



UNIVERSITY OF VIRGINIA **SUSTAINABILITY**

2022-2023 ANNUAL REPORT

TABLE OF CONTENTS



Photo credit: UVA Facilities Management

INTRODUCTION

At the University of Virginia, we strive to be an institution that is both great and good, a place in which students, faculty, staff, and alumni hold a deep commitment to service. With this vision comes emphasis on being an ethical institution, one that seeks solutions to the world’s most pressing challenges, and just as importantly, a commitment to being an institution that consistently lives its values. The [University’s 2030 strategic plan](#) commits to both study and be accountable as an institution to address pressing societal challenges, including environmental sustainability. UVA’s [strategic approach to sustainability](#) aligns with this commitment, framed around an Engage, Steward, Discover approach that underscores our belief that universities have not only an obligation to research, teach and learn to catalyze transformative solutions, but to also live our values as we seek to reduce our own environmental impact.

This work is challenging, but critically important, and on behalf of President Ryan and the executive leadership team, we are grateful to the many individuals and groups across UVA dedicating their time to ensure our University is at the forefront of sustainability in higher education- the Office for Sustainability, the Environmental Institute, the University Committee on Sustainability, the Student Council Sustainability Committee, dozens of sustainability-focused student organizations, faculty leading curriculum and research, and many, many more. The 2022-23 UVA Sustainability Annual report provides a snapshot of progress towards achieving our sustainability goals, representing the work of thousands of individuals. We hope you will join us in celebrating this progress while continuing our commitment to achieve our ambitious sustainability goals as we seek to make this University both great and good.

Colette Sheehy, Senior Vice President for Operations and State Government Relations
Megan Barnett, Vice Provost for Academic Initiatives
(Co-Chairs of the University Committee on Sustainability)
September 2023

Introduction.....
Summary of Progress.....4-5
STEWARD.....6-25
ENGAGE.....26-35
DISCOVER.....36-41
Awards and Recognition.....42-43

SUMMARY OF PROGRESS

2030 UVA SUSTAINABILITY PLAN GOALS



STEWARD

- 44.6% reduction in carbon emissions since 2010
- 51.6% reduction in total waste generated since 2010, with 24.4% diverted from landfills in 2022, 4.4% increase in landfilled waste
- 43.6% reduction in reactive nitrogen losses to the environment since 2010, which meets and exceeds the 2030 goal
- 35% of food and beverage purchases were sustainable in 2022 (includes UVA Dine, UVA Health, and the Darden School of Business), which meets the 2030 food goal.

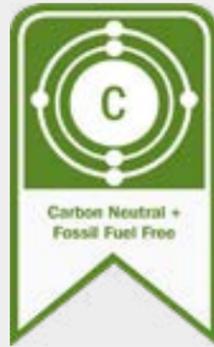
ENGAGE

- School and unit sustainability plans continue to be developed. Facilities Management, UVA Library, and Miller Center sustainability plans were completed this year.
- The [Office for Sustainability's three student leadership programs](#) supported 92 students in strengthening engagement skills through project-based learning and peer-to-peer education.
- In March, President Ryan announced the first winners of the "Hoos Making an Impact" competition, [launched by the Staff Senate in late 2022](#). The objective was to collect and implement innovative ideas from UVA staff, cultivate workplace success and foster community relationships.
- This year, the [UVA Equity and Environment Fund](#) awarded grants to seven projects focused on the intersections of equity and the environment.

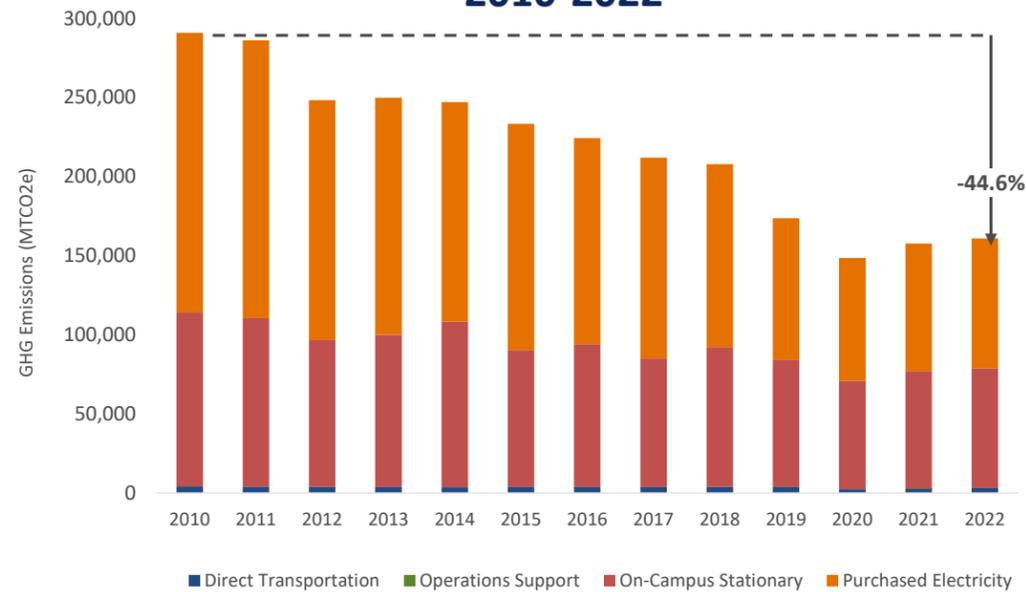
DISCOVER

- In March, the School of Architecture hosted a [Climate Transformations Symposium](#) that spotlighted innovative design and climate research happening at UVA and beyond.
- UVA's Environmental Resilience Institute was re-branded and renamed the [Environmental Institute \(EI\)](#), a hub of climate and environmental research across Grounds, dedicated to translating research into actionable solutions.
- In June 2022, UVA began its inaugural [Summer Decarbonization Academy](#) with 13 students who worked on projects addressing several aspects of decarbonization at the University. The program continued in summer 2023.

GOAL: UVA will be carbon neutral by 2030 and fossil fuel-free by 2050.



**CARBON EMISSIONS
2010-2022**



In calendar year 2010, the baseline year for emissions analysis, UVA’s carbon emissions footprint was 291,117 metric tons of carbon dioxide equivalent (MTCO₂e). In 2022, emissions decreased to 161,319 MTCO₂e, a **44.6% reduction in carbon emissions over 12 years**. Notably, these emissions reductions have been realized despite continuous growth in the University’s operational and physical footprint. In 2010, UVA reported 12.7 MTCO₂e per person and 22.9 MTCO₂e per thousand square feet. In 2022, these numbers decreased to 6.5 MTCO₂e per person and 9.03 MTCO₂e per thousand square feet, respectively. The increase in GHG emissions from 2021 to 2022 is due to UVA fully returning to normal operations after the COVID-19 pandemic. These reductions have been driven by several initiatives, including:

- Energy efficiency upgrades in existing buildings
- District energy system optimization, fuel switching, and equipment upgrades
- Renewable energy procurement
- “Greening of the grid” reflecting reduced carbon intensity of grid-provided electricity

Key Strategy: Energy Supply
2022-2023 HIGHLIGHTS

STRATEGIC THERMAL ENERGY STUDY AND GEOTHERMAL TEST WELLS

In 2021, Facilities Management initiated a significant engineering study targeting the carbon emissions produced by Energy and Utilities. The intent of the ongoing study is to provide a long-term strategic plan to achieve a fossil fuel-free heating infrastructure by 2050. The study also outlines a short-term action plan recommending specific strategies, technologies and projects, and informed the new Fontaine Central Energy Plant design. These include continuing to install heat recovery chillers, connecting and expanding thermal loops, coupling heat recovery chillers with geothermal infrastructure, eliminating the use of coal and tracking fossil fuel-free technologies that will produce steam. This year, a second phase of the study took a deeper dive into geexchange by [drilling five test wells](#) across Grounds.

