Force. He is a lead author of the latest report by the Intergovernmental Panel on Climate Change used during the 2015 Paris Summit to achieve an unprecedented unanimous agreement.
“One of the most complex global issues we face today is Climate Change. Our home here in Miami is extremely vulnerable to Sea Level Rise. That’s why the University of Miami is launching a comprehensive and cross-disciplinary initiative to harness our expertise to better understand the changing climate and to find ways we can adapt now to mitigate the pressure on future generations.”

President Julio Frenk

In 2007 President Donna E. Shalala signed the American College and University Presidents Climate Commitment. This historic signing demonstrated the University of Miami’s dedication to sustainability. As part of the President Climate Commitment, the University of Miami was required to initiate two or more tangible actions to reduce greenhouse gases from the following list:

- Establish a policy that all new campus construction will be built to at least the U.S. Green Building Council’s LEED Silver standard or equivalent.
- Adopt an energy-efficient appliance purchasing policy requiring purchase of ENERGY STAR certified products in all areas for which such ratings exist.
- Encourage use of and provide access to public transportation for all faculty, staff, students and visitors at our institution.
- Participate in the Waste Minimization component of the national Recycle Mania competition.

The University adopted the implementation of all 4 of those actions.
Buildings are generally the largest user of energy and the largest source of greenhouse gas emissions on campuses. Buildings also use significant amounts of potable water. Institutions can design, build, and maintain buildings in ways that provide a safe and healthy indoor environment for inhabitants while simultaneously mitigating the building’s impact on the outdoor environment.

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The University of Miami is home to the first high-rise in South Florida constructed using green principles—residential or commercial. The Clinical Research Building is home to medical research at the UM Miller School of Medicine. Built using LEED™ principles and practices including: reflective “Energy Star” roof reduces heat gain; double-pane argon gas windows insulate the building; curtain wall fins reduce solar heat; raised floor system provides for better indoor air quality and energy efficiency (first high-rise in South Florida with this technology); floor vents reduce ductwork, improving air flow and efficiency; all lighting is low-energy fixtures; automated light and alarm timing save electricity; chilled water loop system provides more efficient cooling; permeable pavers improve run off; carpet and other internal materials are certified green and recyclable; modular floors, walls, carpet, outlets and vents are easy to reconfigure; close proximity to Metrorail and buses; Wellness Center showers and lockers for cyclists and public transit users; and a landscaped river walk on Wagner Creek.

- Percentage of newly constructed or renovated building space certified under a green building rating system for design and construction: 100%
- Percentage of building space certified under a green building rating system for the operations and maintenance of existing buildings: 7%

**SUSTAINABILITY ACTION PLAN 2019 GOALS**

- Identify 2 buildings to be certified LEED Operation & Maintenance
- Work with our team of project managers, faculty experts, students and partners to build a Sustainable Operations and Maintenance guide for the University of Miami.

13 other buildings are LEED™ certified or in the process of being certified:

The Biomedical Research Building (Medical campus), the Cox Neuroscience and Health Annex (Coral Gables campus), the Hecht Athletic Center (Coral Gables campus), the Life Science and Technology Park (Medical campus), the Marine Technology and Life Sciences Seawater Research Building (RSMAS campus), the Multi-Purpose and Practice Facility Gold LEED™ (Coral Gables campus), the Robert and Judi Prokop Newman Alumni Center (Coral Gables campus), the Student Activities Center (Coral Gables campus), and the new Patricia Louise Frost Music Studios (Coral Gables campus). This last building achieved a LEED Platinum certification.
Photovoltaic roof panels convert sunlight into electricity. Rainwater is collected and used in and around the building (Toilet flushing and landscaping irrigation). Serving as the equivalent of planting 320 trees, the amount of titanium dioxide mixed into the concrete remove air pollutants, and electrochromic windows automatically adjust to bright or overcast conditions outside. “It’s a groundbreaking building that will save $100,000 a year in electricity costs over a structure built with conventional materials” Yann R. Weymouth, senior vice president and director of design for HOK Architects

“The Design and Construction department has taken the lead in ensuring that our buildings are constructed in a sustainable manner. The department has LEED certified 1.2M SF of Green Buildings to date and is in the process of developing an additional 727K SF of LEED certified facilities. We are in the process of “greening” our building component standards so that any sized project or repair is also environmentally responsible.” UM Design and Construction Department
The University uses these buildings as educational tools for those in and outside the University of Miami, and is an active member of the Better Building Alliance, a Department of Energy’s (DOE) exceptional network of research and technical experts with mission to develop and deploy innovative, cost-effective, energy-saving solutions for more sustainable buildings in the country.

