



SUSTAINABILITY AT THE UNIVERSITY OF VIRGINIA

Andrea Trimble, Director - Office for Sustainability

DEQ Environmental Excellence Conference

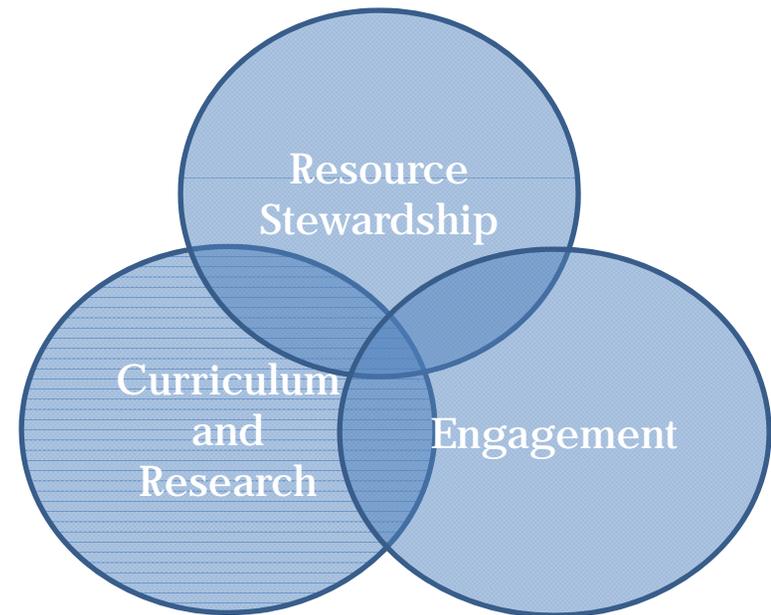
March 11, 2014



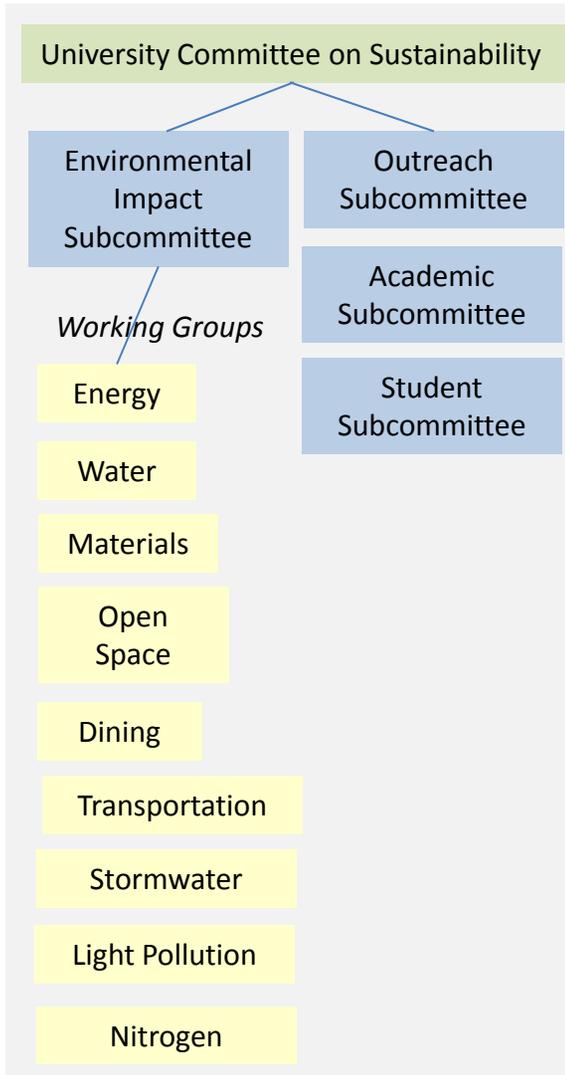
SUSTAINABILITY · UVA

AGENDA – SUSTAINABILITY AT U.Va.

- U.Va. Sustainability Leadership
- Commitments
- Progress and opportunities
 - STEWARDSHIP OF RESOURCES
 - OUTREACH AND ENGAGEMENT
 - CURRICULUM AND RESEARCH
 - COMMUNICATION
- Next steps



U.Va. SUSTAINABILITY LEADERSHIP



Office for Sustainability

Office of the Architect

Assoc. VP for Sustainability and Research

Sustainaunity

Sustainability Advocates

Student Interns

Green Grounds

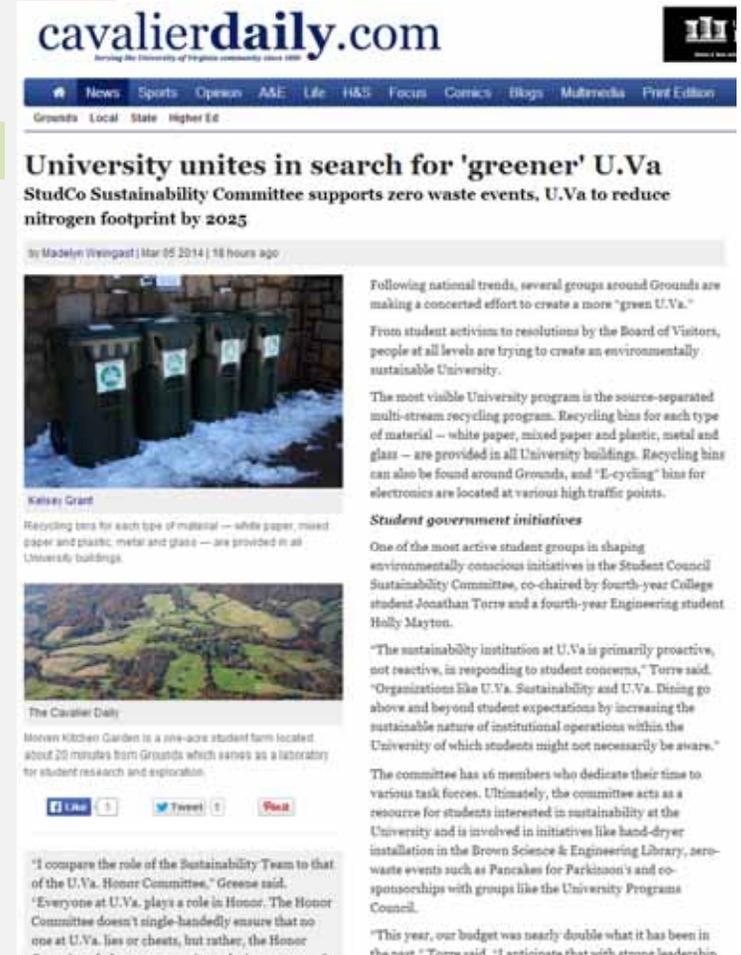
Student Council Sustainability Subcommittee and Task Forces