LOW TEMPERATURE HOT WATER PROJECT

One key decarbonization strategy for UVA is to transition from producing steam and high-temperature hot water (370 F and 230 F respectively) for heating and other purposes on the Academic side of Grounds, to generating low-temperature hot water (170 F). Low temperature hot water is defined by the ability to economically produce the hot water with highly efficient non-combustion technology, currently this threshold is 170F. In 2018 Energy and Utilities initiated a three-phase project with this in mind: first, transition buildings and heating distribution from high-temperature heating water; second, add a large heat recovery chiller at the North Chiller Plant; and third, transition academic buildings on steam to low-temperature heating water and decommission the steam system. The project is currently in the third phase, and completion is anticipated by the end of 2023.



Geothermal test well drilling. Photo credit: Dan Addison, University Communications

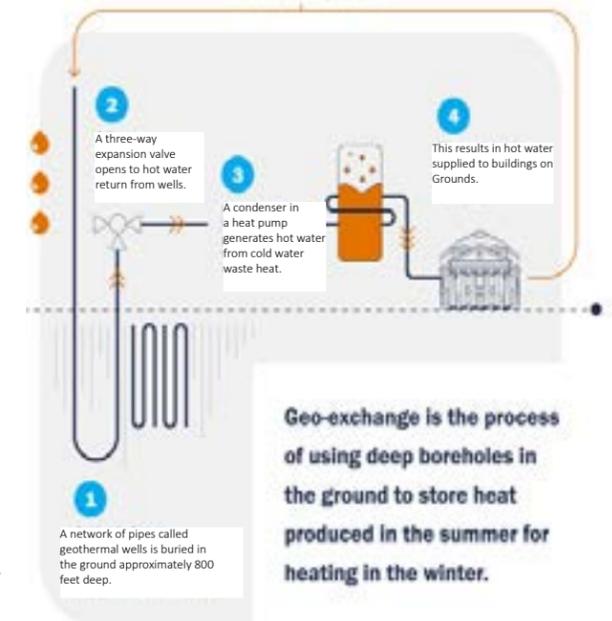


Photo credit: University Communications



Photo credit: Paul Zmick, UVA Facilities Management

STEWARD

HEAT RECOVERY CHILLERS

Heat recovery chillers have the ability to produce both hot water for heating buildings and cold water for cooling buildings simultaneously. UVA has begun [installing heat recovery chillers](#) across Grounds where there is coincidental heating and cooling load. This district energy approach to heating and cooling buildings creates a diverse load for the heat recovery chillers. In addition to three completed installations, heat recovery chillers are planned for the new Fontaine Central Energy Plant that will support the [Manning Institute of Biotechnology](#).



UVA chilled water plant. Photo credit: UVA Facilities Management

FONTAINE ENERGY PLANT

The Manning Institute of Biotechnology, located at Fontaine Research Park, will position UVA at the forefront of cutting-edge medicine such as cellular and gene therapies that could revolutionize how diseases are treated. This will involve the construction of a new precinct thermal energy plant. The approximately 350,000 square foot science building will be heated and cooled by a new all-electric, zero-combustion plant. The design intent is to celebrate this sustainable plant by making the primary heating and cooling equipment visible and accessible to visitors and employees of the research park. The plant heating technologies will include geexchange, heat recovery chillers, thermal storage tanks, traditional chillers and electric resistance hot water heaters for peak heating demand. The project was initiated in late 2022 and will be online in 2025.

CHILLED WATER PLANT EFFICIENCY

The Energy and Utilities chiller plant team installed an innovative control system that optimizes the chilled water production at several plants simultaneously, streamlining plant operations and reducing the power and water required to make chilled water. The project saved over \$500,000 in its first year.

Key Strategy: Fleet Optimization 2022-2023 HIGHLIGHTS

ELECTRIFYING OVERNIGHT SHUTTLES

This year, Parking and Transportation procured two all-electric vehicles (EVs)- Chevy Bolts - as replacements for low-miles-per-gallon, gas-powered vans used in the UTS OnDemand fleet. The remainder of this fleet will be upgraded to EVs as the current vehicles meet their end-of-life cycle in the coming years.



Facilities Management Fleet staff with FM electric vehicles. Photo credit: UVA Facilities Management Fleet

SHARING SUSTAINABLE FLEET PRACTICES ACROSS UNITS

The Facilities Management Fleet team helped advise on the purchase of three new electric vehicles for UVA Housing & Residence Life. Associate Director Chris Faught stated: “We could not be more pleased with the vehicles themselves as well as the process.”

STEWARD

Key Strategy: Building Energy Efficiency 2022-2023 HIGHLIGHTS

BUILDING ENERGY EFFICIENCY PROGRAM

UVA's Building Efficiency Program has worked on 75 buildings over the past 8 years, investing approximately \$2.5 million per year in energy efficiency projects. As a result, these buildings have avoided energy costs of \$20.2 million over the past three years. Since its inception, UVA's Building Efficiency Program has saved UVA schools and units \$70.6 million at a cost of \$29.3 million, resulting in \$41.3 million net savings. In calendar year 2022 alone, these 75 buildings have avoided energy costs of \$5.4 million.

SUSTAINABLE LABS PROGRAM

Through ongoing work, the [UVA Sustainable Labs program](#) has reported over \$2.6 million in recovered energy cost savings in the Physical Life Sciences Building (PLSB) and Medical Research 4 Building (MR-4) through initiatives such as lighting upgrades, ventilation optimization, smart building controls integration and more (included in the numbers above). For MR-4, the Office for Sustainability originally projected \$350K energy cost savings in FY2023 with an estimated payback of 5 years. However, with the implementation of LED lighting upgrades, HVAC controls upgrades, and equipment surveys and repairs, MR-4 has achieved a total energy cost savings of \$760K in FY2023. The project will be paid off in FY2024, which is 2 years ahead of schedule. This results in \$1.9 million additional savings to School of Medicine beyond initial projections, showing savings in fiscal years 2024, 2025, and 2026.

A new project launched in the Chemistry Building included ventilation risk assessments of approximately 150 lab spaces that will result in safer and more sustainable labs for building occupants. Additionally, labs across Grounds saved \$7,600 in energy costs in October 2022 during the annual [Shut the Sash Challenge](#). The annual competition, which encourages researchers to adhere to safety best practices when using chemical fume hoods, engaged 41 labs this fall.

DEPARTMENT OF ENERGY EMISSIONS REDUCTIONS WORKING GROUP

This year, UVA supported [two working groups convened by the US Department of Energy](#) (DOE). As a member of the Building Electrification and GHG Emissions Reductions working groups, UVA shared technical expertise, best practices and lessons learned with peers across the higher education, municipal and corporate sectors. UVA's method for developing portfolio-level building decarbonization roadmaps helped lay the foundations for the DOE's [Framework for GHG Emissions Reductions Planning](#) guidance. Initial roadmaps were developed collaboratively by students and Facilities Management staff during the inaugural Decarbonization Academy - highlighting the far-reaching benefits of Grounds-engaged learning partnerships.