University of Miami has also been listed as a “Green Campus” in the Green Colleges Princeton Review for the 3rd year in a row.
For most institutions, energy consumption is the largest source of greenhouse gas emissions, which cause global climate change. Our institution, along with others in the region are especially sensitive to this issue because Southeast Florida has become ground zero for Sea Level Rise. University of Miami has brought its expertise to the South-East Florida Regional Climate Compact since its inception. The Compact is a partnership between Broward, Miami-Dade, Monroe and Palm Beach counties, their municipalities and the Institute for Sustainable Communities to prepare for Climate Change impacts, as our region remains the most vulnerable in the nation.

In addition to causing global climate change, energy generation from fossil fuels, especially coal, produces air pollutants such as sulfur dioxide, nitrogen oxides, mercury, dioxins, arsenic, cadmium and lead. These pollutants contribute to acid rain as well as health problems such as heart and respiratory diseases and cancer. Coal mining and oil and gas drilling can also damage environmentally and/or culturally significant ecosystems. Nuclear power creates highly toxic and long-lasting radioactive waste. Large-scale hydropower projects flood habitats and disrupt fish migration and can involve the relocation of entire communities. Implementing conservation measures and switching to renewable sources of energy can help institutions save money and protect them from utility rate volatility. Renewable energy may be generated locally and allow campuses to support local economic development. Furthermore, institutions can help shape markets by creating demand for cleaner, renewable sources of energy.
The University of Miami is constantly looking for ways to reduce energy usage.

**Energy saving dashboard:** As part of our ongoing energy conservation efforts, we are monitoring our building energy performance to reduce our consumption and carbon footprint. All buildings on the Coral Gables campus enter into our Energy saving dashboard, with real time access to KWh consumption.

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**SUSTAINABILITY ACTION PLAN 2019 GOALS**

- Invest in Energy Efficiency retrofits, Operations & Maintenance, as well as conservation campaigns to reach 2% yearly reduction in MMBtu/Gross Sq Ft.
- Seek agreements with utilities to incentivize largescale rooftop solar installations on campus.
**IT Energy saving pilot program:** In collaboration with the EPA, UM IT, and Green U, our Facilities Management Dpt created a pilot where all desktop computers are set on sleep mode. Extended to all PCs, it could save UM up to 15% of our energy consumption.

**Energy Efficiency:** Reducing electrical consumption has been our main focus over the past 5 years. Significant energy conservation improvements and activities during this period have included:

- Construction of new LEED Buildings.
- Improved management of our Utility Plants CHW loop control strategies and set points to reduce the cost of Chilled Water production.
- Refrigerants upgrades to improve our chilled water loop system performance.
- Interior Lighting retrofit from T12 to T8 lamps with electronic ballast.
- Exterior LED lighting retrofits reducing wattage.
- Occupancy sensors in all buildings.
- BACnet EMS installation.
- Utility Plants upgrade of chiller to high performance energy efficient units to address additional load.
- High Efficiency Motor replacements.
- Campus wide efficiency setback of thermostats during campus break.
- Establishment of a campus Wide Set point of 74 Deg (+/- 1.5)
- On-going routine and preventive maintenance of building mechanical systems equipment to maximize their efficiency.

**Electricity conservation actions:**

- Load shifting to off peak hours.
- Include lighting retrofits, EMS and multi-zone Variable-Air-Volume HVAC systems, Variable Frequency Drives on Air Handler Units and pumps on major and minor building remodel projects as appropriate.
- Interior lighting retrofits as equipment’s fail.
- Installing occupancy and daylight harvesting sensors where applicable.
- Converting exterior lighting from timers to photocell.
- High Efficiency Motor replacements as motors fail.
- Energy Management System retrofits during major remodels.
- Consolidate off period activities into selected energy efficient buildings so less efficient buildings can be set to unoccupied status.
Green Revolving Reserve

In 2015, the UM Real Estate and Facilities Department launched the U Green Revolving Reserve with the support of our office of sustainability, our School of Architecture and our College of Engineering. UGRR is an internal investment vehicle that provides financing to parties within UM for implementing energy efficiency and other sustainability projects that generate cost-savings. Our participation in the Billion Dollar Green Challenge grant us access to valuable online resources: “The Billion Dollar Green Challenge encourages colleges, universities, and other nonprofit institutions to invest a combined total of one billion dollars in self-managed revolving funds that finance energy efficiency improvements.”

