

**UNIVERSITY OF VIRGINIA**

# SUSTAINABILITY

## ANNUAL REPORT

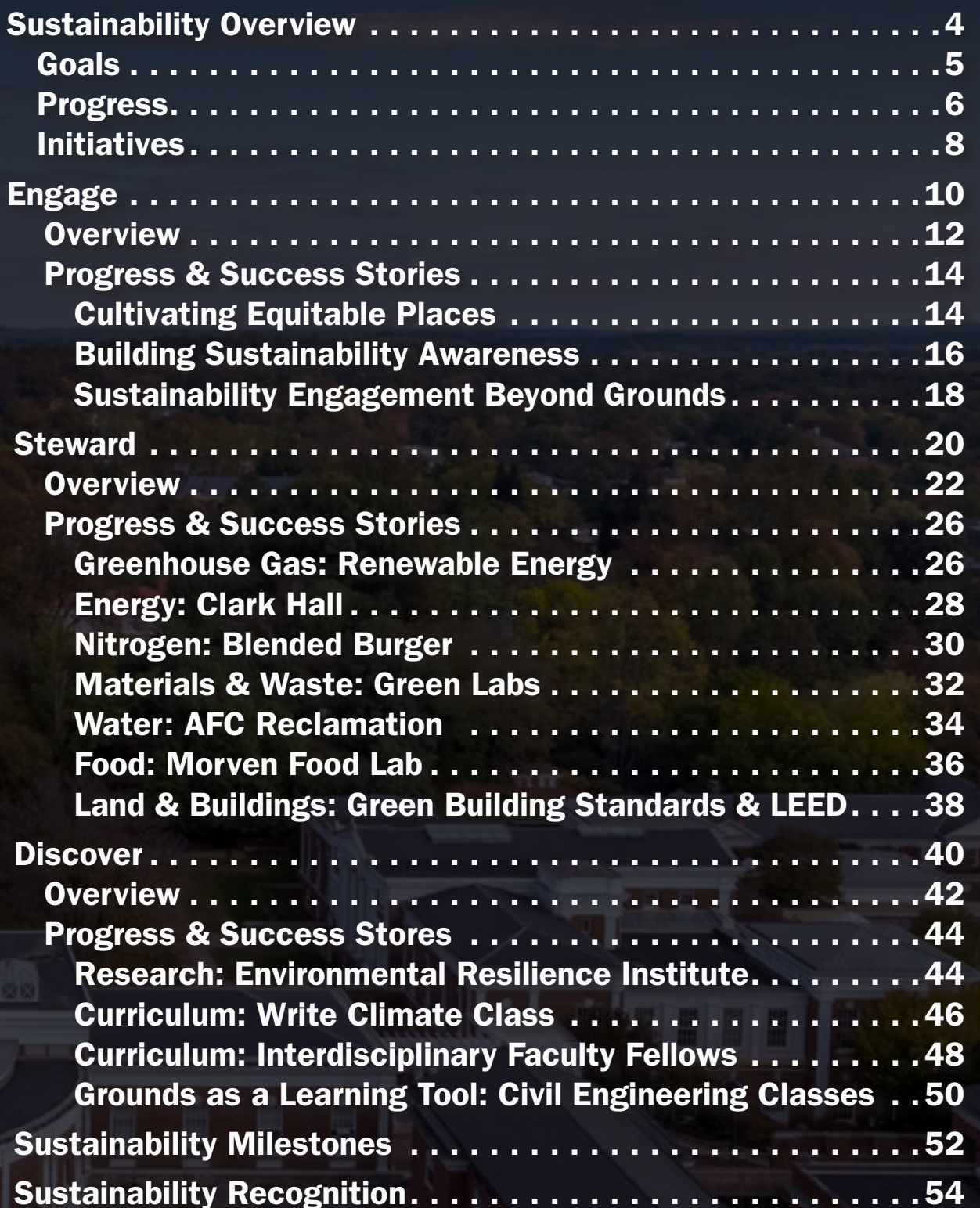



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The 2017-2018 UVA Sustainability Annual Report provides a snapshot of collaborative work by students, staff, faculty, and alumni to advance UVA's Sustainability Plan over the past year. Aligned with the Plan's Engage, Steward, Discover framework, this Report describes overall progress towards each area of the Plan, with an accompanying story to illustrate a few of the many highlights from the year.





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# SUSTAINABILITY

## OVERVIEW

In 2016, UVA launched its first comprehensive **Sustainability Plan**

engaging over one hundred stakeholders to build upon existing stewardship goals, adding robust waste, procurement, food, and water goals and actions, and committing to integrated goals related to community engagement, curriculum, and research.

**The Sustainability Plan** outlines 23 goals and 101 actions,

including the development of Action Plans to provide the UVA community and its partners with transparent road maps of specific strategies for how the University seeks to meet its environmental stewardship goals.

UVA's strategic sustainability framework seeks pan-university and interdisciplinary connections at all levels of the University to ENGAGE our community and build sustainability awareness, STEWARD our resources on Grounds and beyond, and DISCOVER solutions to global challenges through research, curriculum, and using the Grounds as a learning tool.

Funding provided for the 2016-2020 plan has accelerated implementation of the Sustainability Plan by catalyzing pilot initiatives into replicable and scalable longer-term solutions. This annual report highlights progress and a few examples of initiatives made possible by the funding. As we move into the second half of our five year plan, and as UVA moves into its third century, we have a pivotal opportunity to engage the UVA community in developing and implementing a shared longer-term vision for sustainability. The October 2018 Bicentennial Sustainability Leadership Summit will be a key next step in developing a shared vision for UVA's leadership role in addressing the world's most challenging sustainability issues.



Completed  
 In Progress  
 Not Started

# GOALS

## ENGAGE

1. **Increase sustainability awareness** within the UVA community
2. **Increase sustainability engagement** beyond Grounds
3. **Incorporate social, environmental, and economical sustainability** considerations into strategic initiatives
4. **Cultivate healthy and equitable places** for learning, living, & working

## DISCOVER

1. **Enhance sustainability research** and UVA's reputation as a locus of sustainability
2. **Enhance sustainability-focused teaching** and curricular development
3. **Utilize the Grounds as a learning tool** through collaboration between operational and academic units

## STEWARD

1. **Reduce greenhouse gas emissions** 25% below 2009 levels by 2025
2. **Reduce building energy use intensity** 20% below 2010 levels by 2020
3. **Reduce reactive nitrogen losses** to the environment 25% below 2010 levels by 2025
4. **Reduce potable water use** 25% below 2010 levels by 2035
5. **Reduce the total tonnage of waste generated at UVA** 50% below 2014 amounts by 2035
6. **Landfill less than 2,000 tons of waste annually** by 2035
7. **Increase environmentally preferable purchasing** as a percentage of purchases
8. **Increase efficiency of UVA land and buildings** to limit the need for new construction
9. **Form connections through UVA** and UVA Foundation lands
10. **Enhance and expand** the number of sustainable and meaningful sites and buildings
11. **Annually increase the percentage of sustainable food and beverages** available on Grounds
12. **Reduce food waste and single-use food serving items** sent to landfills by 2035, in alignment with the overall UVA waste goals
13. **Reduce the energy and water impact** of dining operations
14. **Increase student, staff, and faculty awareness** of sustainable food systems
15. **Collaborate within UVA and with the region**, to advance sustainable food systems in the broader community
16. **Consider environmental, governance, social, and ethical issues** in managing institutional investment assets

## UVA SUSTAINABILITY PROGRESS

### COLLABORATION AS A HALLMARK

There is phenomenal sustainability-related research, coursework, and leadership occurring at UVA in nearly every area of the University, with over 130 sustainability-related courses, over 300 faculty involved in sustainability-related research, over 30 sustainability-focused student groups and countless individuals. UVA is supporting current and future sustainability leaders for work in the sciences, social sciences, engineering, design, and the humanities. Pan-University collaborative teaching, research, and applied practice (Engage, Steward, and Discover) continues to grow, with extensive strategic collaboration that leverages the combined strengths of the [University Committee on Sustainability](#), [Environmental Resilience Institute](#), the [Office for Sustainability](#), the [Global Sustainability Initiative](#), and many more. To highlight some of UVA's work, the University Committee on Sustainability held a UVA Sustainability Summit in the Rotunda Dome Room in August 2017, featuring flash talks by 20 faculty members and highlighting UVA's leading global research and use of the Grounds as a living laboratory.

### AASHE STARS GOLD RATING

The University of Virginia has earned a [STARS Gold rating](#) in recognition of its sustainability achievements from the Association for the Advancement of Sustainability in Higher Education (AASHE). STARS, the Sustainability Tracking, Assessment & Rating System, measures and encourages sustainability in higher education. This is the University's third STARS certification. During the submission process, AASHE highlighted some standout areas at UVA - UVA's First-Generation College Graduates on Faculty Program (part of the Affordability and Access credit), UVA's increase in sustainable food and beverage purchasing, and UVA's exemplary leadership in nitrogen footprint assessments.