GREEN BUILDING STANDARDS AND LEED

Developed five years ago, [UVA's Green Building Standards](#) (GBS) set minimum sustainability requirements for all projects and established a process for collaboratively identifying project-specific sustainability features. The GBS support UVA's LEED requirements (a U.S. Green Building Council sustainable building rating system) to ensure strong performance across UVA's building portfolio. UVA and UVA Wise currently have 82 LEED-certified green building projects, representing over 5 million square feet of space. Under the GBS, all projects must meet rigorous energy efficiency requirements, avoid on-site combustion of fuels unless required for life safety and emergency back-up systems, and minimize life cycle cost – a practice that balances the upfront cost and long-term benefits of many sustainability strategies.



(L-R: A lab researcher at UVA. Photo credit: UVA Green Labs. UVA Student Health and Wellness building. Photo credit: Dan Addison, University Communications)

HEALTHY AND GREEN BUILDINGS

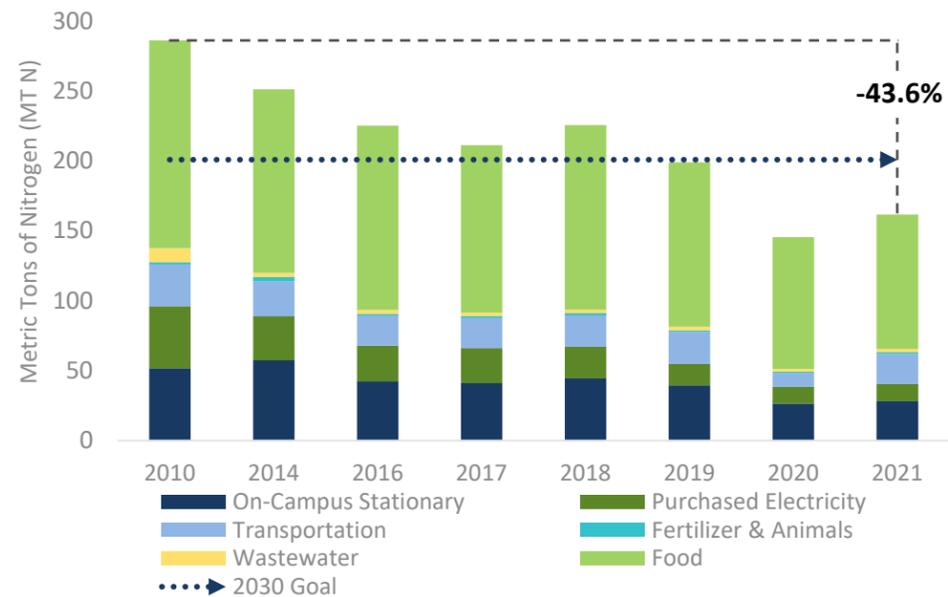
The UVA Student Health and Wellness Center received [Fitwel certification](#) – a designation that recognizes excellence in building design and operations that support occupant health and wellbeing. This building is only the fourth college/university building in the United States to achieve at least a 2-star rating on the 3-star scale.

STEWARD

GOAL: Reduce reactive nitrogen losses to the environment 30% below 2010 levels by 2030.



NITROGEN FOOTPRINT 2010-2021



UVA has achieved a 43.6% reduction in reactive nitrogen losses to the environment as of 2021 compared to 2010, which meets and exceeds the 2030 goal. However, these reductions are likely attributable to closures (dining and other facilities) during the COVID-19 pandemic. Growth in building square footage and population is expected to lead to an increase in the nitrogen footprint. Food-related nitrogen data is intensive to collect and calculate, so the data typically lags one or two calendar years behind.

NITROGEN FOOTPRINTING

This year, UVA's Nitrogen Working Group (NWG) worked with stakeholders in UVA Dine, the UVA Health System and the Darden School of Business to collect, process and validate thousands of line items of food purchases for calendar years 2020 and 2021. This process is part of a continued effort to annually track UVA's Nitrogen footprint. The footprints in 2020 and 2021 showed a significant drop overall, driven by the closure and/or scaling back of many dining services during the COVID-19 pandemic.

Key Strategy: Outreach and Engagement

2022-2023 HIGHLIGHTS

PUBLICATIONS

The Nitrogen Working Group has increased efforts to engage the broader scientific community through a recent publication in the academic journal Sustainability and Climate Change with the article "[Footprints in Action: How UVA Is Managing Its Sustainability Stewardship.](#)" This paper follows a new tool developed at UVA which connects nitrogen (N), greenhouse gas (GHG), phosphorus (P) and water (W) footprints with damage costs for GHG and N. The paper and tool can serve as a model for other institutions looking to integrate environmental footprint indicators.

OUTREACH AND ENGAGEMENT

In addition to engaging the broader scientific community, the Nitrogen Working Group increased its efforts to become an active part of the UVA community this year. In 2022, working group representatives participated in four tabling events with UVA Dine, presented two studies at the [EnviroDay](#) conference, created posters for dormitories and revamped their Instagram presence to reach more students.

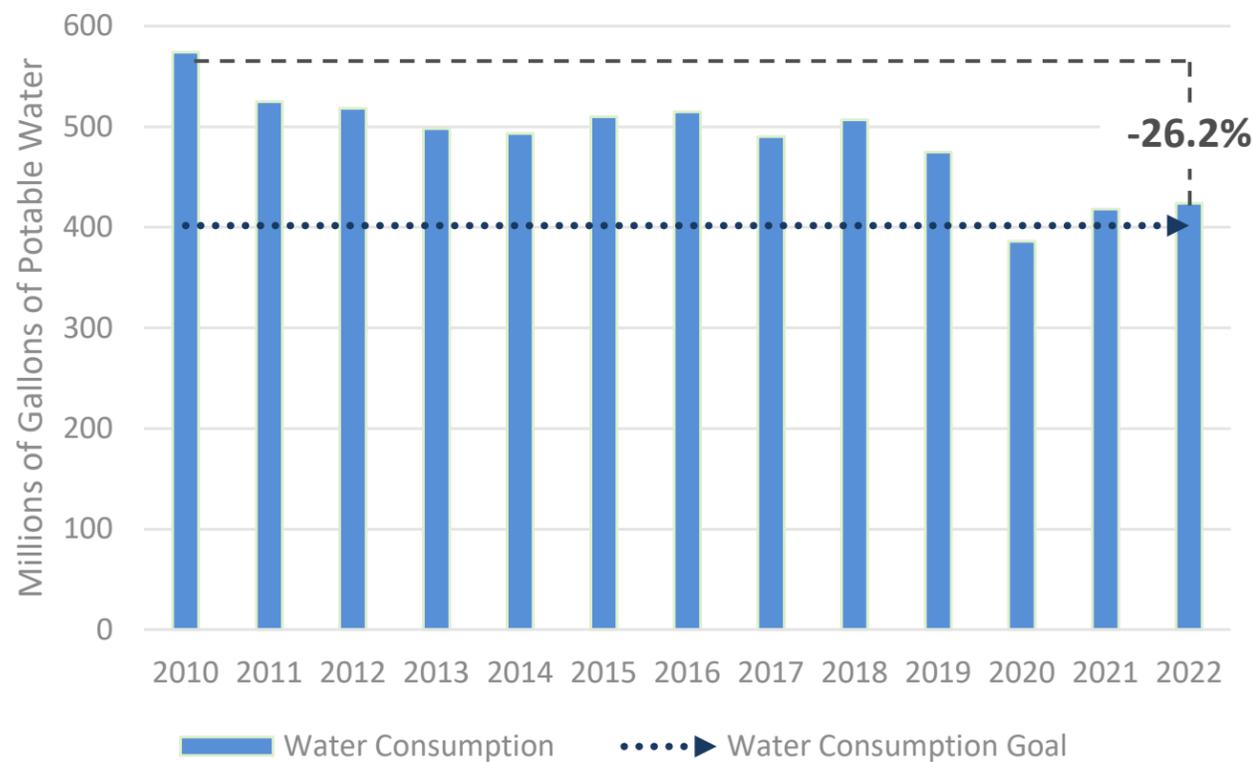


Nitrogen Working Group students tabling. Photo credit: Nitrogen Working Group

GOAL: Reduce potable water consumption 30% below 2010 levels by 2030.