Darden

Morven Farm

Green Dining

Transportation Demand Management



Student Sustainability Organizations at UVA

Food

- Green Dining
- Community Garden
- Hereford Mini farm
- UVA Food Collaborative
- Slow Food Campuses
- Kitchen Food Not Bombs
- Local Food Hub

Greek

- Greek Recycling
- IFC Sustainability

Dorm

- IRC: Art Sustainability and Design Research Core Committee on Sustainability Advocates

Activism & Sustainable Development

- UVA Beyond Coal Campaign
- SEED
- Engineering Students Without Borders
- Greenpeace @ UVA
- Repower America
- Global Environmental Brigades
- Power Vote
- Global Water Brigades
- Students for Environmental Action
- Global Architecture Brigades
- Global Brigades

Co-Curricular

- UVA Bay Game
- EcoMod
- Environmental Sciences Organization
- Engineering
 - Ride Forward
 - Rod Squad
 - Solar Car Team
- Commerce
 - SIFE
- Sustainable Investment Group
- Darden
 - Energy Club
 - Net Impact
- Law School
 - Virginia Environmental Law Forum
 - Virginia Environmental Law Journal

General-focus Groups

- Green Grounds Organization
 - Recycling & Waste
 - Food/Compost Bicycle
 - Friendly Ground
 - Green Design and Building
 - Awareness and Education
- Student Council Sustainability
 - Community Business Consultant
 - R&D
 - E-Newsletter
 - Policy Evaluation
 - Caught Green-Handed
 - GIFT Community
 - Engagement/Academics
 - Green Grounds Sustainability
 - Transportation
 - Green Reception
- Green CIO Consultants
- Outdoors Club

Legend

- Community Type
- Organization Type
- Organization (Bold=large)
- Subgroup of Organization

UVA Sustainability Student Outreach

- Energy & Utilities Sustainability Student Outreach
- Recycling Sustainability Promotions
- Energy & Water
- President's Committee on Sustainability

Charlottesville Community

- Habitat for Humanity
- Rivanna Conservancy on Society
- AM/QCC Env. Education
- Better World Betty
- ASAP
- ACCT
- Community Bikes
- LEAP
- Chesapeake Bay Foundation
- C'ville Earth Week

Departments

- Environmental Science
- Environmental Thought and Practice
- Civil and Environmental Engineering
- Urban and Environmental Planning