U Conserve - Energy Conservation Campaign:

The U Conserve Campaign is a partnership between UM office of Sustainability and UM Facilities Management. Reminders are regularly sent to the whole UM community on Energy Conservation duties.

The Green Office Certification Program reaches out to all our staff and faculty members. To facilitate the adoption of behavioral changes that will make an impact on our general carbon footprint, Green U offers a simple checklist program for offices that want to go green in the workplace. Offices Green leaders can take a “Sustainability 101” workshop as part of their Professional Development credit requirement.
The brand-new Patricia Louise Frost School of Music building is equipped with a 70 KW Photovoltaic solar panel system that offsets 20 to 30% of the building’s current load.

Another 20 KW Photovoltaic system was installed on the Coral Gables campus’ Food Court rooftop. This system, sponsored by the Student Government organization ECO Agency, also has an educational mission, inviting students to learn about Solar Energy. The system connects to an online dashboard that gives visitors a clear picture of the savings and offsets associated with the PV system.

UM has installed a Solar Thermal system as part of our Silver LEED Neuroscience Center hot water system to reduce total energy demand for scientific research. The system has reduced total hot water energy demand for cage wash, lab sinks and domestic use onsite by 30%. Students can also charge their phone with our Soofa Solar benches.
Pesticides and fertilizers used in agriculture can contaminate ground and surface water and soil, which can in turn have potentially dangerous impacts on wildlife and human health. The production of animal-derived foods often subjects animals to inhumane treatment and animal products have a higher per-calorie environmental intensity than plant-based foods.

Institutions can use their purchasing power to require transparency from their distributors and find out where the food comes from, how it was produced, and how far it traveled. Institutions can use their food purchases to support their local economies; encourage safe, environmentally friendly and humane farming methods; and help eliminate unsafe working conditions and alleviate poverty for farmers. These actions help reduce environmental impacts, preserve regional farmland, improve local food security, and support fair and resilient food systems.
Food & Dining

Food and Beverage Purchasing
- 23%
- 28%
- 38%
- 37%

Credit Status Points
Food and Beverage Purchasing Not Pursuing 0.00 / 6.00
Sustainable Dining Complete 1.88 / 2.00

SUSTAINABILITY ACTION PLAN 2019 GOALS

- Establish a Sustainable Food Inventory that will serve as our baseline for future reports.
- Create pilot programs: Pre-consumer composting in one of our dining halls, targeted post-consumer composting, campus herb garden sourcing the Dining halls, and a low-impact dining event (e.g. Meatless Mondays).
- Publish our sustainable dining guidelines online

UM Dining Sustainability program features Certified Sustainable Seafood, certified Humane Cage Free eggs, AG Hormone Free Dairy products, Fair Trade coffee, Antibiotics free poultry, maximizing the use of local products to support Local farmers.
UM Dining services are partnering with the Miami Rescue Mission to serve food to the homeless and the needy. Our Dining Halls, our Food Court and Catering services give an average 3.5 tons of food to this great organization, the equivalent of 5000 ready to eat meals.

The UM Farmer’s Market is open every Wednesday on the main campus and every Thursdays on the Medical campus. Faculty, staff and students can visit and buy from local vendors fresh local fruits and vegetables, cheeses, and much more.

Through programs like Well ‘Canes and its points award system, UM promotes healthy living styles in the workplace (Week of Well Being). Our Health and Wellness System makes sure that students receive all the help they need to quit smoking, exercise and educate themselves on adopting a healthy diet.

With the intent to raise awareness about Sustainable Food, the Office of Civic and Community Engagement, the Office of Sustainability, and the Butler Center for Volunteering and Leadership celebrate FOOD DAY annually. This event has helped connect entities like the UM Garden Club, the Plant based Canes student group, faculty members teaching food ethics and UM dining services to launch a series of initiatives: an herb garden at the Mahoney dining hall, a coffee ground collection program, or the opening of our first 100% vegetarian meals restaurant on campus.
**SUSTAINABILITY EFFORTS**

In collaboration with Monterey Bay Aquarium Seafood Watch program, which removes unsustainable wild and farmed seafood from our menus, UM Dining is committed to protecting the threatened global fish supply. **INDEPENDENT SEAFOOD.**

**GOING TRAYLESS**

UM Dining went trayless in retail and residential dining locations for energy conservation in 2009.