WATER CONSUMPTION 2010-2022



Compared to 2022, UVA has reduced total potable water usage by 26.2%. In 2022, UVA consumed 424 million gallons of potable water, compared to 574 million gallons in 2010. Even as the University lifted COVID restrictions and returned to normal operations, the water consumption across grounds is still 10.7% below 2019 levels.

Key Strategy: Water Conservation and Utility Improvements 2022-2023 HIGHLIGHTS

CO-BENEFITS WITH ENERGY PROJECTS

Two of the technologies that Energy and Utilities is implementing to reduce carbon emissions- heat recovery chillers and chilled water plant optimization - also reduce domestic water use. The large heat recovery chiller installed with the low temperature hot water conversion project will save 20 million gallons of water per year. The chiller plant optimization will save an additional 2.5 million gallons of water per year.

CONDENSATE REUSE

UVA has added a new utility to the Energy and Utilities portfolio: “Purple Pipe.” This new distribution system is being installed so that condensate from building HVAC systems can be collected and pumped back to the chiller plants for use as cooling tower make-up water, replacing that which typically evaporates.

RAINWATER CISTERNS UNDER NAMELESS FIELD

As part of the Main Library Renovation, [rainwater cisterns with 75,000 gallons of capacity](#) were installed below Nameless Field to capture runoff from the 49,000 square-foot roof for reuse in the Newcomb Road chiller plant. The design will completely divert roof runoff for storms of 1.8 inches or less and partially divert larger storms, depending on the availability of storage within the tank.



Rainwater cisterns under Nameless Field. Photo credit: Mitch Farish, UVA Library

STEWARD

Key Strategy: Water Quality and Awareness

2022-2023 HIGHLIGHTS

BETA BRIDGE STREAM CLEAN-UP

The Clean Water Working Group hosted multiple cleanups this past year. The sixth Annual Beta Bridge Stream Cleanup, held in April 2023 as an “Earth Day Every Day” event, was the largest with a turnout of more than 30 volunteers from UVA and the Charlottesville community. Volunteers removed two truckloads of trash and recycling, which was properly disposed of by the North Grounds Landscaping team.



Beta Bridge stream clean-up volunteers. Photo credit: UVA Office for Sustainability

STORM DRAIN STENCIL CONTEST

In March 2023, the Clean Water Working Group held a second storm drain stencil design contest to increase awareness about stormwater pollution prevention. The UVA Sign Shop made stencils of the two winning designs to be used with Rainworks, an eco-friendly rain-activated spray, for messaging near storm drains.



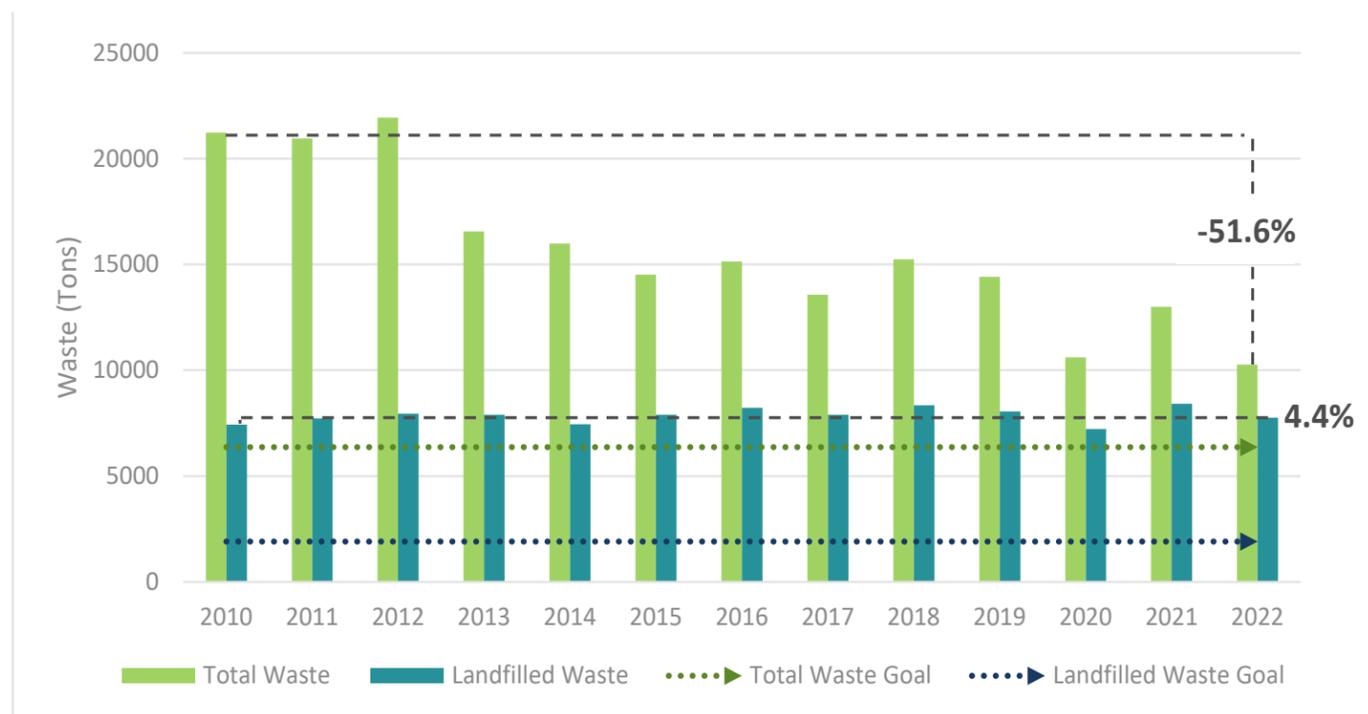
Rainworks stenciling on Grounds. Photo credit: Brittany Olenslager, UVA Environmental Resources

STEWARD

GOAL: Reduce waste footprint to 30% of 2010 totals by 2030 (a 70% reduction).



MATERIALS AND WASTE FOOTPRINT 2010-2022



As of 2022, UVA has reduced total waste generated by 51.6% (compared to the 2010 baseline) and reused/composted/recycled 24.4% of the total waste generated. Total landfilled waste generated has increased by 4.4%. UVA is in the process of developing a waste action plan, strengthening recycling and composting infrastructure, and expanding educational opportunities in order to minimize waste and increase diversion rates.

Key Strategy: Waste Minimization - Reuse and Procurement 2022-2023 HIGHLIGHTS

HOOS REUSE MOVE-OUT DONATION DRIVE

In 2023, the [Hoos ReUse Move-Out Donation Drive](#) expanded to include 24 indoor drop-off locations in addition to 16 outdoor drop off bins. Together these drop off locations diverted over 7,000 pounds of material from the landfill. [UVA also distributed](#) seven collection bins for non-perishable food across Grounds which yielded 1,332 pounds of food that was distributed to the Blue Ridge Area Food Bank and UVA Community Food Pantry.