KEY COMMITMENTS

reduce annual greenhouse gas emissions to levels 25% below 2009 levels by 2025

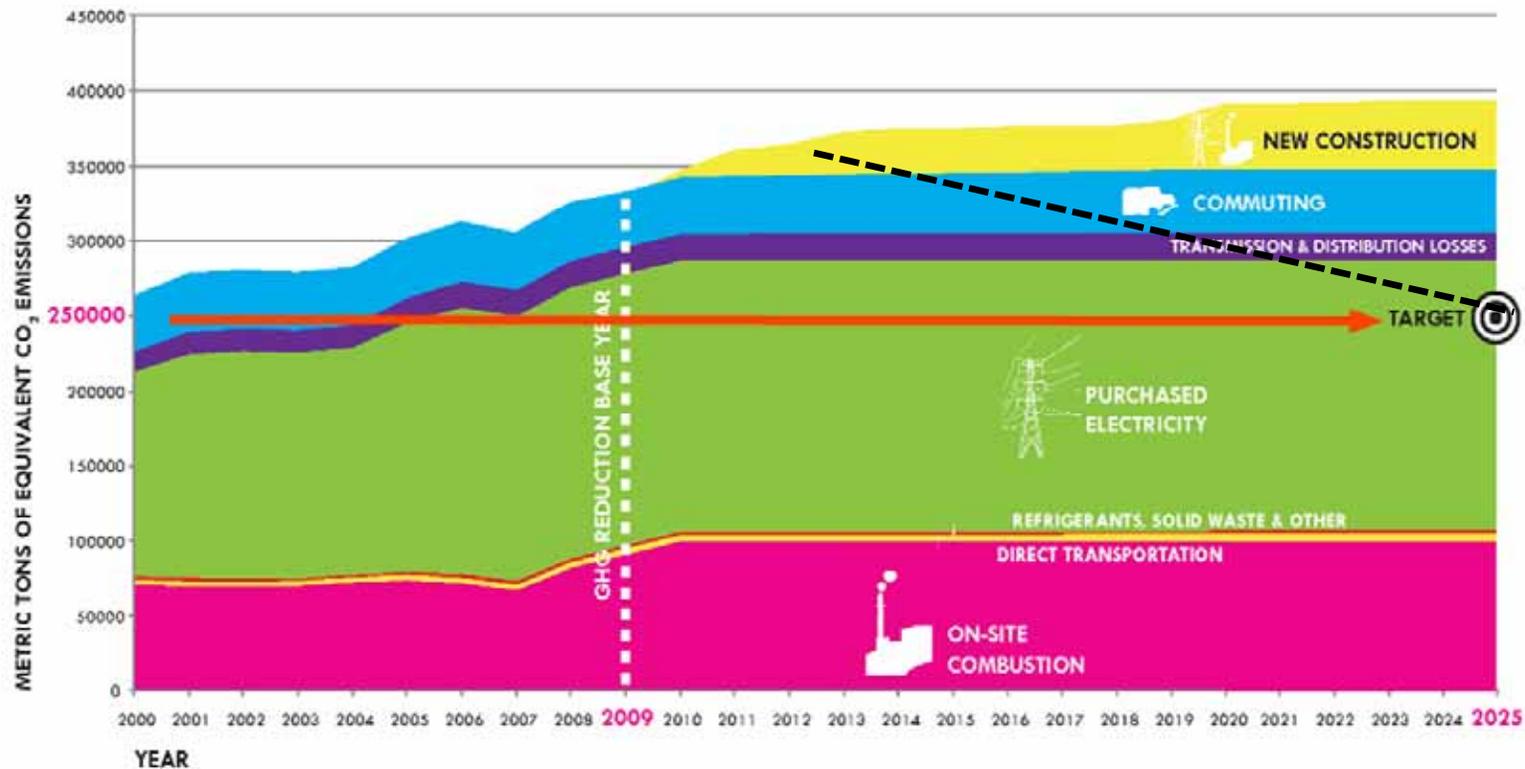
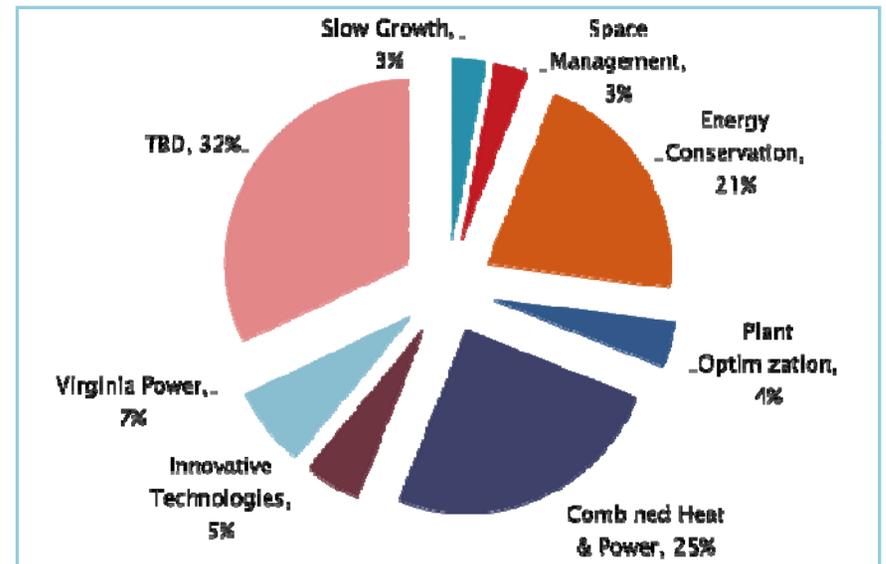
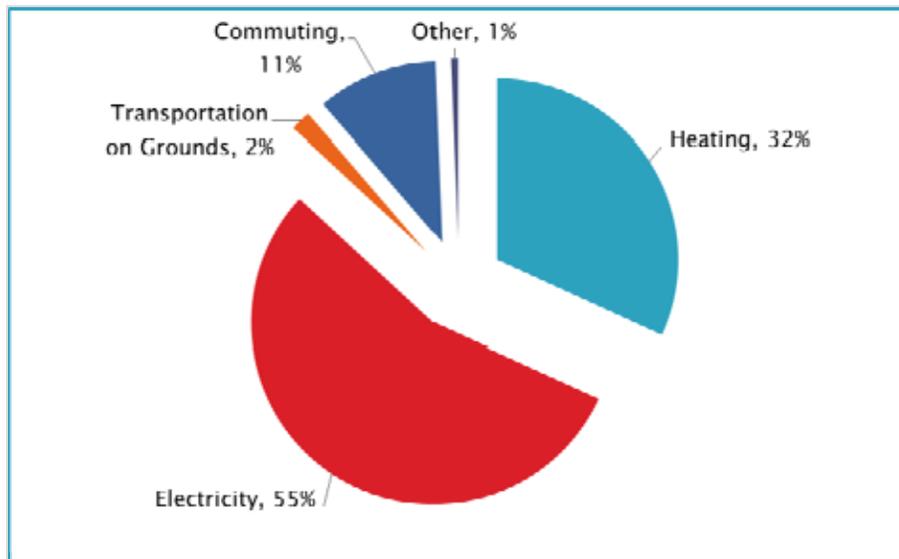