# ENGAGE

- 92 events
- Over 5,000 event attendees
- 90 university & community partners
- Over 75,000 people impacted by outreach efforts

62,824

LBS OF DONATED GOODS

# STEWARD

## GREENHOUSE GAS

- 18.9% reduction in GHG emissions from baseline
- 726 kWh of solar on Grounds

## ENERGY

- 12% reduction
- \$6.1 million in avoided utility costs from Delta Force Program in 2017

## NITROGEN

- 9.6% reduction from baseline

## BUILDINGS & LANDSCAPE

- Green Building Standards
- 52 LEED buildings

## FOOD

- 8.6% sustainable food purchase (2% increase)
- First blended burger in VA higher education
- Green Restaurant certifications

## WASTE & MATERIALS

- 15.2% less waste generation
- 6.0% more landfill

## WATER

- 14.6% reduction from baseline
- First institutional “virtual” water footprint

19%

REDUCTION IN  
GREENHOUSE  
GAS EMISSIONS

# DISCOVER

- 6 new sustainability classes with 230 students
- 16 UVA departments received Sustainability Plan grant funding
- 13 Sustainability Plan research development grants totaling \$104,000
- 6 new faculty joined UVA in the Environmental Resilience cluster hire

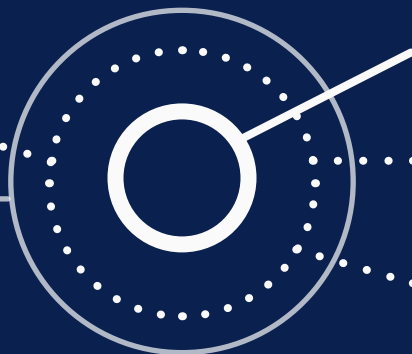
15 SUSTAINABILITY  
PLAN COURSE DEVELOPMENT  
GRANTS TOTALING

\$120,000

## ENVIRONMENTAL STEWARDSHIP SUBCOMMITTEE

### WORKING GROUPS:

- GREEN DINING
- ENERGY & LIGHT POLLUTION
- GREEN ATHLETICS
- GREEN IT
- HEALTH SYSTEM
- LABS
- MATERIALS
- NITROGEN
- PROCUREMENT
- OPEN SPACE
- TRANSPORTATION
- SUSTAINABLE FOOD
- WATER & STORMWATER



## COMMITTEE ON SUSTAINABILITY

### TEACHING & RESEARCH SUBCOMMITTEE

### CIVIC ENGAGEMENT SUBCOMMITTEE

# UVA SUSTAINABILITY INITIATIVES

## EVP & COO

- Facilities Management
- Office for Sustainability
- Environmental Resources
- Office of the Architect
- Transportation Demand Management Program
- Green Dining Program

## EVP FOR HEALTH AFFAIRS

- Health System Sustainability Committee

## EVP & PROVOST

- Environmental Resilience Institute
- Global Sustainability Major
- Global Sustainability Minor
- Food Collaborative
- Darden Business Innovation and Climate Change Initiative
- McIntire Sustainability certificate
- Morven Summer Institute

## VP AND CHIEF STUDENT AFFAIRS OFFICER

- Student Council Sustainability Committee
- 30+ sustainability-related student organizations - Green Leaders umbrella
- UVA Career Center - STEM & Sustainability Community



# GREEN GROUNDS

*Global Development Organization*

UBIKE AMBASSADORS

## VEGGIES OF VIRGINIA

SOLAR CAR TEAM GREEN INITIATIVES FUNDING TOMORROW (GIFT)

*IRC Sustainability*

*IFC Sustainability*

ENACTUS SARC ECOREPS UVA STUDENT MORVEN KITCHEN GARDEN

MARINE SCIENCE SOCIETY

## INITIATIVES

HOOS CLEANING UP

ENGINEERS GOING GLOBAL

OUTDOORS CLUB

CAREER PEER EDUCATOR FOR SUSTAINABILITY

*Student for Shade Growth Coffee*

CRAFTING FOR CONSERVATION

OXFAM AMERICA AT UVA

## NET IMPACT

## *Greens to Grounds*

CHARITY:WATER

## GREEN DINING

## SUSTAINABILITY ADVOCATES

PROJECT PEANUT BUTTER CAMPUS KITCHEN UVA COMMUNITY GARDEN

STUDENT COUNCIL SUSTAINABILITY COMMITTEE

BROWN COLLEGE SUSTAINABILITY GLOBAL BRIGADES - WATER

*Animal Justice Advocates*

CLIMATE ACTION SOCIETY

*Feel Good*

BLACK LEADERS FOR ENVIRONMENTAL SUSTAINABILITY

HEREFORD SUSTAINABILITY GARDEN (TJ LEARNING GARDEN)

*Environmental Science Organization*

# ENGAGE



..... BUILDING COMMUNITY,  
INSPIRING ACTION



# ENGAGE OVERVIEW

## Equity & the Environment

**GOAL: Cultivate healthy and equitable places for learning, living, & working**

- UVA Career Center & UVA Sustainability hosted the Sustainability Leadership Forum: Social Justice Edition, a symposium for emerging sustainability leaders to connect with experts, learn how social justice and sustainability intersect and develop their career path.
- The Civic Engagement Subcommittee's Equity & Environment Fund awarded \$19,000 to 10 student-led projects that explore the intersection of sustainability and equity.
- The Office of African American Affairs & Global Development Studies hosted renowned author Carolyn Finney at the event Black Faces, White Spaces: Re-imagining the Relationship of African Americans to the Great Outdoors.
- Earth Week event "Intersectional Sustainability with Nia Martin-Robinson" highlighted opportunities for connecting climate action and social justice.

## From the Grounds Up

**GOAL: Increase sustainability awareness within the UVA community**

- The 4th annual UVA Sustainability Days brought together approximately 660 attendees at seven events such as a farmer's market, solar rooftop tour, and a sustainability research symposium.
- 120 Resident Advisors & Orientation Leaders were trained in sustainable living.
- UVA's first Green Living Certification program included 180 students pledging to reduce their personal environmental impacts.
- From the Bicentennial Launch celebration to President Sullivan's goodbye lunch, over 200 UVA events diverted waste from landfills through compost and recycling collection, with 36 major events aiming for zero waste.
- Since 2010, UVA Athletics & UVA Sustainability have partnered to reduce landfill waste at one football and one basketball game as part of nationwide diversion challenges. This year, UVA Athletics added a new challenge by diverting 89% of waste from landfills at one baseball game. These three games alone diverted over 26.5 tons of waste from landfills.

## Community Engagement

**GOAL: Increase sustainability engagement beyond Grounds**

- In October, Gov. Terry McAuliffe convened the first Environmental Justice Advisory Council (Executive Order 74), which will be facilitated by UVA's Institute for Environmental Negotiation.
- In its second decade, the Hoos ReUse move out donation drive diverted 62,824 lbs of usable goods from landfills and back into the community.
- Morven Food Lab's Equity & Environment Fellows: Student fellowships funded to enhance Morven's farm to school research in partnership with City Schoolyard Garden, to foster student engagement in Charlottesville's food system.
- The Clean Water Working Group and the Office for Sustainability hosted a Beta Bridge Stream Clean Up as part of UVA World Water. With the help of 71 volunteers, 20 bags of trash, 26 bags of recycling and 2 truckloads of bulk waste were kept out of local waterways.
- UVA's 9th annual Earth Week hosted 25+ free community events and over 1,000 participants to celebrate the planet we all share. Events focused on environmental service and justice, supporting community-based food systems, exploring innovative decarbonization strategies and recognizing our community's accomplishments.

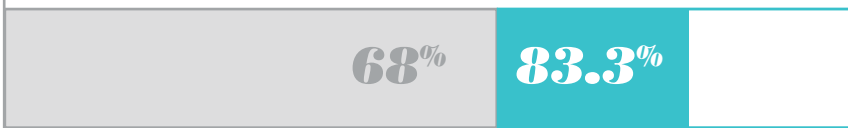
# 4,284

SOCIAL MEDIA FOLLOWERS

# 80+

MEDIA ARTICLES ABOUT UVA SUSTAINABILITY INITIATIVES

THE AASHE STARS NATIONAL AVERAGE  
SUSTAINABILITY CAMPUS ENGAGEMENT SCORE IS 68%



UVA'S SUSTAINABILITY  
CAMPUS ENGAGEMENT SCORE IS

# 83.3%

FIRST SCHOOL TO BECOME  
GREEN WORKPLACE CERTIFIED

# UVA

SCHOOL OF NURSING

SCHOOL OF NURSING  
GREEN TEAM VISION STATEMENT:

“Creating and sustaining a healthy community is part of what makes the School of Nursing a unique place to work and learn. Through organizational and individual awareness and commitment, we will strive to enhance the sustainability of our workplace. We cultivate this mindset knowing that our actions will ripple out to the larger community.”