**HAPPY CHICKENS**

UM Dining offers Humane Farm Animal Care certified cage-free shell eggs and our poultry is produced without the routine use of human antibiotics.

**FREEDOM FRESH**

Currently, our fruits and vegetables are purchased from local farms, within 350 miles of the University.

**GREENER FIELDS TOGETHER**

The Greener Fields Together program through Freedom Fresh allows UM Dining to support smaller local farms in getting tools to better their operations.

**FOOD DONATIONS**

UM Dining has been donating leftover food to the Miami Rescue Mission for over 5 years. Over **22,6 tons** have been donated since Fall 2011, which equates to approximately **33,135 meals**! The Spring 2016 semester was an exciting one as ECO has created a Food Recovery Network, which is fully supported by Chartwells, to involve students in the food recovery and donations to this organization that has really changed the lives of so many in Miami-Dade county.

**ECOLAB®**

UM Dining is proud to use a line of Green Seal certified products available for cleaning to safeguard human health and the environment through Ecolab.

**PRODUCE**

UM Dining continues to purchase the fruits and produce that typically get thrown away due to size or appearance to utilize in our salad bars, soups, pastas, etc. This directly supports local farms to reduce waste.

**GREEN U**

UM Dining continually partners with GreenU’s Energy & Conservation Organization to push the message of sustainability throughout campus within dining as it pertains to Earth Week, solar panels and recycling.

**HAMPTON CREEK**

UM Dining provides fresh yogurt and milk that is free of artificial growth hormones.

Mahoney-Pearson and Hecht-Stanford serve Hampton Creek Just Mayo and Just Cookies. A dozen cookies will conserve 1 sq. ft. of land. One jar of mayo conserves 2 sq. ft. of land.
Beautiful and welcoming campus grounds can be planned, planted, and maintained in any region while minimizing the use of toxic chemicals, protecting wildlife habitat, and conserving resources. The University of Miami is a wonderful example of how natural flora can improve aesthetics along with community health.

The University of Miami - Coral Gables Campus has recently been designated TREE CAMPUS USA by the Arbor Day Foundation. Our campus has a unique landscape architecture with elements designed specifically for its climate and natural setting. It conveys a positive and unified sense of place, coherency, and consistency. Its thoughtful landscape planning has become renowned worldwide as a “campus-in-a-tropical garden”. The campus enjoys many important vegetated areas which include Lake Osceola, The Gifford Arboretum, the Ibis Natural Trail, the Palmetum and the Butterfly Garden. Our goal is to preserve and enhance these important features. Our general purpose is to guarantee that the standards of beauty, sustainability and environmental stewardship are respected and applied on our campus landscape.
- Percentage of grounds managed in accordance with an Integrated Pest Management program: 76%
- Percentage of grounds managed in accordance with an organic program: 4.5%

**ECO signs on Lake Osceola**

If you stroll around Lake Osceola, you will discover signs about the ecology of our historic lake. This partnership between ECO and UM Administration gives a renewed sense of belonging and connection with our environment.

**The Gifford Arboretum** is a collection of important trees and plants that have been assembled for the purposes of education and research.

No chemical pesticide is used on the shrubs and trees. Part of the mulch used in the Arboretum is locally produced from our yard clipping waste. The “Right tree in the Right place” concept is applied in our guidelines to avoid any damage to existing and future infrastructure. All plant material needs to be Florida No. 1 or better as specified within "Florida Grades and Standards for Nursery Plants" from the State of Florida Department of Agriculture and Consumer Services.

**SUSTAINABILITY ACTION PLAN 2019 GOALS**

- Increase managed land using a four-tiered Integrated Pest Management plan from 76% to 100% and publish a comprehensive IPM Plan online.
- Target areas to extend organic management buffer for our water ways.
Collectively, institutions spend billions of dollars on goods and services annually. Each purchasing decision represents an opportunity for institutions to choose environmentally and socially preferable products and services, supporting companies with strong commitments to sustainability.