Image: Uva Office of the Architect

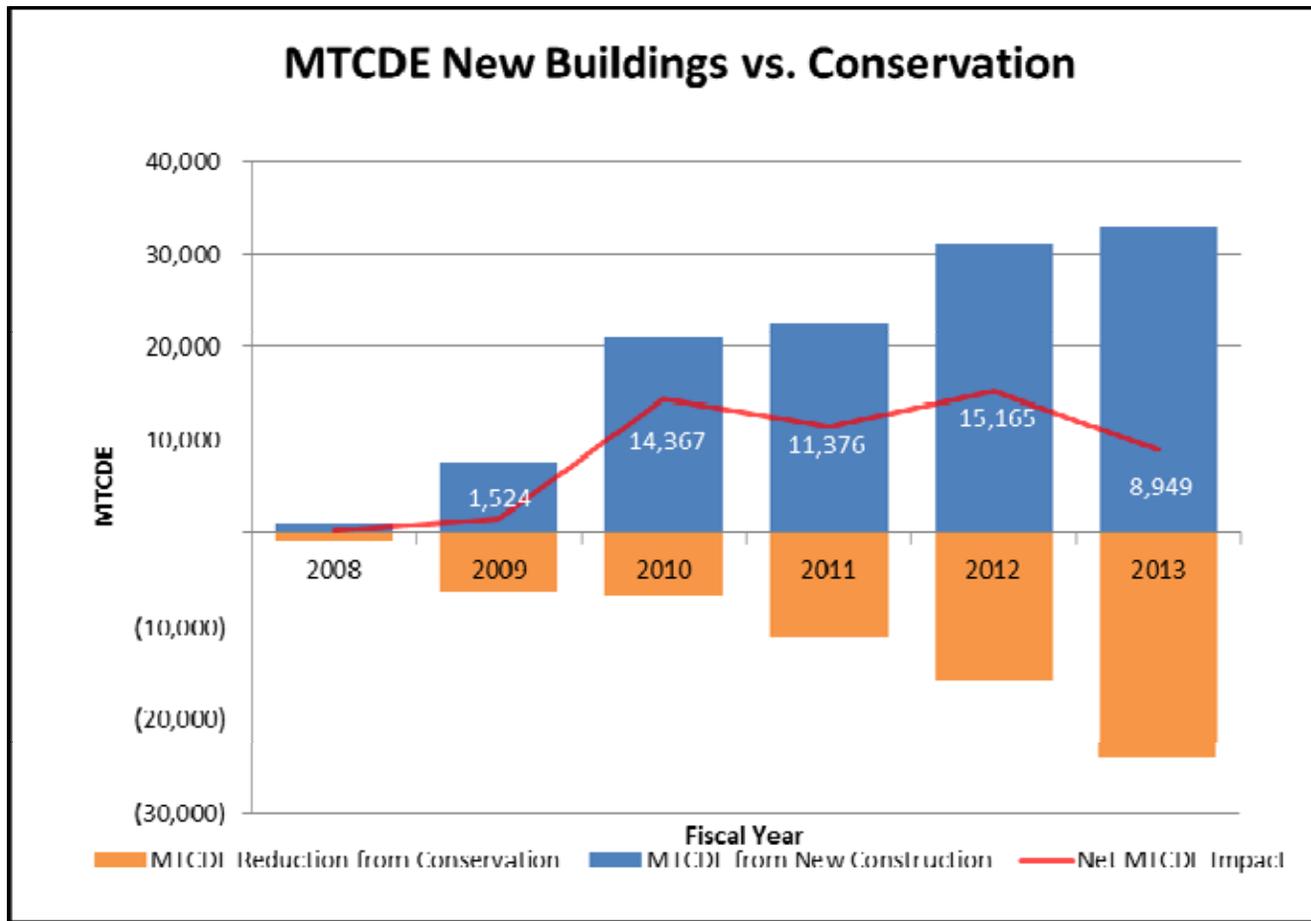
KEY COMMITMENTS

reduce annual greenhouse gas emissions to levels 25% below 2009 levels by 2025



KEY COMMITMENTS

reduce annual greenhouse gas emissions to levels 25% below 2009 levels by 2025



KEY COMMITMENTS

reduce nitrogen footprint 25% below 2009 levels by 2025

**UVA 2010
NITROGEN
FOOTPRINT
515 MT N**

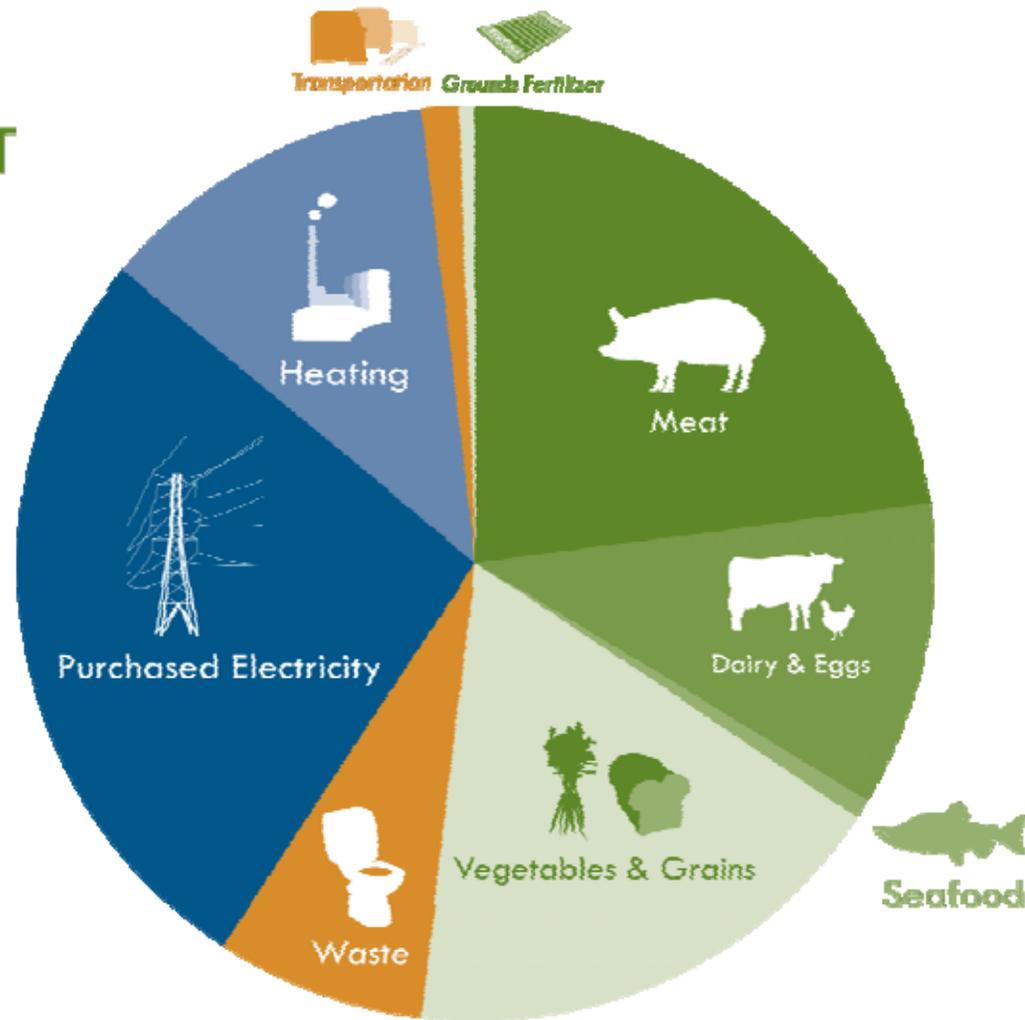


Image: UVA Office of the Architect

KEY COMMITMENTS