UVA REUSE STORE

The [UVA ReUSE Store](#) redistributed 14,513 UVA surplus items this academic year, totaling 853,832 pounds of material. Of this, 20% was distributed on Grounds, 15% was donated, 45% was sold to the general public and the remaining 20% was auctioned.



(L-R): Plastic-free pledge flyer. FM staff at the UVA Reuse Store. Photo credit: UVA Office for Sustainability

SINGLE-USE PLASTIC REDUCTION

The [#PlasticFree2023 pledge](#) seeks to raise awareness about the importance of reducing single-use plastics on Grounds. The campaign promotes awareness of the University's single-use plastics requirements, which [prohibits many single-use plastic service wares](#) from being purchased, sold or distributed with UVA funds.

SUSTAINABLE PURCHASING LEADERSHIP COUNCIL

In Spring 2023, [UVA joined the Sustainable Purchasing Leadership Council](#) (SPLC). The SPLC leverages \$800 billion in purchasing power to influence positive environmental and social change in the supply chain. Through SPLC, UVA has access to robust and comprehensive resources across disciplines and is part of a collaborative network of leaders in sustainable procurement.

STEWARD

Key Strategy: Waste Diversion - Recycling and Composting

2022-2023 HIGHLIGHTS

SUSTAINABLE ATHLETICS

Students are increasingly getting involved with waste reduction efforts in Athletics spaces. Last fall, 60+ volunteers helped divert over 12,000 pounds of compostable material from the landfill by monitoring and collecting materials along the concourse at all home football games. In the spring, efforts were [expanded to John Paul Jones Arena](#), where 44 volunteers helped divert 3,071 pounds of compostable material from landfills during four home basketball games.

ZERO WASTE AMBASSADORS

The student-led Zero Waste Ambassadors (ZWA) team had a successful year of supporting Amphitheater [composting efforts](#). The 18-person cohort sorted through hundreds of bags of compost, resulting in nearly 18,000 pounds of material diverted from the landfill. With support from the FM Landscape team, the ZWAs were also able to expand their efforts to outdoor bins near both O-Hill and the Castle dining facilities.

ZERO WASTE EVENTS

In fall of 2022 the Office for Sustainability and UVA Recycling Department launched an [online form](#) for event hosts to request composting and recycling services at their events in an effort to divert waste from the landfill. 134 event requests were submitted from 68 unique departments/student organizations, serving 40,000 event attendees. Major zero waste events this year included: Lighting of the Lawn, [2023 Alumni Reunion Weekends](#), and the Pancakes for Parkinson's Fundraiser.

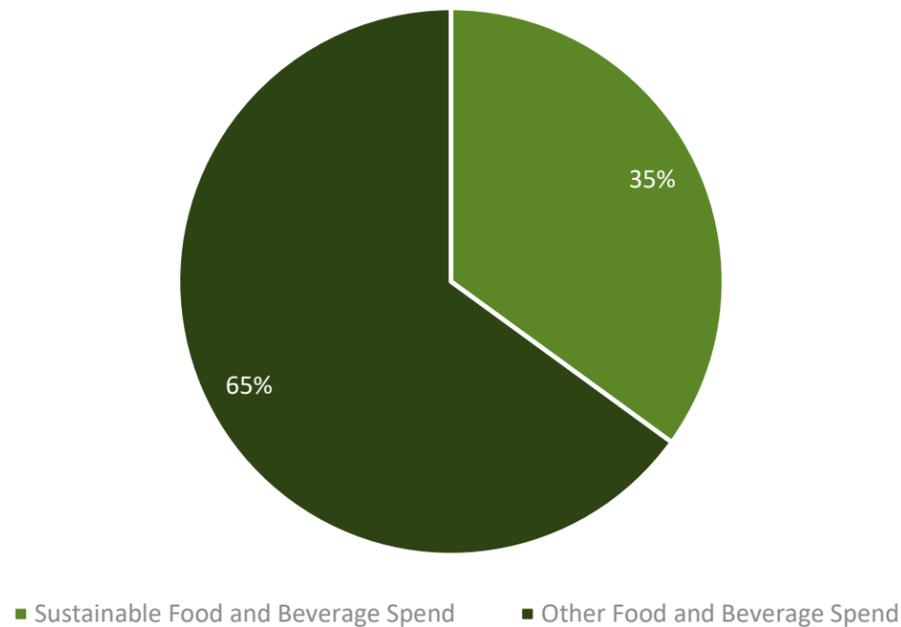


(L-R): Basketball Green Game volunteers at JPJ. Zero Waste Ambassadors sorting compost. Football Green Game volunteers at Scott Stadium. Zero waste at the FM Employee Appreciation Lunch. Football Green Game Volunteers. Zero waste at Lighting of the Lawn. Photo credit: UVA Office for Sustainability

GOAL: Increase sustainable food purchases to 30% of the annual total by 2030.



SUSTAINABLE FOOD AND BEVERAGE PURCHASES 2022



In calendar year 2022, 35% of the University’s food and beverage spend at UVA Dine, UVA Health, and the Darden School of Business combined was sustainable per the Advancement for Sustainability in Higher Education ([AASHE](#)) STARS criteria. This meets and exceeds UVA’s 2030 sustainable food purchasing goal.

Key Strategy: Increase Sustainable Food Purchasing 2022-2023 HIGHLIGHTS

COOL FOOD MEAL PROGRAM

During academic year 2022-2023, UVA Dine continued to increase plant-based and sustainable offerings. After a pilot phase, the [Cool Food meal program](#) was expanded from O’Hill and Newcomb to include Runk Dining Hall. Cool Food meals are certified low carbon by the World Resources Institute and can be easily identified throughout the dining halls. Throughout the academic year, 513,353 Cool Food meals were served across O’Hill, Newcomb and Runk Dining Halls with some of the most popular options being Pesto Cavatappi and Vegetables, Mojo Chicken and Plantains Plate and Curried Tomato Lentil Soup.

THIRD-PARTY CERTIFIED PRODUCTS

UVA Dine made strides in increasing third-party, sustainably certified products by focusing on sustainable protein options, such as certified organic tofu and humanely-raised meats. Additionally, the growing partnership with Juice Laundry, a local business, has brought an increase of plant-based and certified organic ingredients to Grounds.



Plant-based meals in UVA's dining halls. Photo credit: UVA Dine

STEWARD

FOOD SECURITY

UVA Dine partnered with the UVA Community Food Pantry (located in Newcomb Hall) to host two Stock the Pantry Swipe Drive events. In total, 1,160 pounds of food were donated to the UVA Community Food Pantry. Additionally, through our partnership with UVA Food Assist, 650.9lbs of food was recovered from Runk Dining Hall and donated to the local community. Green Dining also hosted a pop-up produce stand where Green Dining students distributed free local produce and recipe cards to the UVA community.

FOOD SYSTEMS AWARENESS AND PARTNERSHIPS

Through the UVA BIPOC Farmer program, UVA Dine, the UVA Sustainable Food Collaborative (SFC), Africulture & Carter Farms, Local Food Hub and 4P Foods are working together to achieve the goals in the 2021-2030 Sustainable Food Action Plan to increase purchasing from local BIPOC farmers and creating a more equitable food system. Throughout the 2022-2023 academic year, together, these groups increased the total spend with BIPOC farmers and grew relationships between stakeholders through events such as the Virginia Farm Tour, Edna Lewis inspired Farm Table Dinner, Chef Pop-Ups and a teaching demo in the Africulture: The African Roots of US Agriculture course.