- Percentage of expenditures on electronic products that are EPEAT Gold registered: 73%
- Percentage of expenditures on cleaning and janitorial products that are third party certified to meet recognized sustainability standards: 60%
- Percentage of expenditures on office paper that is 90-100 percent post-consumer recycled and/or agricultural residue content and/or FSC Recycled label: 4%

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The grey bar displays the scores for all STARS rated institutions of the same basic type as the institution featured in the report (Associate, Baccalaureate, Master, or Doctorate) in quartiles. Hovering over the bar reveals the 1st quartile score (25% of institutions scored above this figure); Median (or 2nd quartile) score (50% of institutions scored above this figure); 3rd quartile score (75% of institutions scored above this figure); Top score for all institutions of the same basic type.
University of Miami strives to purchase environmentally and socially responsible materials and products. Our Purchasing Department is committed to purchasing products that earn the Energy Star label and meet the Energy Star specifications for energy efficiency, wherever possible and practical.

**SUSTAINABILITY ACTION PLAN 2019 GOALS**

- Establish specific sustainability guidelines for the following areas of procurement: Food; Fuel and Transport; Lighting and energy efficient products.
- Create a short survey to track sustainability attributes in our new vendors.
- Target an increase from 73% to 80% EPEAT certified electronics.
Green Purchasing and Printing

**Recyclable Carpet:** New Carpet contracts state that new carpet must comply with LEED standards as well as green carpeting standards. Old carpet must be recycled and new carpet must be recyclable.

**Light bulbs:** The University is pursuing an aggressive LED lighting installation program.

**Cleaning Products & Equipment:** Our Custodial Companies are required to follow those guidelines and many of the products that they use have one of the main Sustainable/Green labels, such as Green Seal. Staples is our official office supply provider and offers a wide range of “Easy on the Planet” products.

**Paper Reduction program:** Departments on the UM Miller School of Medicine campus are going 100% paperless, and many other departments at UM are working to implement similar programs. The University of Miami’s Document Management System is helping to find solutions. The ECM Team has helped over 100 University departments streamline their operations and eliminate paper.

**Managed Print Services:** The Department of Managed Print Services and Canon Solutions America have joined forces with Green U to promote environmental awareness through the system. MPS and Canon establish environmental goals and monitors their progress on a yearly basis. Initiatives are continuously undertaken to reach these goals, which focus on minimizing raw materials/use CO2, and the energy consumption.
Transportation is a major source of greenhouse gas emissions and other pollutants that contribute to health problems such as heart and respiratory diseases and cancer. Due to disproportionate exposure, these health impacts are frequently more pronounced in low-income communities next to major transportation corridors. Campuses can reap benefits from modeling sustainable transportation systems. Bicycling and walking provide human health benefits and mitigate the need for large paved areas, which helps campuses better manage storm water.
Total number of vehicles in the institution’s fleet: 240

Total number of electrical vehicles in the institution’s fleet: 63

- Total percentage of the institution’s employees that use more sustainable commuting options as their primary method of transportation: 30%
- Total percentage of students (graduate and undergraduate) that use more sustainable commuting options as their primary means of transportation: 59%

**SUSTAINABILITY ACTION PLAN 2019 GOALS**

- Improve modal split value between students and employees.
- Introduce a Bike Share program on our main campus.
- Establish a university-wide yearly Transportation survey to fine-tune our commuting carbon emissions tracking.
- Adoption of mobile applications to facilitate carpooling or other alternative transportation modes.
- Enhance our Telecommuting program.

Transportation

Transportation accounts for the second largest source of campus emissions. The University of Miami’s transportation initiatives can serve as a model for the region. The University strives to maintain a campus-based, multi-modal transportation system that promotes walking, bicycling, public transit, vehicle pooling and vehicle sharing.

**Public Transportation Passes:** University of Miami employees and students can take advantage of an environmental friendly initiative that addresses some of the challenging transportation issues in our community: Up to 50 percent savings on the monthly cost of Miami Dade County Mass Transit passes.
**Zipcar:** The program allows members to reserve fuel-efficient cars online, via phone or mobile device, for a small hourly rate that includes gas and insurance. That’s especially helpful for **freshmen residents at UM, who are not allowed to have a parking permit on campus.**

**Carpool to Campus:** The University of Miami has partnered with South Florida Commuter Services (SFCS), a program of the Florida Department of Transportation, to provide transportation related programs and services to UM students, faculty and staff. Students, faculty and staff that carpool to the Coral Gables or RSMAS campus can register their carpools and be entered in the SFCS Emergency Ride Home program.