HEALING THROUGH  
ART & COMMUNITY

WITH

CANDY CHANG



**The 2018 Community MLK Celebration Event hosted by UVA Sustainability brought guest speaker Happy Johnson to a round-table discussion and artist and activist Candy Chang to explore the intersections of equity, diversity, art, and healing through community building.**

**GOAL: CULTIVATE HEALTHY AND EQUITABLE PLACES FOR LEARNING, LIVING, & WORKING**



FOCUSING ON

# SUSTAINABLE CAREERS

WE





**GOAL: INCREASE SUSTAINABILITY AWARENESS WITHIN THE UVA COMMUNITY**

**Seeing sustainability as a growing field, the UVA Career Center launched a comprehensive sustainability focus area to help future sustainability leaders seek employment in the sciences, social sciences and humanities. By creating a comprehensive hub for curricular, extracurricular, and University resources, the Career Center's sustainability focus area prepares students for careers in sustainability and connects students with potential future employers through networking events, sustainability career forums, and skill development workshops.**

UVA SUSTAINABILITY

# ALUMNI NETWORK

The Sustainability Alumni Network brings together alumni to connect and advance a collaborative vision for sustainability at UVA in partnership with current students, staff, and faculty. A pan-university partnership launched in Spring 2018, the Sustainability Alumni Network focuses on career development, sustainability expertise sharing and networking to build a strong network of passionate sustainability leaders.



**GOAL: INCREASE SUSTAINABILITY ENGAGEMENT BEYOND GROUNDS**

To date, the network has over 1,000 members, with connections growing through the Sustainability Alumni Receptions hosted in Norfolk, San Francisco, Boston, and Washington D.C., amongst other alumni initiatives.



Photo from the San Francisco Sustainability Alumni Reception



# STEWARD





RESOURCES AND PEOPLE

## Greenhouse Gas Emissions

**GOAL: Reduce greenhouse gas emissions 25% below 2009 levels by 2025**

- In 2009, the baseline year for emissions analysis, the total greenhouse gas emissions footprint was 338,010 metric tons of carbon dioxide equivalent (MTCDE). By 2017, emissions decreased to 274,246 MTCDE, an 18.9% reduction in emissions compared to 2009, despite significant growth. This decrease is due primarily to extensive energy efficiency and conservation work in existing buildings and plants, a cleaner electricity grid, and a shorter heating season in 2017 compared to previous years.

## Energy

**GOAL: Reduce building energy use intensity 20% below 2010 levels by 2020**

- UVA reduced its energy use intensity (defined as total source energy use divided by total square footage) by 12% between 2010 and 2017. This is a result of extensive retro-commissioning work in buildings and initiatives at the heating and chiller plants to improve the efficiency of energy generation. This goal was developed in association with the Department of Energy's Better Buildings Challenge.

## Nitrogen

**GOAL Reduce reactive nitrogen losses to the environment 25% below 2010 levels by 2025**

- Since 2010, the baseline year for nitrogen analysis, UVA has reduced its nitrogen footprint by 28 metric tons of nitrogen (MT N), a 9.6% reduction from 491 MT N. The major initiative resulting in the decrease include improved wastewater treatment practices and decreases in nitrogen associated with food production and energy use. Because of the complex food calculations, the footprint is undertaken every 2-4 years.
- Extensive student research has explored opportunities to reduce UVA's nitrogen footprint, including food labeling, local food traceability, and decreasing food waste.
- UVA hosted the 5th annual Nitrogen Footprint Network workshop, with over a dozen schools from across the country in attendance.

## Materials and Waste

**GOAL: Reduce the total tonnage of waste generated at UVA 50% below 2014 amounts by 2035**

**GOAL: Landfill less than 2000 tons of waste annually by 2035**

- Since 2014 UVA has reduced its waste generation by 15.2%. In 2017, UVA diverted 41.8% of all waste from the landfill by recycling 5,667.7 tons of waste. The amount of waste landfilled has increased 6.0% from 2014.







## Water

### GOAL: Reduce potable water use 25% below 2010 levels by 2035

- Since 2010, total water use has been reduced 14.6%, despite extensive growth. This is due to water efficiency and conservation work in buildings and water recovery projects such as collecting air conditioning condensate for use in the chiller plants.

## Food

### GOAL: Annually increase the percentage of sustainable food and beverages available on Grounds

### GOAL: Increase student, staff, and faculty awareness of sustainable food systems

### GOAL: Collaborate within UVA and with the region, to advance sustainable food systems in the broader community

- UVA Dining increased its total sustainable food purchases (as a percentage of total expenditures) to 8.6% (a 2% increase).
- In fall 2017 Morven Kitchen Garden passed its Good Agricultural Practices (GAP) audit, which allows UVA Dining to source from this student-grown field. Over 4,000 pounds of Morven squash were harvested and used in UVA dining halls this year.
- UVA became the first university in Virginia to receive a 3-Star Green Restaurant Certification for O'Hill Dining Hall and the Fresh Food Company. To achieve the Green Restaurant Certification, an award which recognizes tremendous environmental sustainability efforts, UVA implemented 58 steps across six different environmental categories.
- The Virginia Higher Education Sustainable Food Supply Chain Symposium, held at Morven Farm and hosted by the UVA Sustainable Food Strategy Task Force, funded by the UVA Sustainability Plan and sponsored by UVA Dining, brought together a wide range of stakeholders to explore five goals:
  - Increase understanding of the barriers and possible strategies to overcome the barriers to university purchase of sustainable foods
  - Advance an action research agenda
  - Foster partnerships between institutions to work together to develop a supply chain for specific sustainable foods
  - Inspire pilot projects
  - Secure commitments by individual participants to work together to advance the goals of increasing university sustainable food purchases

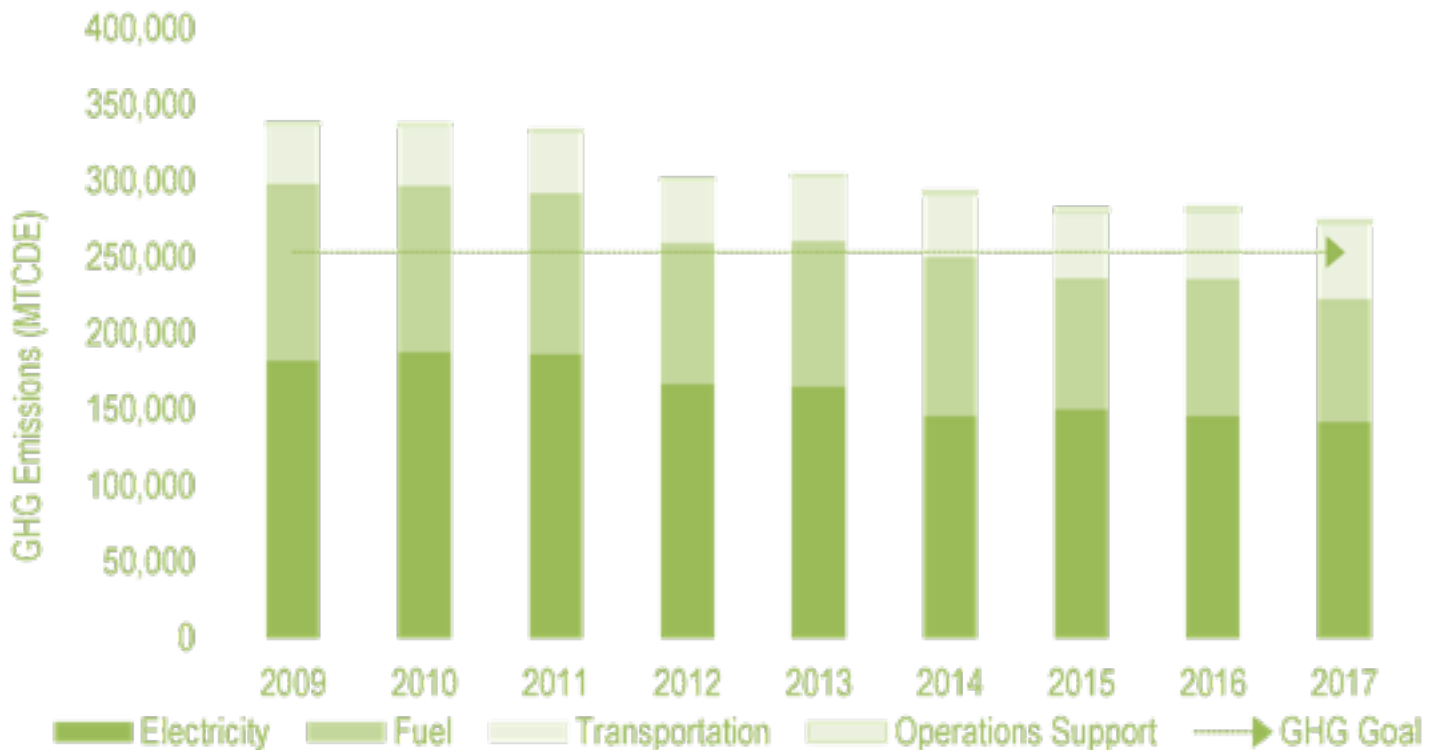
## Land and Buildings

### GOAL: Enhance and expand the number of sustainable and meaningful sites and buildings

- The Brandon Avenue Upperclass Housing project will create a vibrant collaborative community built with sustainable principles in mind and provide places of transparency to put learning and activity on display.