Sustainable Food Collaborative logo.
Photo credit: Sustainable Food Collaborative



Student garden vegetables.
Photo credit: UVA Office for Sustainability



(L-R) UVA Community Food Pantry. Volunteers at UVA's student garden. Blue Ridge Area Food Bank collection at student move-out. Photo credit: UVA Office for Sustainability

ENGAGE

GOAL: Advance sustainability leadership and impact by incorporating environmental, economic and equity considerations in decision-making, building accountability for sustainability goal achievement at every level of the University.



Key Strategy: School and Unit Planning

2022-2023 HIGHLIGHTS

UVA LIBRARY

The UVA Library Sustainability Working Group [developed a sustainability plan](#) that includes strategic goals, deliverables and a timeframe for execution and evaluation of success. Goals include reducing energy consumption in Library spaces, performing waste audits to decrease use of paper products and minimize waste, working with vendors who have sustainable practices and advocating for open access educational resources. Library staff have indicated a strong desire to see changes that make a long-term impact not just within the Library, but also through the many University functions and services with which they interact.

MILLER CENTER

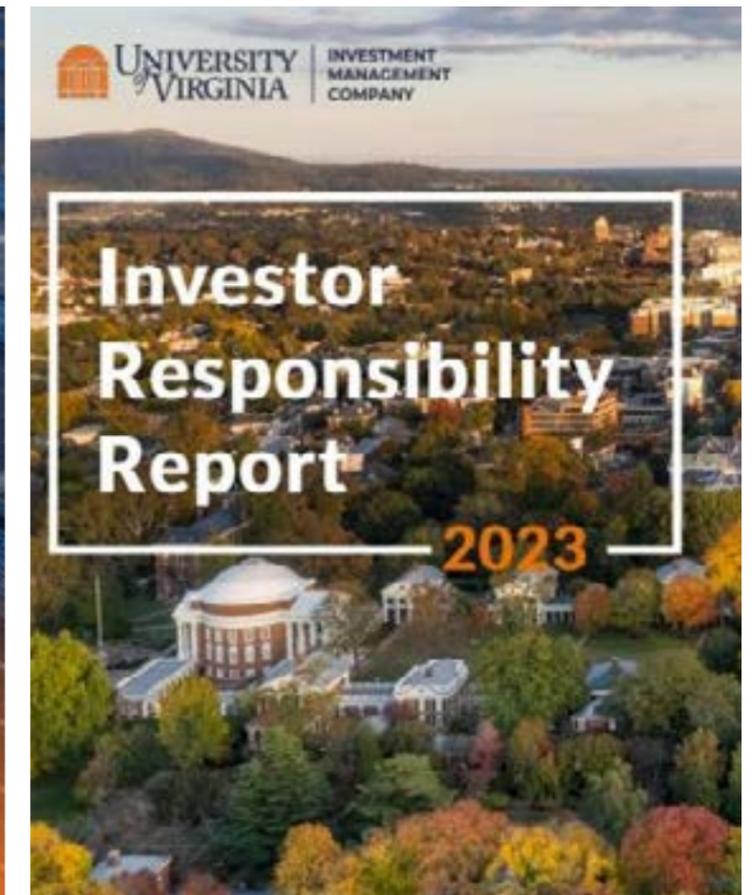
The Miller Center created its [sustainability plan](#) this year as part of its mission to provide critical insights for the nation's governance challenges- one of which is now sustainability. Efforts will focus on office energy efficiency, composting and elimination of single-use plastics - both in the Miller Center's own spaces and for large, public-facing events. Two multi-stakeholder learning programs each year will focus on sustainability and leadership topics.

UVA HEALTH

In 2022, [UVA Health](#) joined [Practice Greenhealth](#), the leading membership and networking organization for sustainable healthcare in the United States. UVA School of Nursing joined the [Nurses Climate Challenge](#), which provides resources to educate clinicians about the health impacts of climate change.

FACILITIES MANAGEMENT SUSTAINABILITY PLAN

To support UVA's 2030 Sustainability Plan, Facilities Management developed a departmental [FM Sustainability Plan](#) focused on areas where Facilities Management is a primary decision-maker or has its own operational impact across major areas, including energy supply, fleet vehicles and more.



UVIMCO - INVESTMENTS

UVA Investment Management Company's (UVIMCO) [2023 Investor Responsibility Report](#) outlines the significant progress made in 2023 toward the goals laid out in the [Investor Responsibility Framework](#). In 2023, UVIMCO gathered more in-depth insights on their portfolio managers' ESG policies, deepened engagement with external managers, undertook extensive efforts to measure and assess the carbon footprint of UVA's portfolio and continued investing in climate solutions across multiple asset classes.

ENGAGE

GOAL: Partner with our community to accelerate collaborative initiatives to advance sustainable, equitable and healthy places for all.



Key Strategy: Environmental Justice 2022-2023 HIGHLIGHTS

EQUITY AND ENVIRONMENT FUND

This year, the [UVA Equity and Environment Fund](#) awarded grants to seven UVA and local organizations, totaling \$14,500. These grants supported environmental art projects, resource-sharing systems, mutual aid “free stores,” as well as work by UVA student ambassadors in local neighborhoods and equity-oriented organizations in the area.

ENVIRONMENTAL HEALTH INEQUITY COMMUNITY EVENT

A panel of experts from the Schools of Nursing and Medicine addressed the issue of environmental health inequity during a special “[Medical Center Hour](#)” event in partnership with the University’s Community MLK Celebration. Over 50 attendees joined the event in Pinn Hall (including many pre-med students) and over 100 more joined remotely.

GROWING FOOD EQUITY EVENT

Multicultural Student Services and the Office for Sustainability teamed up to host an interactive “[Growing Food Equity](#)” event focused on exploring strategies to increase accessible food options on Grounds. Participants learned more about food security metrics and how to amplify resources in the Charlottesville area.

The poster is for the UVA Sustainability's 2023 Community MLK Celebration Event. The main title is "MEDICAL CENTER HOUR: ADDRESSING ENVIRONMENTAL HEALTH INEQUITY". It is scheduled for Wednesday, January 25th, from Noon to 1PM. The event will be held at the UVA Pinn Hall Conference Center Auditorium OR on Zoom at bit.ly/uvaehc. The event is co-hosted by Sustainability - UVA (From the Grounds Up) and VCCA (Virginia Clinicians for Climate Action). The program is titled "the medical center hour: Medicine of Equity in Conversation" and is a program of the Center for Sustainable Health and Wellbeing. Lunch is provided for the first 50 in-person attendees, and the program is eligible for continuing education credit. The speakers listed are Dr. Ebony Hilton (UVA Anesthesiologist) and Dr. Irène Mathieu (UVA Pediatrician). The event also features Tracy Kelly (UVA Pediatric Nurse Practitioner) and Lena Bichelli (UVA Medical Student).



Growing Food Equity event at the Multicultural Student Center. Photo credit: UVA Office for Sustainability

ENGAGE

Key Strategy: Student Leadership Development and Service 2022-2023 HIGHLIGHTS

SUSTAINABILITY STUDENT LEADERSHIP PROGRAMS

The [Office for Sustainability's three leadership programs](#) – Sustainability Advocates, Zero Waste Ambassadors, and the Housing & Residence Life (HRL) Sustainability Committee – supported 92 students in strengthening engagement skills through project-based learning and peer-to-peer education. Key projects included revamping the Hereford Rain Garden in partnership with UVA Landscaping, hosting 27 dorm engagement events and adding zero waste stations on the O-Hill and Castle patios.