**U Bike:** The program facilitates the selling of bicycles and helmets at the bookstore at a discounted price to students. Registered students will also have access to free bike locks that can be picked up at the UM police station. As part of this initiative, the University has widened sidewalks, and added bike racks and pump stations to the Coral Gables campus. The University of Miami also welcomes the use of skateboards, inline skates, scooters, and other human powered transportation. Recently, the University of Miami was recognized as a **Bike Friendly University (BFU) by the League of American Bicyclists**, joining a small group of elite schools that have also earned the honor.

**UM’s Bicycle Reuse program** recently partnered with **Good Will SF** to repurpose old bikes left by students on campus.

**Through the Walking Canes program,** our Mobility Plan prioritize pedestrian access to different parts of the Coral Gables campus.

**GEM Neighborhood Electric Vehicles:** Road ready with speeds up to 35mph. Among the University’s fleet, several are powered by solar energy.

Despite the constraint and challenges of new parking space availability mandated by our local authorities, the main campus added **6 new Level 2 Charging stations for Electrical Vehicles** to the already existing 5 Level 1 outlets available in our CRB building (Medical campus) and our new Marine Technology & Life Sciences Seawater Research Building (RSMAS).
Reducing the generation of waste also reduces the flow of waste to incinerators and landfills, which produce greenhouse gas emissions, can contaminate air and groundwater supplies, and tend to have disproportionate negative impacts on low-income communities. Source reduction and waste diversion also save institutions costly landfill and hauling service fees. In addition, waste reduction campaigns can engage the entire campus community in contributing to a tangible sustainability goal.
- Percentage of materials diverted from the landfill or incinerator by recycling, composting, donating or re-selling, FY2015: 31%.
- Total waste generated per weighted campus user FY2015: 0.38 Tons; FY2013: 0.32 Tons.
- Percentage of construction and demolition materials diverted from the landfill or incinerator through recycling, donation and/or other forms of recovery: 60%.

**SUSTAINABILITY ACTION PLAN 2019 GOALS**

- Reduce our waste generation by 5% from our FY2013 baseline.
- Perform a waste audit on the main areas of our campuses, and use the results to build a comprehensive waste reduction strategy.
- Increase our diversion rate from 31% to 40%.
- Implement a pre-consumer composting program in one of our dining halls.

**Coral Gables campus**

Rate of Waste Diversion 9/1/15: 32.32%
The University of Miami is committed to recycling and waste minimization. On all our campuses, the University is constantly working to reduce, recycle and find better end uses for our waste streams. Here are the main programs promoting waste minimization and diversion on campus:

**Single Stream Recycling:** The University has been implementing an aggressive single stream recycling campaign, sometimes called commingled or mixed recycling (all recyclable items i.e. clean paper, bottles, cans, and cardboard collected in a single bin). Our goal is to increase our rate of diversion from landfills. This is done through the application of best practices and education campaigns for both end users and custodial employees.

**Confidential Paper Shredding and recycling:** Third-party companies oversee collection, shredding, and recycling of our confidential paper.

**Mulching and composting:** All yard waste, landscape trimming, and tree pruning waste is recycled in our Mulch/Composting area. This program does not include any food waste, but supplies our extensive landscaping mulch and fertilizing needs. Our Mulching on site practice offsets 470 Tons of green waste per year from our landfills.

**Toner and Cartridge recycling:** In place since 2014, this program helps UM Employees and Copier maintenance workers recycle all toner cartridges, printer cartridges and toner bottles. The program generates revenue through a third-party company that repurposes those items. All proceeds from this program go to a local charitable non-profit organization.
**Food waste**

**Tray-less Dining Halls:** The two main dining halls on the Coral Gables Campus have gone tray-less. The purpose of this program is to reduce food waste and water/energy use associated with the use of dining hall trays.

The Hecht Dining hall is now equipped with a **Bio Digester** that convert all pre-consumer food scraps into grey water, offsetting more than 20,000 Lbs of solid waste from landfills per month while avoiding greenhouse gas release.

In 2015, UM Dining decided to standardize our **Used Cooking Oil** disposal practices by contracting with a new vendor. This change will allow the recycling of more than 15,000 Lbs. of Used Cooking Oil a year.

A new program launched in partnership with Green U, UM Dining and Grounds Management reuse the **Coffee grounds** generated in our Starbucks for soil amendment in our landscaping areas.