# GREENHOUSE GAS EMISSIONS 2009-2017



**GOAL: REDUCE GREENHOUSE GAS EMISSIONS BY 25% BELOW 2009 LEVELS BY 2025**



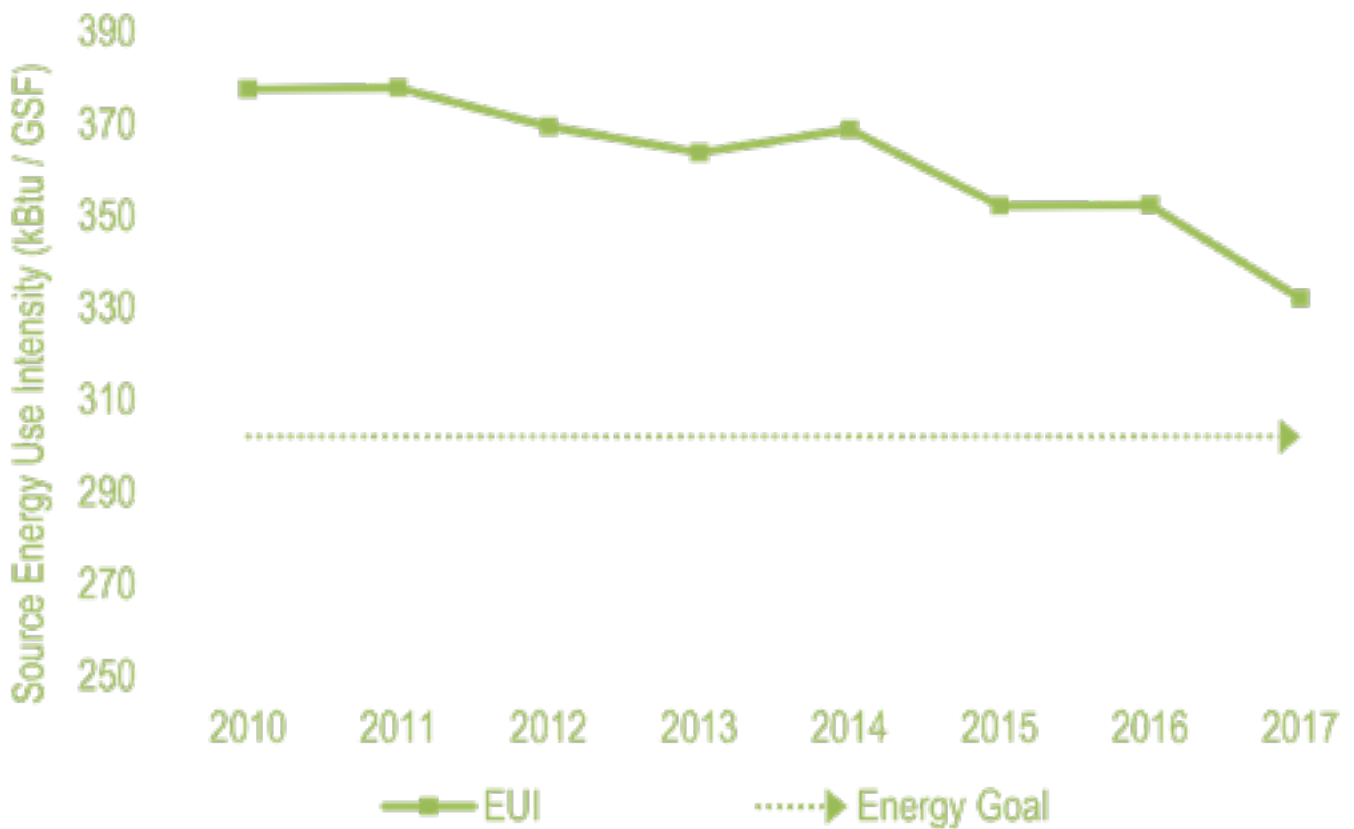
RENEWABLE

# ENERGY PROJECTS

UVA has significantly increased renewable energy within its electricity portfolio. By the beginning of 2019, UVA will purchase 100% of the output (32 MW) of two new utility-scale solar power projects. When completed, these two projects will generate enough solar power to offset 21% of UVA's electricity consumption and reduce 32,000 MTCDE of greenhouse gas emissions annually. On Grounds, solar panels have been installed on Clemons Library (126 kW), Skipwith Hall (15 kW), Ruffner Hall and the UVA Bookstore (394 kW), and Ivy Stacks (191 kW).



## ENERGY USE INTENSITY 2010-2017



**GOAL: REDUCE BUILDING ENERGY USE INTENSITY 20% BELOW 2010 LEVELS BY 2020**



IMPROVEMENTS TO

# CLARK

# HALL

Clark Hall is home to the Department of Environmental Sciences and operates as a multi-use building with spaces for classrooms, offices, research labs, dining, and a library. This past year, the Delta Force program completed energy and water efficiency retrofits and sustainability engagement initiatives in Clark Hall. The building received UVA's first LEED for Existing Buildings certification on Grounds and will save over \$700,000 in energy costs annually.



STEWARD: NITROGEN

100% VIRGINIA BEEF

# BLENDED BURGER

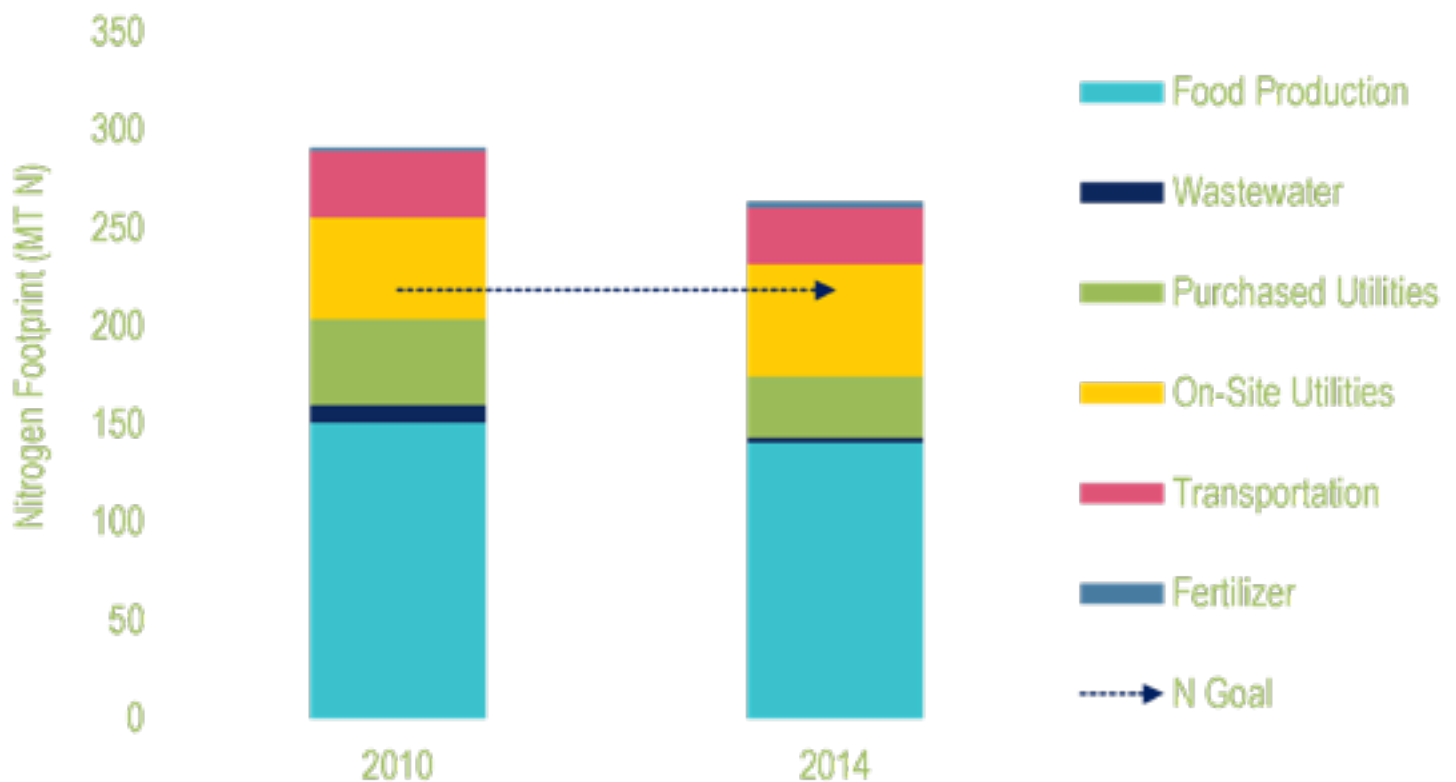


UVA is the first university in Virginia to replace all burgers in residential dining halls with blended burgers, using 100% Virginia beef. The blended burger ratio (80/20 beef to mushrooms) stems from the James Beard Foundation's Blended Burger Project. This reduces UVA's environmental impacts, supports the local economy and increases healthy dining options.