reduce nitrogen footprint 25% below 2009 levels by 2025

COMPARING UVA's CARBON & NITROGEN FOOTPRINTS

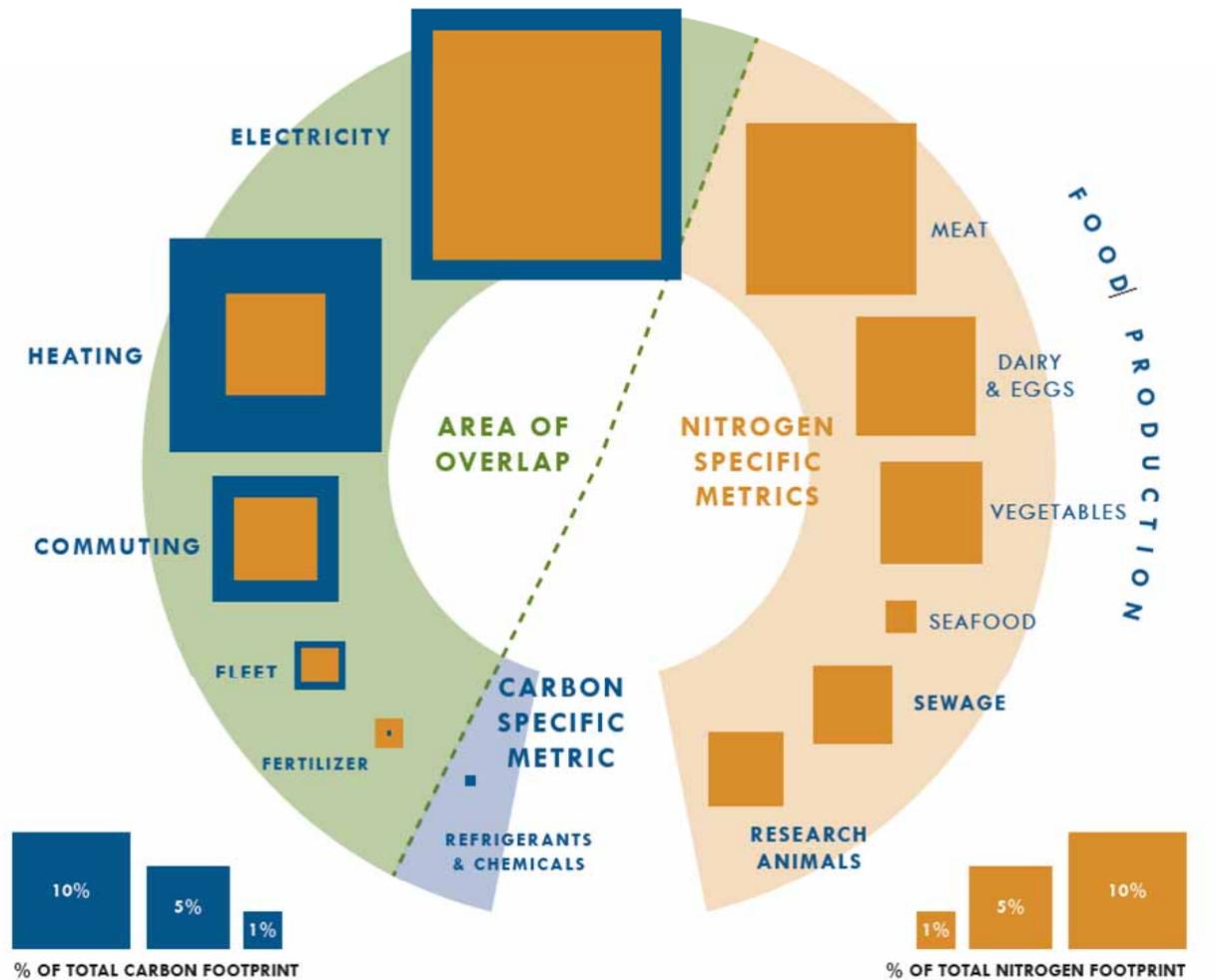


Image: UVA Office of the Architect

KEY COMMITMENTS

reduce nitrogen footprint 25% below 2009 levels by 2025

STRATEGIES TO REDUCE UVA'S NITROGEN FOOTPRINT



**Substitute Non-Meat
Proteins**



**Reduce Energy
Consumption**



**Improved Sewage
Treatment**



**Reduce Food
Waste**



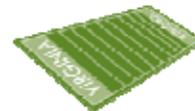
**Expand Composting
& Food "Recycling"**