**E Waste, appliances, furniture and bulk recycling:** The University of Miami Property Surplus Department handles all transfers, disposals, and recycling of University Property. The Surplus Office will contact the department and arrange free pick-up and/or disposal. In 2015, Surplus started promoting their inventory online for the UM community convenience. Our IT Department allows for proper disposal and recycling of UM owned electronic devices. For personal electronics, our U Tech Source located in our Book Store takes old technology and gives a trade-in quote for the device even if it is broken. All trade-ins are repurposed, nothing goes to landfill. For rechargeable batteries, our Facilities customer service picks them up on demand and disposes of them with certified third parties for recycling.

**Reuse programs:** Periodically, during Move out, Earth Week and other events, the University partners with Good Will to make sure students used belongings are reused and do not end up in a land fill. Containers are placed throughout campus for drop off.

As a result of these efforts, our **rate of waste diversion is constantly over the 30%**. Our goal in the next 2 years is to reach a 40% diversion rate with the implementation of more reuse, recycle and reduce programs.
Institutions should conserve water, make efforts to protect water quality and treat water as a resource rather than a waste product. Pumping, delivering, and treating water is a major driver of energy consumption. Institutions can help reduce energy use and greenhouse gas emissions associated with energy generation by conserving water. Likewise, conservation, water recycling and reuse, and effective rainwater management practices are important in maintaining and protecting finite groundwater supplies. Water conservation and effective rainwater management also reduce the need for effluent discharge into local surface water supplies, which helps improve the health of local watersheds and ecosystems.

- Potable water use per weighted campus user FY2013: 18,543.74 Gallons; FY2015: 20,491.15 Gallons
- Potable water use per unit of floor area FY2013: 36.79 Gallons / GSF; FY2015: 41.25 Gallons / GSF

**SUSTAINABILITY ACTION PLAN 2019 GOALS**

- Reduce our Potable water use per weighted campus user by 3% from our FY2013 baseline.
The University of Miami is constantly looking for ways to reduce water use. Our Facilities department has adopted aggressive practices and technologies to optimize the campus’ water use and further promote the University’s water conservation efforts despite a constant growth in demand. Our initiatives in this area include:

- The replacement of all resident hall and apartment shower heads with low flow models (with the occasional participation of the Student Government ECO Agency as sponsor).
- The installation of timer setting controls on the campus irrigation systems.
- An ongoing, aggressive leak detection program to prevent excessive water consumption.
- An ongoing replacement program of urinals and toilets to low flow models.
- An ongoing conversion of campus irrigation systems to well water in lieu of domestic water usage.

The main advancement in water conservation is the installation of a rainwater harvesting system in the new Frost School of Music LEED Platinum building that provides for all its non-drinking water demand, toilets flushing included. On the RSMAS campus, a closed loop system has been installed in the Chiller plant: 90% of condensate water is recirculated in the system as makeup water for the cooling towers. Submeters have been installed to measure the percentage of condensate in the mix, generating an average of 300 gallons per day or 10% of the cooling tower demand.

As Orientation week kicks in, a reusable bottle is offered to every freshman by Green U and ECO. Students can look for fountains or our new online Hydration stations map, and sign the “Take back the Tap” pledge.
Colleges and universities are institutionalizing sustainability by dedicating resources to sustainability coordination, developing plans to move toward sustainability, and engaging students, staff, faculty, and community stakeholders in governance. Staff and other community members help an institution organize, implement, and publicize sustainability initiatives.

“Mission Statement of the Sustainability Committee at UM: The Sustainability Committee is composed of a panel of diverse stakeholders and community members of our campus. It strives to promote a culture of environmental awareness through the university community, making sustainability one of the core value of our institution; we want to engage our students, faculty, staff, alumni and community in improving our ecological footprint. We want to diffuse sustainable practices that acknowledge the necessary balance between humans and their surrounding environment, and that minimize the impacts on our natural resources; At the U, we transform lives through teaching, research and service. The mission of this committee is to develop an operational model that guarantees commitment to sustainability.”

SUSTAINABILITY ACTION PLAN 2019 GOALS

- Use STARS to build a triennial Sustainability Action Plan covering all areas of Sustainability.
- Include a sustainable living section in our online Student Housing Village resources.
- Include our Sustainability Mission Statement in one of the University published strategic plans endorsed by the Board of Trustees.
Members of racial and ethnic minority groups and immigrant, indigenous and low-income communities tend to suffer disproportionate exposure to environmental problems. This environmental injustice happens because of unequal and segregated or isolated communities. To achieve environmental and social justice, society must work to address discrimination and promote equality. The historical legacy and persistence of discrimination based on racial, gender, religious, and other differences make a proactive approach to promoting a culture of inclusiveness an important component of creating an equitable society. Higher education opens doors to opportunities that can help create a more equitable world, and those doors must be opened through affordable programs accessible to all regardless of race, gender, religion, socio-economic status and other differences. In addition, a diverse student body, faculty, and staff provide rich resources for learning and collaboration.
The University of Miami established a Standing Committee on Diversity and Inclusion entrusted with the research, recommendation, and promotion of educational and programmatic efforts that are consistent with UM’s unwavering dedication to diversity and inclusion.