# NITROGEN EMISSIONS 2010-2014



**GOAL: REDUCE NITROGEN LOSSES TO THE ENVIRONMENT 25% BELOW 2010 LEVELS BY 2025**

UVA  
**GREEN LABS**

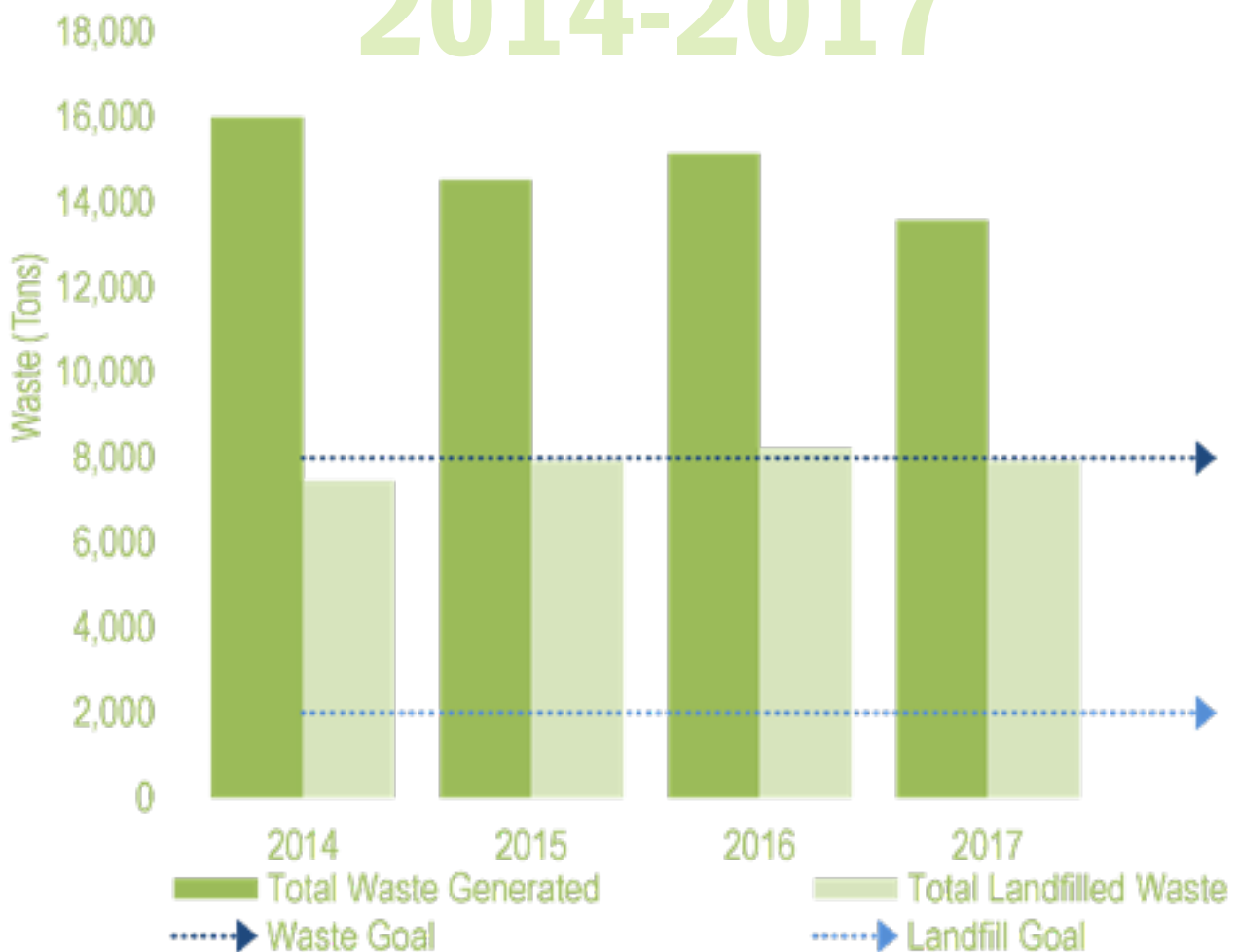


The University's Green Labs program hosted a three-part event series throughout March to feature the three "R's" of waste management: Reduce, Reuse, and Recycle. The Green Labs series focused specifically on applying these practices in research-intensive spaces, which often comes with intensive material use. The series included a lab minimalism webinar, a reuse swap for lab materials, and a talk on innovative lab recycling opportunities.