SUSTAINABILITY SERVICE OPPORTUNITIES

Aiming to increase accessible volunteer opportunities for the UVA community, the student-led Service Learning team organized 46 [garden workdays](#) and 6 [Corner clean-ups](#) throughout the academic year. Over 200 students participated in collecting trash and recyclables, maintaining the student garden spaces and bringing harvested food to UVA's Community Food Pantry.

PUBLIC SERVICE PATHWAYS PROGRAM

Launched in fall 2022, the [Public Service Pathways](#) seeks out students who are interested in making a positive impact in their community and addressing social justice issues. The program is designed to help these students connect to public service as a personal commitment, a lifelong practice, or even a career. Global Sustainability is one of seven pathways students can select in their second year to align with their interests. In the program's first year, 235 students were officially enrolled.



Top (L-R): Volunteers at a Common Field Community Garden work day. Office for Sustainability student employees.
Bottom: Corner Clean-Up volunteers. Photo credit: UVA Office for Sustainability

ENGAGE

Key Strategy: Employee Engagement 2022-2023 HIGHLIGHTS

STAFF SENATE SUSTAINABILITY COMPETITION

In March, President Ryan announced the first winners of the “Hoos Making an Impact” competition, [launched by the Staff Senate in late 2022](#). The objective was to collect and implement innovative ideas from UVA staff that cultivate workplace success and foster community relationships. The inaugural theme for the new, annual competition was sustainability, generating a list of 44 staff ideas to advance UVA’s 2030 Sustainability Plan. The two winning projects focused on: reducing paper waste by increasing the use of DocuSign and document imaging integration processes to streamline document routing and signing on Grounds (Rachel Sligar and Kendyl Bilenkij- Information Technology Services); and a “commute club” incentive program supporting alternative commuting to promote and encourage carpooling, remote working, cycling, walking and public transit (Ethan Heil- OFS and Patrick Clark – Parking & Transportation).



Kendyl Bilenkij, left, and Rachel Sligar presented their winning idea to boost use of DocuSign and other document imaging processes for the new “Hoos Making an Impact” program. Photo credit: Dan Addison, University Communications

Ethan Heil, left, and Patrick Clark joined forces to present their winning idea of a UVA commute club for the new “Hoos Making an Impact” program. Photo credit: Dan Addison, University Communications

LAB FREEZER CHALLENGE

UVA was awarded the [Top Academic Organization Award](#) in the 2022 International Freezer Challenge. Thanks to the efforts of 25 labs, 14 households worth of energy was removed from the University’s footprint through cold storage preventative maintenance actions, which supports efficient use of financial and energy resources at UVA. To date in 2023, 65 labs have signed up for the Challenge and have been issued de-icing kits to support continued efforts.



UVA Green Labs award winners. Photo credit: Jane Centofante - UVA Facilities Management

CORNERSTONE PROGRAM

The Office for Sustainability sponsored [a Cornerstone Program project](#) with the 2022 cohort focused on opportunities to integrate the 17 United Nations Sustainable Development Goals (SDGs) into UVA culture and curriculum. The project team utilized data science methodologies to inventory SDG-related courses and student organizations, and then worked with UVA systems managers to add SDG search functionality in course databases.

ENGAGE

Key Strategy: Engagement Beyond Grounds

2022-2023 HIGHLIGHTS

REGIONAL AND NATIONAL PARTNERSHIPS

In 2019, the City of Charlottesville, Albemarle County, and the University of Virginia launched [Climate Action Together](#), a collaborative effort by sustainability staff to inform and engage the community as each entity advances climate goals. UVA's Office for Sustainability is also an active member of several regional and national networks that actively share knowledge and engage in parallel study to amplify the impact of programs, including:

- Ivy+ Sustainability Collaborative (comprised of 31 leading research institutions' sustainability staff)
- Southeast Campus Sustainability Network (sustainability directors from institutions across the southeast, from Maryland to Texas)
- [ACC Sports Sustainability Team](#) (this year UVA hosted the annual [ACC Sports Sustainability Summit](#))
- Virginia Association of Sustainability in Higher Education
- A carbon neutrality [partnership with William & Mary](#) (in 2019, the presidents of the University of Virginia and William & Mary- James E. Ryan and Dr. Katherine Rowe- formed a partnership to advance each institution's goal of achieving carbon neutrality by 2030)

JEFFERSON INNOVATION SUMMIT

The [2022 Jefferson Innovation Summit](#), hosted by the Darden School of Business, the Miller Center, the Environmental Institute and sponsored by the Jefferson Trust, convened 25 business, industry, government, academia and non-profit leaders from diverse sectors to develop a [decarbonization playbook](#), focused on decarbonizing the global economy by 2030. Through a facilitated dialogue and workshop, the 25 delegates identified obstacles to decarbonization and worked together to come up with ideas for accelerating the market transformation needed to achieve it.

EARTH MONTH

Once again in April, UVA and the broader community celebrated "Earth Day Every Day" with over 45 events added to a shared calendar and promoted throughout the region. UVA Sustainability representatives helped organize or had an active presence at a wide variety of events including the [UVA and Community Eco-Fair](#) which had over 500 attendees and 30+ organizations tabling with information on how to get involved.



Earth Day Eco-Fair at the UVA Amphitheatre. Photo credit: Hayley Sarah Photography



2022 Jefferson Innovation Summit: Decarbonizing the Global Economy. Photo credit: Darden School of Business Batten Institute

GOAL: Enhance sustainability-focused teaching, curricular development, and experiential learning.



Key Strategy: Expand Sustainability Coursework 2022-2023 HIGHLIGHTS

ENVIRONMENTAL THOUGHT AND PRACTICE MAJOR

This was a year of growth for the [Environmental Thought & Practice \(ETP\) major](#), an interdisciplinary program focused on environmental sustainability, which engages students within a framework of the natural sciences, social sciences and humanities. The program grew to 90 ETP majors by the end of the spring semester (up from 55 in Spring 2022) and had 28 graduates this year, and increase from 13 last academic year.



Environmental Thought & Practice Capstone Exhibition. Photo credit: Cassandra Fraser

GLOBAL SUSTAINABILITY MAJOR

As of May 2023, 268 Global Sustainability Majors have graduated since the program's inception. [Global Environments & Sustainability](#) offered three new courses in 2022-2023.

- GSVS 3310: Sustainability Policy at Home & Abroad
- GSVS 3210: Evidence for (Sustainability) Policy
- GSVS 4559: GIS for Global Sustainability

MCINTIRE ESG SEMINAR

The McIntire School of Commerce hosted its first [Blue Ridge ESG Seminar](#) with nearly 100 student attendees and speakers from an array of industries. Participants addressed the role of business in finding solutions that improve society while adapting to a changing climate.

SUSTAINABILITY LITERACY AND VALUES SURVEY

In October 2022, 396 undergraduate students from a representative sample completed the UVA Sustainability Literacy and Values Survey. The survey included 16 quiz-like questions designed to assess respondents' level of knowledge of sustainability concepts and identify potential new areas of effort.



McIntire School of Commerce ESG Seminar. Photo credit: Tucker Shelton

GOAL: Promote sustainability research and UVA's reputation as a locus of sustainability.



Key Strategy: Expand Research Opportunities

2022-2023 HIGHLIGHTS

ENVIRONMENTAL INSTITUTE REBRANDING AND FUNDING

UVA's Environmental Resilience Institute was re-branded and renamed the [Environmental Institute \(EI\)](#), a hub of climate and environmental research across Grounds dedicated to translating research into actionable solutions. EI gave seed funding for 13 projects from four schools, including a grant to assess building resiliency after the earthquakes in Turkey and Syria; received \$5 million in funding from the National Science Foundation for a second EI team working on climate resilience in coastal Virginia; and awarded internships to over 20 students with government, non-profit and private sector partners.