The Office of Multicultural Student Affairs (MSA) develops and implements strategies related to recruitment travel, website and publications messaging, admission decisions that take into account a holistic review, targeted work with community based organizations, targeted work with Miami schools, a special program for Deferred Action for Childhood Arrivals (DACA) students, early intervention and college readiness programs on and off campus, a diversity scholarship program for our Summer Scholars Program, travel assistance for needy students to visit campus, and bilingual outreach for family members.

- On average, the percentage of need that was met for students who were awarded any need-based aid: 99%
- The graduation/success rate for low-income students: 81%
- The percentage of students graduating with no interest-bearing student loan debt or for whom no out-of-pocket tuition is required: 60%

### SUSTAINABILITY ACTION PLAN 2019 GOALS

- Study feasibility of a program specifically designed to recruit faculty from underrepresented groups
- Increase the percentage of students graduating with no interest-bearing student loan debt or for whom no out-of-pocket tuition is required
An institution’s people define its character and capacity to perform; and so, an institution’s achievements can only be as strong as its community. An institution can bolster the strength of its community by offering benefits, wages, and other assistance that serve to respectfully and ethically compensate workers and by acting to protect and positively affect the health, safety and wellbeing of the campus community.

**University of Miami HR Benefits celebrate the WEEK of WELL-BEING every year.**

The University of Miami’s Week of Well-Being features five days of events and activities aimed at transforming the lives of faculty, staff, and students through wellness. Green U partners with local NGOs and with HR Benefits to bring workshops like “How to build your edible Eco Garden”
Percentage of employees (staff and faculty) assessed by a survey or other evaluation that allows for anonymous feedback to measure employee satisfaction and engagement: 100%

The University of Miami provides a comprehensive wellness program to all faculty and staff based on a holistic view of well-being that incorporates physical, psychological, interpersonal, financial, communal and occupational dimensions of wellness.

UM Celebrates Healthier Campus Initiatives

Monday, September 21 begins the Partnership for a Healthier America (PHA)’s Healthier Campus Initiative #HealthyCampus Week, and the Patti and Allan Herbert Wellness Center is teaming up with UM Dining, University Communications and other campus departments to highlight and promote UM’s health and wellness initiatives. Throughout the week, UM departments will join the #HealthyCampus national conversation on social media to highlight actions taken within the past year to foster and cultivate a healthier UM campus.

Smoking and/or the use of any tobacco product is prohibited in all areas of the university campus. The University of Miami is committed to promoting a healthy environment for the well-being and safety of staff, students, faculty, patients, visitors and all individuals who have a presence on our campuses.
Conclusion

The latest report from the Intergovernmental Panel on Climate Change (IPCC) lists South East Florida as one of the three coastal areas in the World most vulnerable to Sea Level Rise. The adaptation to this threat for our region is on its way. Community leaders, elected officials and private partners are calling for more action. The University of Miami, as a leader in Higher Education, Health and Research, has a special role to play. To be a role model for other institutions in the region and make sure our goals are met, we need to improve our benchmarking, monitoring and evaluation of sustainability projects. This comprehensive Sustainability Action Plan provides a renewed and systematic approach to this great challenge. The best tool to date for Higher Education Institutions in the US remains the Sustainability Tracking, Assessment and Rating System™ (STARS). The application to this AASHE sponsored program has drastically improved our overall understanding and planning of sustainability actions at UM.

This report highlights the need for a holistic approach to sustainability on our campuses. We hope to foster a “culture” transformation that will put sustainable behaviors and investments at the core of our institution’s values. Since its first Climate Action Plan in 2009, the University of Miami has continuously reduced its carbon footprint. We need to build on this foundation, and this Sustainability Action Plan is the new installment of this journey. We are confident that by 2019, we will have achieved the goals laid out in this plan and will be ready for new challenges. The call for action on sustainability and climate change is urgent, our leadership have fully embraced that notion and support this plan.