**Organic &
Local Food**



Transportation



Grounds Fertilizer

Image: UvA Office of the Architect



SUSTAINABILITY · UVA

KEY COMMITMENTS

reduce nitrogen footprint 25% below 2009 levels by 2025

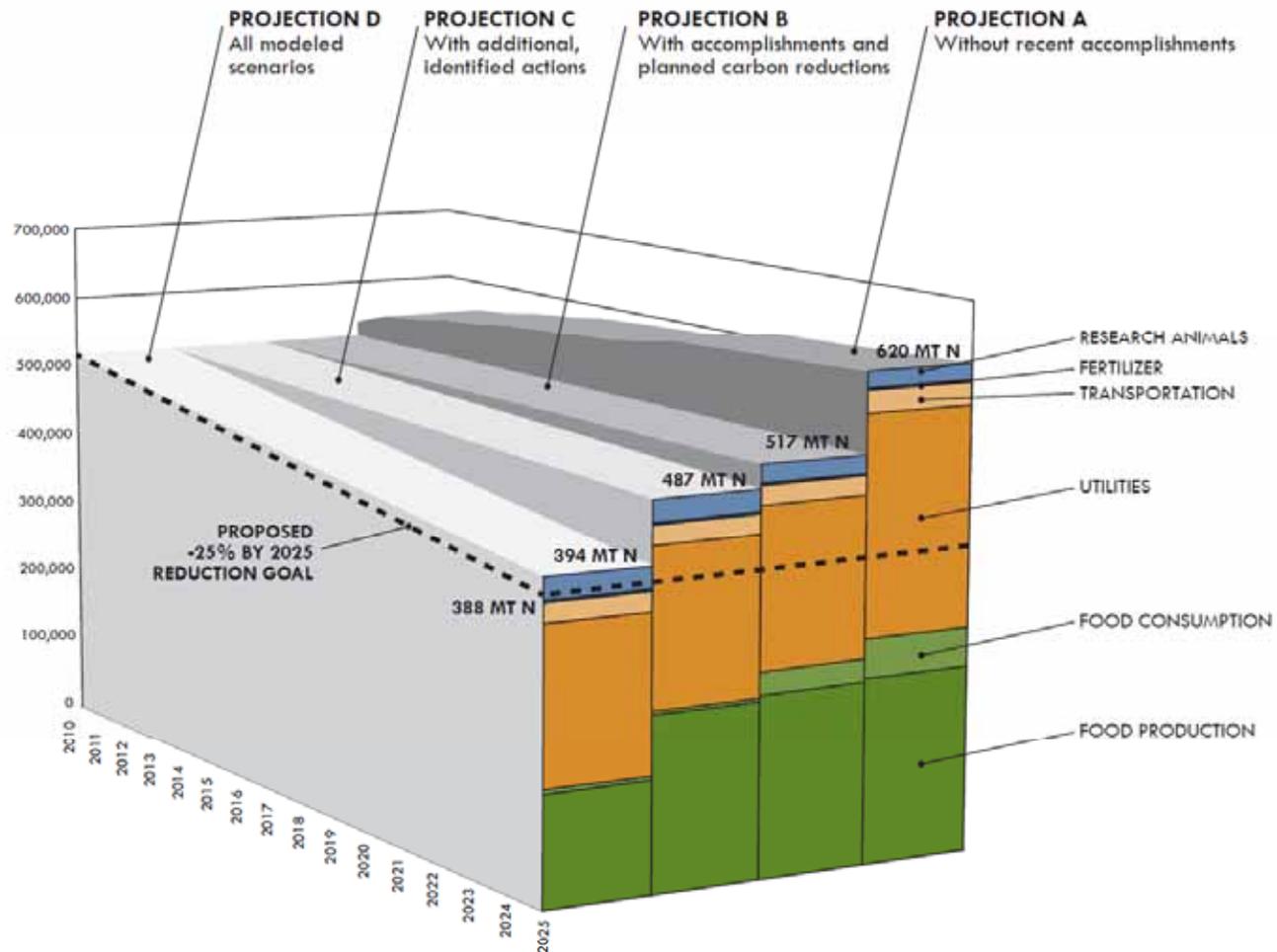


Image: UvA Office of the Architect

KEY INITIATIVES AND PROGRAMS

STEWARDSHIP OF RESOURCES

The University will utilize the highest standards of environmental stewardship and resource conservation and will address other areas of concern beyond greenhouse gas emissions and nitrogen, such as waste, water, stream and river protection, noise and light pollution, open space protection, and conservation of the historical and cultural legacy of the community.

- Board of Visitors, amended September 19, 2013

- Energy
- Water
- Materials
- Open Space
- Dining
- Transportation
- Stormwater
- Light Pollution



KEY INITIATIVES AND PROGRAMS

STEWARDSHIP OF RESOURCES



KEY INITIATIVES AND PROGRAMS

STEWARDSHIP OF RESOURCES – OUTREACH/ENGAGEMENT – ONGOING PROGRAMS



Pledge

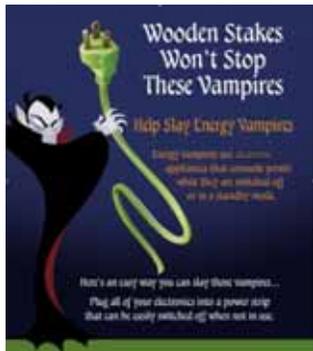
Pledge With Us

As University of Virginia community members, we can help create a more sustainable future by embracing small changes in our daily lives. Show your commitment to making a positive difference by taking this pledge.

I pledge to consider the social, economic, and environmental impacts of my habits and to explore ways to live more sustainably during my time here at UVA and beyond.

1,873 PEOPLE HAVE TAKEN THE PLEDGE

TAKE THE PLEDGE



the UVA GREEN CHALLENGE

THE CHALLENGE GETS STUDENTS, FACULTY AND STAFF TO TRY NEW WAYS TO LIVE GREEN AND GET INVOLVED IN THE COMMUNITY. SIGN UP FOR THE CHANCE TO WIN GREAT PRIZES EVERY MONTH.

BE GOOD ♻️ BE BETTER ♻️ BE THE BEST ♻️

EVERY 100 LB OF PAPER RECYCLED SAVES:

7 TREES	5,000 POUNDS OF OIL
275 POUNDS OF COAL	50,000 GALLONS OF WATER
300 POUNDS OF LUMBER	2.5 CUBIC YARDS OF LANDFILL SPACE

AT THE UNIVERSITY OF VIRGINIA TRASH IS PRODUCED AT A RATE OF **2.13 LBS PER PERSON PER YEAR**

HOW LONG DOES IT TAKE TO DECOMPOSE?