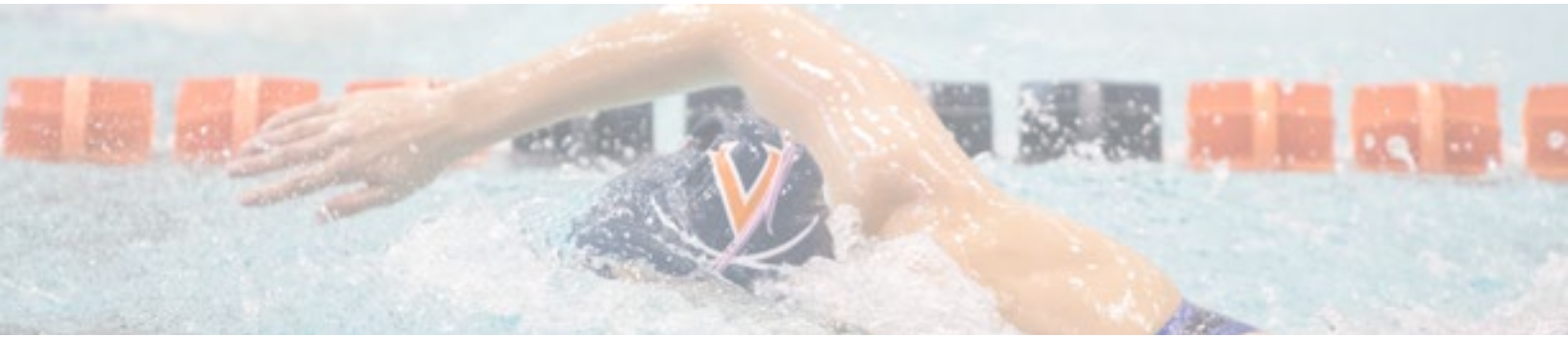


# WASTE GENERATED AND LANDFILLED 2014-2017

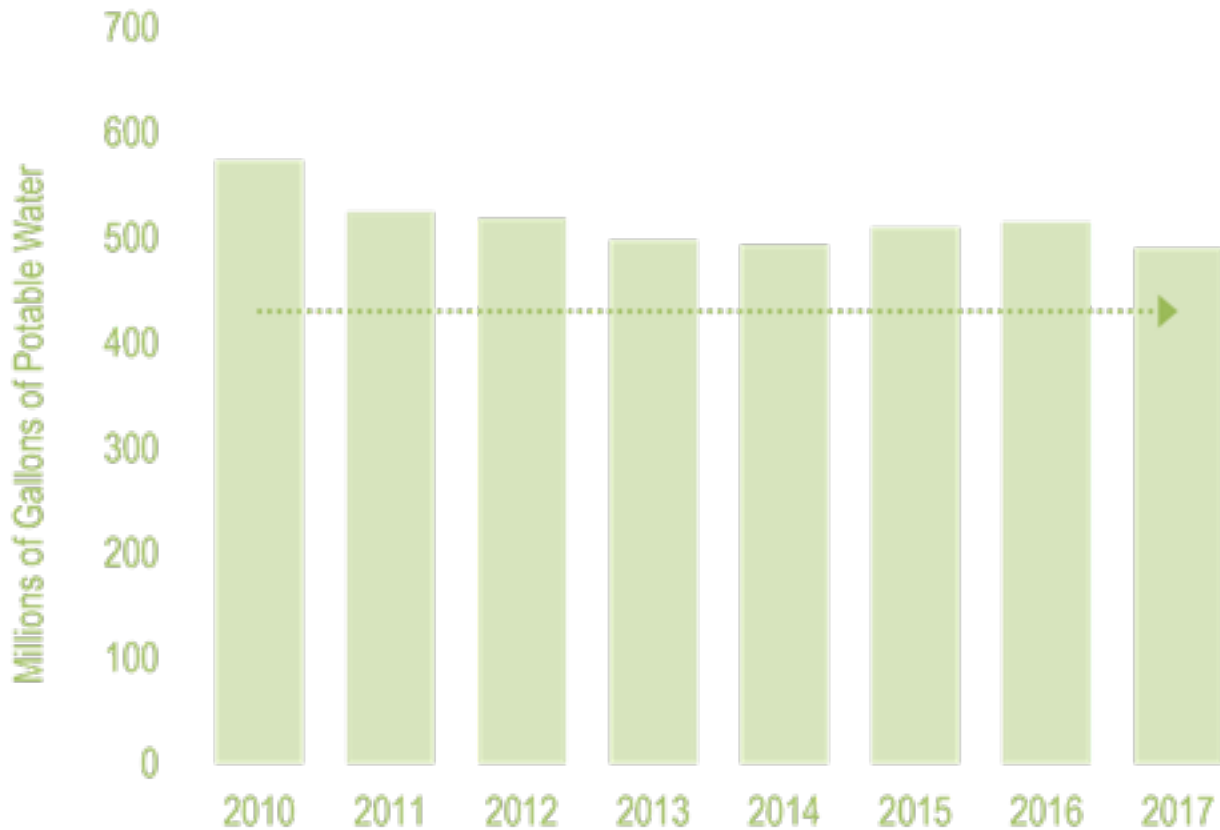


**GOAL: REDUCE TOTAL TONNAGE OF WASTE GENERATED AT UVA 50% BELOW 2014 AMOUNTS BY 2035**

**GOAL: LANDFILL LESS THAN 2,000 TONS OF WASTE ANNUALLY BY 2035**



## WATER USE 2010-2017



**GOAL: REDUCE POTABLE WATER USE 25% BELOW 2010 LEVELS BY 2035**



AQUATIC & FITNESS CENTER

# RECLAMATION PROJECT

The central energy plants, which are vital in maintaining a comfortable built environment, are the largest consumers of water at UVA. Conversely, when it is hot and humid during the summer, individual air conditioning units located in each building condense water out of this humid air and discharge this water to the sewer. At the AFC, UVA Facilities Management completed a water reclamation project which redirects this water from the air conditioning systems serving the pool and workout areas to a nearby central energy plant, allowing UVA to avoid consuming more water. Since coming online in May 2018, this system has reclaimed over 57,000 gallons of water.

MORVEN

# FOOD LAB

## DEDICATION

UVA dedicated a new Morven Food Lab in honor of the former First Lady of Virginia, Dorothy McAuliffe. The lab and organization will connect UVA food initiatives as well as community nonprofits.

*GOAL: ANNUALLY INCREASE THE PERCENTAGE OF SUSTAINABLE FOOD & BEVERAGES AVAILABLE ON GROUNDS*

*GOAL: INCREASE STUDENT, STAFF, & FACULTY AWARENESS OF SUSTAINABLE FOOD SYSTEMS*

*GOAL: COLLABORATE WITHIN UVA & WITH THE REGION TO ADVANCE SUSTAINABLE FOOD SYSTEMS IN THE BROADER COMMUNITY*



Illustrations by smbw



GREEN  
**BUILDING**  
**STANDARDS**

UVA's Green Building Standards outline UVA's minimum expectations for aligning University-wide sustainability goals with building design, construction, and maintenance. The Standards include prescriptive requirements and an implementation process to support projects in a cost-effective manner.



LEED

# BUILDING

## CERTIFICATIONS

The Rotunda achieved LEED-NC Silver certification. Sustainability highlights include an efficient HVAC system, tighter window sealing, LED lighting, and a high construction waste diversion rate. UVA currently has 52 LEED buildings.

## OTHER RECENT LEED CERTIFICATIONS:

Skipwith Hall: LEED-NC Gold

Gooch-Dillard Renovations: LEED-NC Gold

Wilson Hall, Floors 1 & 2: LEED-CI Gold

Education Resource Center: LEED-NC Silver

Student Advising Center: LEED-CI Silver



**DISCOVER**







• • RESEARCH, CURRICULUM, &  
GROUNDS AS A LEARNING TOOL

# DISCOVER OVERVIEW

## Research

- 13 new Sustainability Plan research seed grants totaling \$104,000 were awarded to researchers in 8 different departments during AY 17-18. These projects included studies of native wildflowers, the impact of natural environments on children's emotions, vehicle idling reduction policies, air pollution inequalities, women's sense of belonging in STEM, local business sustainability, oyster reef resilience, efficiency-enhancing window film, man-made floating wetlands, energy storage devices, and ecosystem carbon fluxes.
- Research seed grant recipients presented at a "Grounds as a Living Lab" Sustainability Symposium.
- The Environmental Resilience Institute (ERI) was launched in 2017 through a pan-university research institute competition. ERI's 150+ members, spanning 10 different schools with support from a panel of eight faculty, enables the institute to work on complex environmental issues that cannot be solved using traditional disciplinary focus.
- An interdisciplinary UVA team won the Patagonia Case competition with their proposal to help the company meet its 2025 carbon neutrality goal by transitioning to biopolymers, developing reforestation projects, and more.

## Curriculum

- 15 new Sustainability Plan course development grants totaling \$120,000 were awarded to faculty in 13 different departments during AY 17-18. These included Asceticism and Sustainability; Sustainability in France; Ecocritical Explorations in Italy and the Mediterranean; Chemistry of the Anthropocene; Climate History; History of Climate Science, Policy, and Art; Sustainable Local Economies; Islam, Science, and the Environment; Regional Writing on Sustainable Climate Solutions; Environmental Ethics; Social Entrepreneurship in Dominica; Global Environmental Media; Climate Fiction; Sustainability & Human Needs; and East Asian Art, Landscape, and Ecology.
- 230 students enrolled in 6 new sustainability-related courses in 6 different departments during Spring 2018 thanks to last year's course development grants. New courses include Smart Cities; The Ethics of Food; Sustainability Science; Natural Resources + Environmental Sustainability; Sustainable Environments in the Middle East and South Asia; and Corporate Resilience.

## Grounds as a Learning Tool

- UVA Environmental Sciences completed the first institutional indirect water footprint analysis, published in Sustainability: The Journal of Record - "Virtual Water as a Metric for Institutional Sustainability" (Natzak, Castner, D'Odorico, Galloway). This research analyzes the amount of water consumed (the 'indirect, or 'virtual' water consumption) in several of UVA's impact areas, such as in the purchase of electricity, paper products, and food.
- Sustainability Plan funding was used to support several Environmental Stewardship Subcommittee Working Group projects and other pilot initiatives, such as metering for green labs, composting in residence halls, paper towel composting, studies in food labeling, carbon pricing, nitrogen footprint reduction strategies, a H<sub>2</sub>O 2 GO water bar, and a Bicentennial history of water at UVA video.
- The UVA Sustainable Food Strategy task force held a Virginia Higher Education Sustainable Food Supply Symposium to explore barriers & solutions, advance research, foster partnerships & inspire next steps.