CLIMATE COLLABORATIVES

EI announced the new [Climate Collaboratives initiative](#) that will support large, interdisciplinary research teams in specific localities dealing with climate-related challenges. University teams will work with external partners, including policymakers, business leaders, local citizens, community groups and public officials to co-create climate adaptation and mitigation strategies that are actionable and based on cutting edge research.

ENVIRONMENTAL FUTURES FORUM

In October the Environmental Institute hosted the [Environmental Futures Forum](#), which included launching the new Grand Challenges programs in Environmental Resilience and Sustainability. The event centered climate change as one of the most urgent challenges facing society and outlined the ways in which the University of Virginia is responding via research. Through the Grand Challenges investment, there will be a host of new resources available to support collaborative research and translation, including 15 new faculty hires across five schools.

SOLAR FACILITY REPORT

In August, the Weldon Cooper Center issued a roadmap to help Virginia localities plan for decommissioning large solar facilities that reach the end of their lifespans. [The report](#) analyzes existing state and local laws, recommendations from state and federal agencies and approaches in comparable markets to present an inventory of decommissioning best practices for Virginia localities.

CLEAN ENERGY GRANT

In August, following announcements of a series of White House initiatives intended to advance domestic production of clean and affordable alternatives to fossil fuels, U.S. Secretary of Energy Jennifer Granholm visited UVA to award a team of researchers a [\\$3.7 million grant to support research into clean energy technologies](#). The award is part of a package of over \$540 million in funding for research led by universities and national laboratories that will create a strong scientific foundation for meeting President Biden's goal of creating a net-zero emissions economy by the year 2050.

CLIMATE TRANSFORMATIONS SYMPOSIUM

In March, the School of Architecture hosted a [two-day symposium](#) that spotlighted innovative design and climate research happening at UVA and beyond. Attendees were called upon to profoundly re-think how future generations will thrive and consider the role of architects, scholars, policymakers and more in shaping that future.

GOAL: Foster collaborations that enable mutually beneficial community- and Grounds-engaged research and learning.



Key Strategy: Connect Coursework to Sustainability Goals

2022-2023 HIGHLIGHTS

DECARBONIZATION ACADEMY

In June 2022, UVA began its inaugural [Summer Decarbonization Academy](#) with 13 students who worked on projects addressing several aspects of decarbonization at the University. The program was led by the School of Engineering's Lisa Colosi Peterson, and each project was mentored by a UVA faculty member and/or staff member in Facilities Management. In the words of one participant, Krysten Kuhn, "The Decarbonization Academy provided not only fantastic learning opportunities like touring key UVA buildings, but it also helped foster skills like research, interpersonal communication and presenting scientific posters." The program is continuing in 2023.

MORVEN BECOMES UVA SUSTAINABILITY LAB

UVA and the UVA Foundation announced last summer that the Morven Farm property will move forward as UVA's "Sustainability Lab," bringing together a broad range of education, experimentation, innovation, research and engagement in support of the University's strategic commitment to environmental resilience and sustainability. UVA professor Elizabeth K. Meyer was appointed the inaugural faculty director of Morven Programs' new [Sustainability Lab](#). An advisory committee led by Meyer is drafting an implementation plan for transforming the Morven property accordingly, with two-, five- and 10-year benchmarks.

CLASS COLLABORATIONS

Partnerships with classes have enabled hundreds of students from various departments to contribute directly to UVA's Sustainability Plan goals while engaging in hands-on learning. Notable examples from this year include:

- Ethan Heil's "*Designing a Carbon Neutral Future*" class allowed students to collaborate with University and community partners to support UVA's carbon reduction goals. This year, student teams focused on the School of Nursing, UVA Recreation, Monticello and Charlottesville-headquartered business WillowTree.
- Through Professor Lean Sweeney's class, "*Talking Trash*," over 60 students helped conduct two waste audits in UVA Library spaces, revealing opportunities for future waste reduction projects.
- Professor Kate Stephenson's "*Food Justice*" class participated in over 25 garden workdays during the fall semester, maintaining beds, planting new seeds and harvesting produce. The student team also made 12 trips to UVA's Community Food Pantry and organized three pop-up farm stands to emphasize the importance of accessible fresh produce for their peers.
- Two more sections of "*Sustainability Leadership*" were taught by Andrea Trimble and Dana Schroeder of the Office for Sustainability. Students spent the semester learning sustainability initiative best practices through self-designed and self-implemented projects including a solar canopy proposal to the School of Engineering, a sustainability career podcast series and an adopt-a-pot program for students living in Copeley Apartments to grow their own herbs and flowers.



Decarbonization Academy students touring the Alderman Library project - summer 2022. Photo credit: Krysten Kuhn

AWARDS AND RECOGNITION

The [UVA Sustainability Leadership Award](#) honors students, faculty, staff and community members who exhibit a commitment to advancing sustainability practices and solutions in support of UVA's 2030 Sustainability Plan, and who exemplify being a good neighbor locally and globally. The award, originally established in 2017, was put on hold during the pandemic, but returned this year with an extremely competitive selection process in all categories. The 2023 winners were:

- The Environmental Justice Collective (EJC), student organization
- Dr. Matthew Meyer, Assistant Professor of Anesthesiology, UVA Health Anesthesiologist
- The Institute for Engagement and Negotiation (IEN), staff department
- Christine Hirsh-Putnam, retired teacher and community volunteer
- Cultivate Charlottesville, community organization

UVA was once again part of the EPA Green Power Partnership's list of [Top 30 Colleges & Universities](#). The University is currently ranked #28, reflecting high green power utilization as a percentage of total electricity use.

This year, 25 UVA laboratories participated in the International Lab Freezer Challenge, helping UVA win the [Top Academic Organization Award](#).

Christine Alencar, Sustainable Labs Manager in the Office for Sustainability, received the [Emerging Leaders Award](#) from the International Institute for Sustainable Labs, which noted her "impressive career trajectory from scientist to green labs advocate to leader."



(L-R): Sustainability Leadership Award winners. Governor's Environmental Excellence Award Photo credit: UVA Office for Sustainability

The U.S. Department of Energy conferred a [2023 Better Buildings, Better Practices](#) award to UVA's Sustainable Labs Program. The DOE recognized the program's success in, among other accomplishments, decreasing carbon dioxide emissions by more than 20% in energy-intensive lab buildings.

UVA won two [2023 Virginia Governor's Environmental Excellence Awards](#): A Silver award in the "Greening of the Government" category for efforts to reduce waste on Grounds, and a Bronze award for UVA's Sustainable Labs program.

UVA was again named to [Princeton Review's Guide to Green Colleges](#). The 2023 edition includes 455 institutions, and UVA was awarded 94 points out of 99.

Michael Duffy, Transportation Operations and Fleet Manager for Facilities Management, received the [University Clean Transportation Leader](#) award during the Virginia Clean Cities' "Rally in Richmond" event.

UVA School of [Medicine](#) and School of [Nursing](#) students each collected data and completed submissions to the Planetary Health Report Card, which awards scores from A+ to F and identifies recommendations for expanding learning and research on issues like heat illness, asthma and environmental health inequity.



Cavman and Mike Duffy - FM Transportation and Operations Fleet Manager. Photo credit: Hayley Sarah Photography



Back cover photo credit: University Communications. Front cover photo credit: UVA Facilities Management.



SUSTAINABILITY · UVA
From the Grounds Up

WWW.SUSTAINABILITY.VIRGINIA.EDU