ALUMINUM CAN	GLASS BOTTLE	STEEL BOTTLE	PAPER CUP
↓	↓	↓	↓
60 YEARS	500 YEARS	700 YEARS	NEVER

IF ALL OF OUR CAV DAILY'S WERE RECYCLED, WE COULD SAVE ABOUT **FIVE HUNDRED TREES EACH YEAR!**

14 THOUSAND TONS OF WASTE MATERIAL DIVERTED AWAY FROM LANDFILLS IN 2010 THANKS TO UVA RECYCLING AND COMPOSTING.



Try Just One



SUSTAINABILITY · UVA
See why: virginia.edu/sustainability



SUSTAINABILITY · UVA

KEY INITIATIVES AND PROGRAMS

STEWARDSHIP OF RESOURCES – OUTREACH/ENGAGEMENT – ONGOING PROGRAMS

The UVA Green Workplace Program Credit Checklist

Category	Difficulty	Credit	Item
ENERGY	Easy	E-1	Computer Sleep Settings
	Easy	E-2	Light Switch Prompts
	Easy	E-3	Pre-Holiday Checklist
	Easy	E-4	Overheating/cooling
	Easy	E-5	Window Blinds
	Easy	E-6	Temperature Settings
	Easy	E-7	No Space Heaters
	Medium	E-8	Device Sleep Settings
	Medium	E-9	No Incandescent Lights
	Medium	E-10	Power Strips
	Hard	E-11	Appliance Timers
	Hard	E-12	Redundant Appliances
	Hard	E-13	Redundant Printers
	Hard	E-14	Building Scheduling
PROCUREMENT	Easy	P-1	30% Recycled Content Paper
	Easy	P-2	Sustainable Procurement Guidelines
	Easy	P-3	Shared Supplies
	Easy	P-4	Reusable Supplies
	Medium	P-5	Green Equipment
	Medium	P-6	Recycled Content Supplies
	Medium	P-7	Supply Deliveries
	Hard	P-8	100% Recycled Content Paper
	Hard	P-9	Sustainable Furniture
	Hard	P-10	Paper Use
	Hard	P-11	Supplies Use
ZERO WASTE	Easy	W-1	Recycling Bins
	Easy	W-2	Recycling Information
	Easy	W-3	Desk-Side Recycling
	Easy	W-4	Computer Disposal
	Easy	W-5	Double-Sided Copying
	Easy	W-6	Narrow Margins
	Easy	W-7	Inter-Office Envelopes
	Easy	W-8	ROSE Program
	Easy	W-9	Scanner
	Medium	W-10	Paperless Meetings
	Medium	W-11	Rechargeable Batteries
	Medium	W-12	Paperless Filing
	Medium	W-13	E-Waste Collection
	Medium	W-14	Mail Reduction
	Medium	W-15	Double-Sided Printing
	Hard	W-16	Waste Reduction Goal
	Hard	W-17	Individual Trash Containers
FOOD	Easy	F-1	Bulk Catering
	Easy	F-2	Bulk Food Supplies
	Easy	F-3	Disposable Cups
	Easy	F-4	Leak Checks
Medium	F-5	Reusable Kitchenware	
Medium	F-6	30% Recycled Content	
Medium	F-7	Bottled Water Service	
Medium	F-8	Coffee and Tea	
Hard	F-9	100% Recycled Content	
Hard	F-10	Zero Waste Events	
COMMUNITY	Easy	C-1	Sustainability Partners
	Easy	C-2	Green Tip of the Month
	Easy	C-3	Sustainability Events
	Easy	C-4	Community Service
	Medium	C-5	Sustainability Literacy Training
	Medium	C-6	Sustainability Speakers
	Hard	C-7	Sustainability Vision
TRANSPORTATION	Easy	T-1	TDM Information
	Easy	T-2	Bicycle Parking
	Easy	T-3	Fare Free Transit
	Easy	T-4	Meeting Travel
	Medium	T-5	Zipcar
	Medium	T-6	Virtual Meetings
	Hard	T-7	Green Travel
	Hard	T-8	Commuter Survey
HEALTH	Easy	H-1	Stair Reminder Signage
	Easy	H-2	HoosWell
	Medium	H-3	Walking Meetings
	Medium	H-4	Health Activities
BONUS	Easy	G-1	Green Workplace Recognition
	Medium	G-2	Green Workplace Improvement
	Medium	G-3	Green Workplace Recruiter
	Variable	G-4	Innovation

8 Categories, 60 Credits, 100 Points Possible

KEY INITIATIVES AND PROGRAMS

STEWARDSHIP OF RESOURCES – OUTREACH/ENGAGEMENT – CAMPAIGNS



LITTERATI CAMPAIGN



#litterati@sustainableuva

- STEP 1: FIND SOME LITTER
 - STEP 2: INSTAGRAM A PICTURE OF IT
 - STEP 3: INCLUDE #LITTERATI AND TAG @SUSTAINABLEUVA
 - STEP 4: THROW AWAY, RECYCLE, OR COMPOST THE LITTER
 - STEP 5: REPEAT UNTIL APRIL 22 – EARTH DAY!
- PARTICIPANTS WILL BE ENTERED INTO A RAFFLE TO WIN PRIZES!**



REDUCE SINGLE-SIDED PRINTING TO WIN UVA'S

THE DUPLEX DERBY

UVA IS LOOKING FOR DEPARTMENT JOCKEYS!
SIGN UP YOUR DEPARTMENT AND GET MORE DETAILS AT:
WWW.VIRGINIA.EDU/SUSTAINABILITY

1st

PICK A JOCKEY

Submit a new department to speed strategies and drive steady results with employees.

2nd

GET THE GREEN

Reduce green printing practices with alternative duplex printing.

3rd

SETTLE THE SCORE

Go. Horses, jockeys and the greenest week's worthings.

FEB. 24TH thru MAR. 28TH

WWW.VIRGINIA.EDU/SUSTAINABILITY

Hoos RecycleMania! SCOREBOARD

Get the latest competition updates on www.facebook.com/sustainableuva or www.twitter.com/sustainableuva

SUSTAINABILITY · UVA	THIS WEEK		LAST WEEK	
	V	VT	V	VT
National Ranking	83	182	102	185
Virginia Ranking Out of 14 Virginia Colleges	3	6	3	5
Per Capita Classic Pounds recycled per person	70	169	88	154
Gorilla Prize Highest gross tonnage of recycled materials	20	45	26	41

What is RecycleMania? RecycleMania is an annual nation-wide college recycling competition that takes place over 8 weeks. Schools across the country compete to see who can recycle the most materials in a variety of categories. Get involved and help make a difference.
uvasustainabilityaction.org



KEY INITIATIVES AND PROGRAMS

STEWARDSHIP OF RESOURCES – OUTREACH/ENGAGEMENT – EVENTS



Campus Sustainability Day
Celebrating Sustainability at U.Va.