# SUSTAINABILITY PLAN FELLOWSHIPS & GRANTS

13

SUSTAINABILITY PLAN  
RESEARCH SEED GRANTS

15

SUSTAINABILITY COURSE DEVELOPMENT  
GRANTS AWARDED DURING AY 17-18

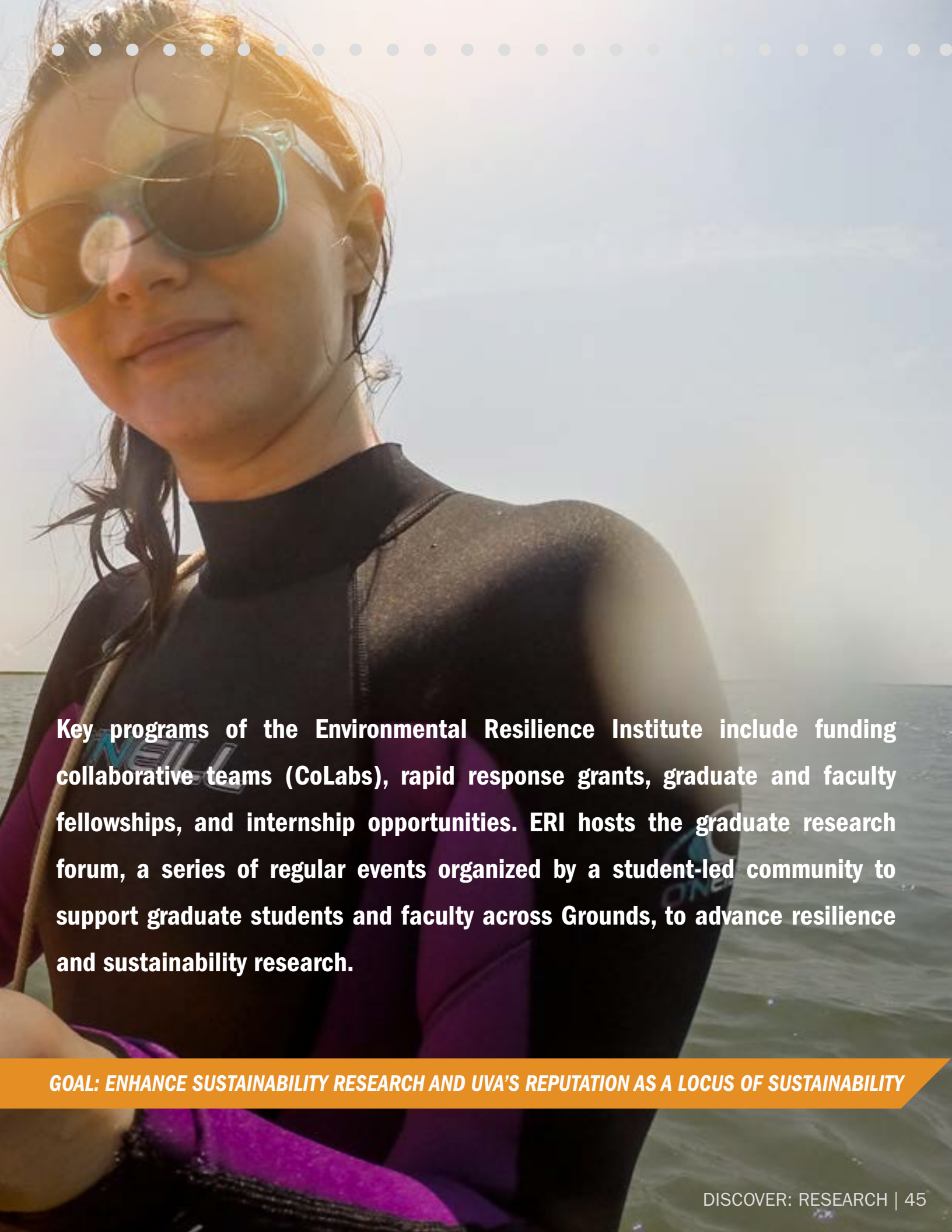
In spring 2018,

230

students enrolled in six new sustainability courses,  
filling 97% of available seats

ENVIRONMENTAL  
**RESILIENCE**  
**INSTITUTE**

The Environmental Resilience Institute supports transdisciplinary research and training at the intersection of environmental change and human well-being. The mission of the institute is to accelerate the rate of discovery, train the next generation of leaders in integrative research, and link science with policy on regional to global scales. Current priorities for ERI funding are Climate Resilience, Water and Energy Security, and Environment and Health.

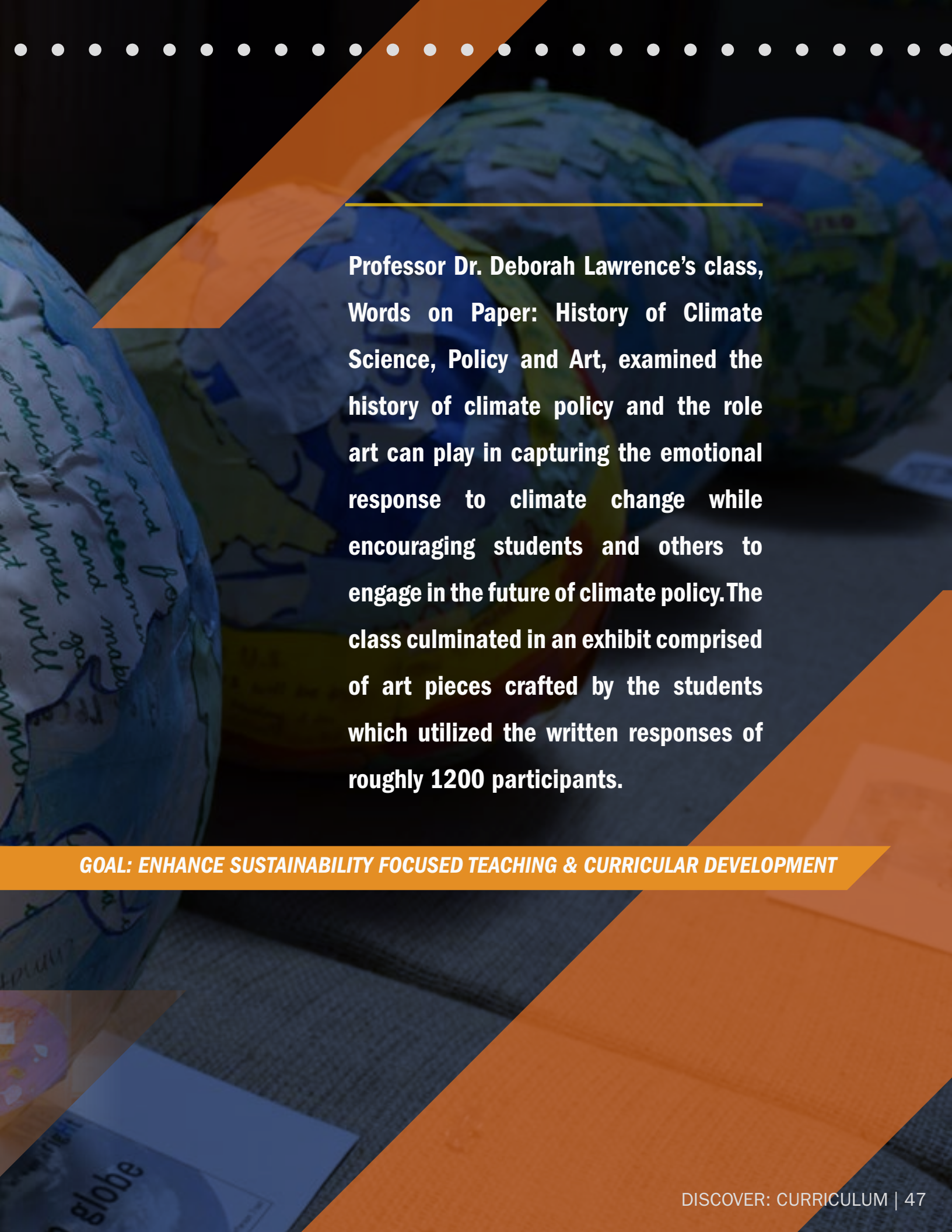


**Key programs of the Environmental Resilience Institute include funding collaborative teams (CoLabs), rapid response grants, graduate and faculty fellowships, and internship opportunities. ERI hosts the graduate research forum, a series of regular events organized by a student-led community to support graduate students and faculty across Grounds, to advance resilience and sustainability research.**

**GOAL: ENHANCE SUSTAINABILITY RESEARCH AND UVA'S REPUTATION AS A LOCUS OF SUSTAINABILITY**

WRITE  
**CLIMATE**  
CLASS





**Professor Dr. Deborah Lawrence's class, Words on Paper: History of Climate Science, Policy and Art, examined the history of climate policy and the role art can play in capturing the emotional response to climate change while encouraging students and others to engage in the future of climate policy. The class culminated in an exhibit comprised of art pieces crafted by the students which utilized the written responses of roughly 1200 participants.**

**GOAL: ENHANCE SUSTAINABILITY FOCUSED TEACHING & CURRICULAR DEVELOPMENT**

## *GOAL: ENHANCE SUSTAINABILITY FOCUSED TEACHING & CURRICULAR DEVELOPMENT*

Through Sustainability Plan funding, an inaugural cohort of five Sustainability Faculty Fellows was selected from across disciplines to serve a multi-year appointment as core sustainability faculty. This innovative and ambitious framework encourages faculty engagement in cross-disciplinary conversations to build a rigorous undergraduate sustainability curriculum and strengthen the existing Global Environments and Sustainability program.





INTERDISCIPLINARY

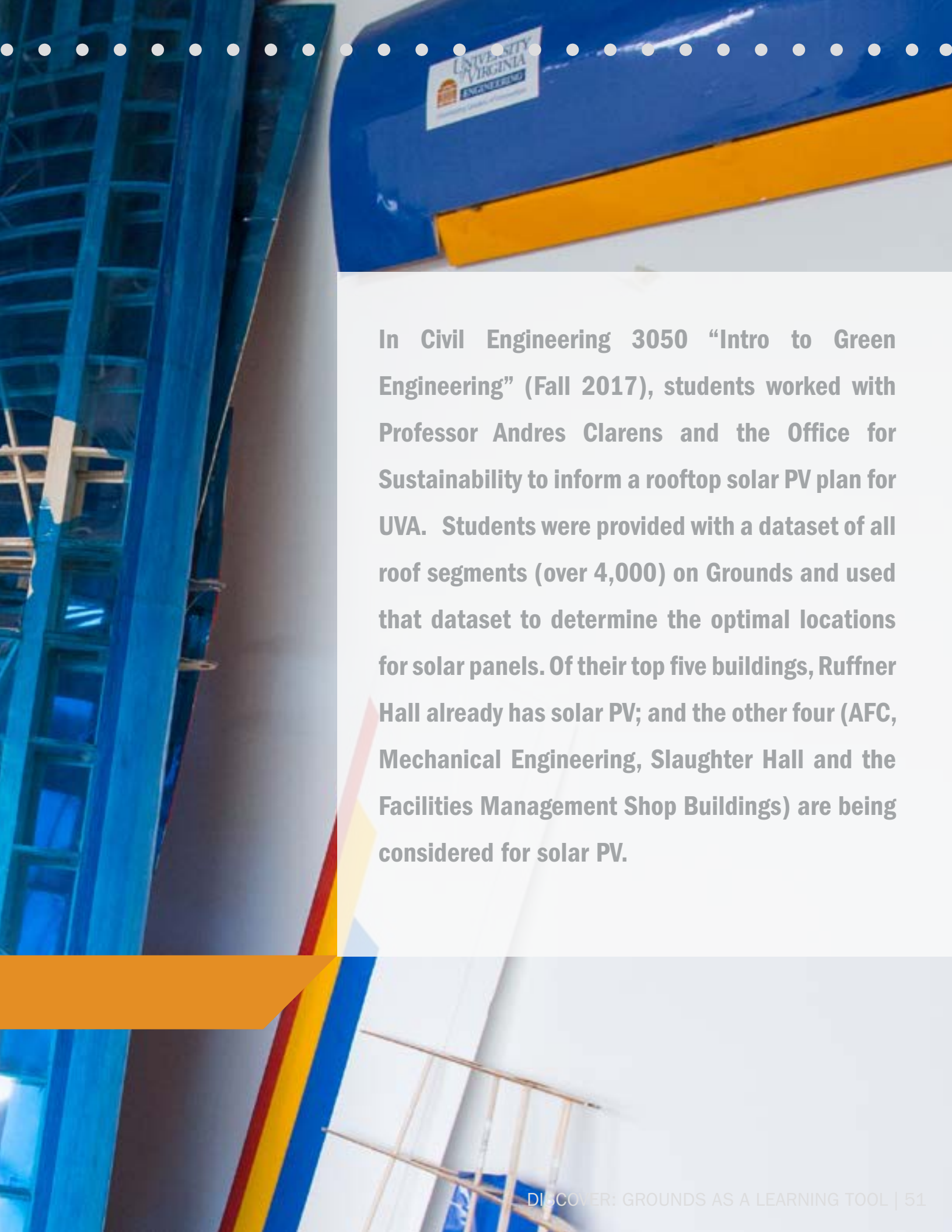
# FACULTY FELLOWS

CIVIL

# ENGINEERING COURSEWORK

Two courses enabled significant progress on two initiatives within the Sustainability Plan – increasing renewable energy on Grounds and developing a strategic plan for waste diversion. In Civil Engineering 3500 - Solid Waste Management” (Spring 2018), students engaged in hands-on waste audits and strategy work sessions with the Office for Sustainability and UVA Recycling to better understand how to make recommendations for a strategic UVA Materials Action Plan. Lindsay Ivey-Burden, senior research associate and civil engineering instructor, said the students enrolled in her course take an in-depth look at where garbage goes once it is thrown away. “If they find out what is in the trash, they can figure out how to divert it,” she said.

**GOAL: UTILIZE THE GROUNDS AS A LEARNING TOOL THROUGH COLLABORATION BETWEEN OPERATIONAL & ACADEMIC UNITS**



**In Civil Engineering 3050 “Intro to Green Engineering” (Fall 2017), students worked with Professor Andres Clarens and the Office for Sustainability to inform a rooftop solar PV plan for UVA. Students were provided with a dataset of all roof segments (over 4,000) on Grounds and used that dataset to determine the optimal locations for solar panels. Of their top five buildings, Ruffner Hall already has solar PV; and the other four (AFC, Mechanical Engineering, Slaughter Hall and the Facilities Management Shop Buildings) are being considered for solar PV.**

# UVA SUSTAINABILITY MILESTONES

Award-winning energy, water, and recycling programs

Board of Visitors LEED resolution

Committee on Sustainability (CoS) established

Board of Visitors sustainability resolution, including GHG reduction goal

First STARS assessment + certification (Silver)

Global Sustainability Minor

90's -2006

2007

2008

2009

2010-11

2012

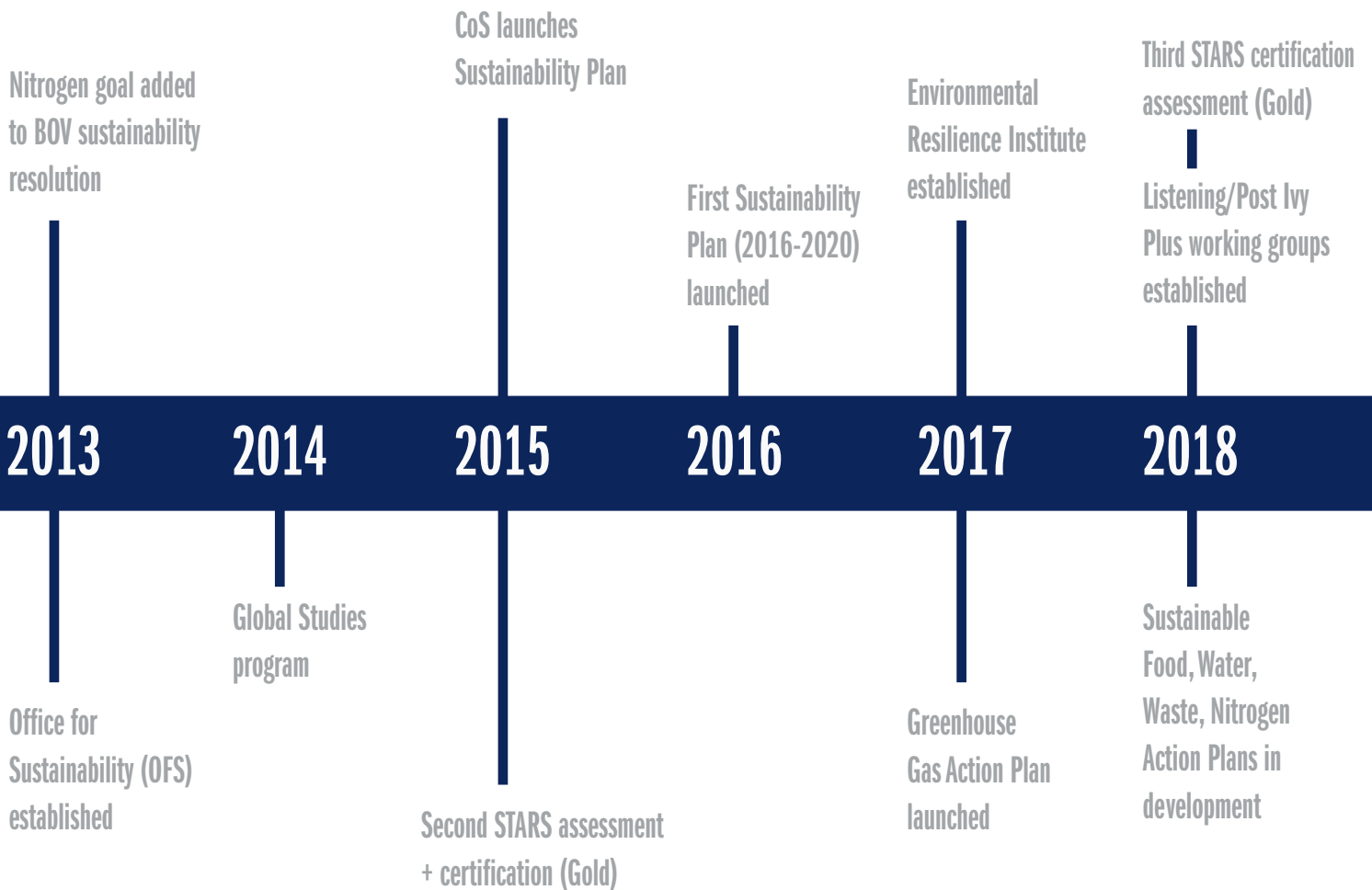
Student interest and grassroots initiatives

Student Council Sustainability established

First internal sustainability assessment conducted

Second sustainability assessment  
Environmental Footprint Reduction Plan

Local Climate Action Planning Process (LCAPP) with City/County





RECENT UVA

# SUSTAINABILITY RECOGNITION



# AASHE STARS GOLD

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY  
GOVERNOR'S EXCELLENCE AWARD FOR SUSTAINABILITY - GOLD MEDAL

***APPA Sustainability Award***

U.S. DEPARTMENT OF EDUCATION GREEN RIBBON SCHOOL

# AASHE CAMPUS SUSTAINABILITY AWARD - NITROGEN FOOTPRINT

GREEN RESTAURANT ASSOCIATION 3-STAR CERTIFICATION

***Princeton Review Guide to  
353 Green Colleges***

TOP PERFORMER IN DIVERSITY AND AFFORDABILITY  
IN AASHE SUSTAINABLE CAMPUS INDEX

# SIERRA CLUB COOL SCHOOLS



SUSTAINABILITY UVA  
*From the Grounds Up*

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