October 23rd
12:00-1:30pm
Newcomb Hall
South Meeting Room

Interact

- Waste Sorting Challenge, Tap Water Challenge, Photo Booth & Student Research Projects

Inform

- 12:30-1:00pm Sustainability on Grounds Talk by David Newman, Architect for the University
- Cheryl Gomez, Director of Energy & Utilities
- UVA Green Guide Presentation

Sample local & seasonal food compliments of UVA Dining. A Zero Waste event.

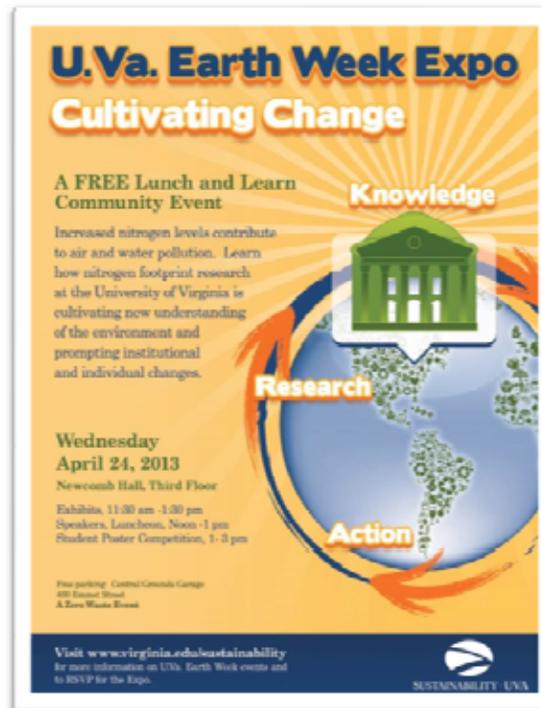
All materials generated at this event will be compostable or recyclable.

For more information visit: www.virginia.edu/sustainability

WVA WHOLE FOODS GIFT BASKET AND GIFTAWAYS

WATER SUSTAINABILITY · UVA

UNIVERSITY OF VIRGINIA DINING



U.Va. Earth Week Expo
Cultivating Change

A FREE Lunch and Learn Community Event

Increased nitrogen levels contribute to air and water pollution. Learn how nitrogen footprint research at the University of Virginia is cultivating new understanding of the environment and prompting institutional and individual changes.

Knowledge

Research

Action

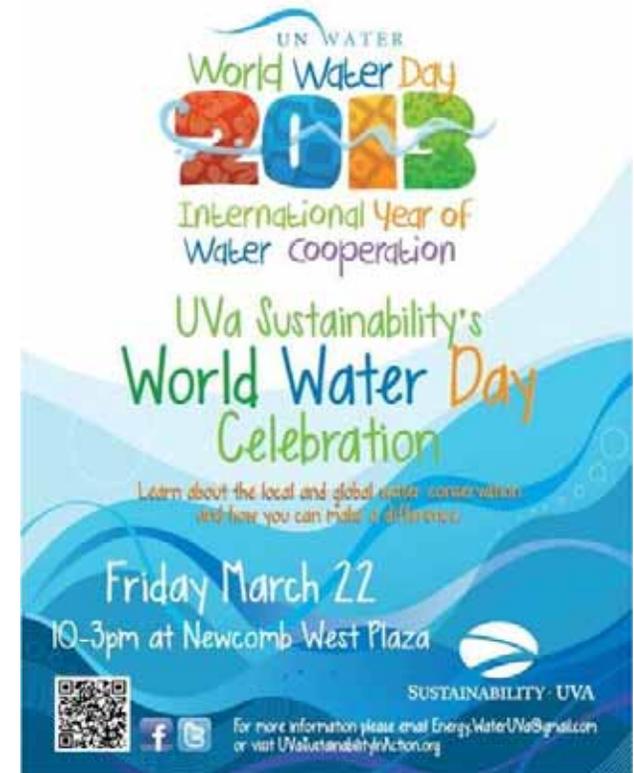
Wednesday
April 24, 2013
Newcomb Hall, Third Floor

Exhibits, 11:00 am - 1:00 pm
Speakers, Luncheon, Noon - 1 pm
Student Poster Competition, 1 - 3 pm

Free parking - Central Grounds Garage
200 Retreat Street
& Zero Waste Event

Visit www.virginia.edu/sustainability for more information on UVA Earth Week events and to RSVP for the Expo.

SUSTAINABILITY · UVA



UN WATER
World Water Day
2013
International Year of Water Cooperation

UVA Sustainability's
World Water Day
Celebration

Learn about the local and global water conservation and how you can make a difference.

Friday March 22
10-3pm at Newcomb West Plaza

QR code

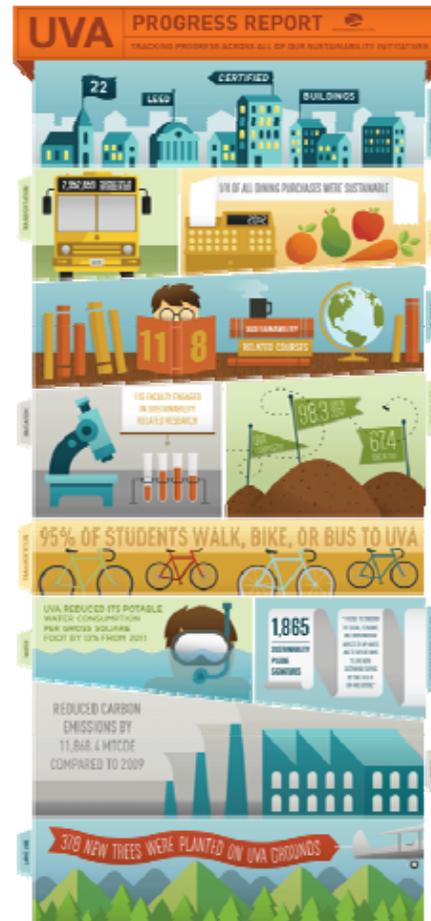
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For more information please email Energy.Water@UVA@gmail.com or visit UVA.sustainabilityinAction.org

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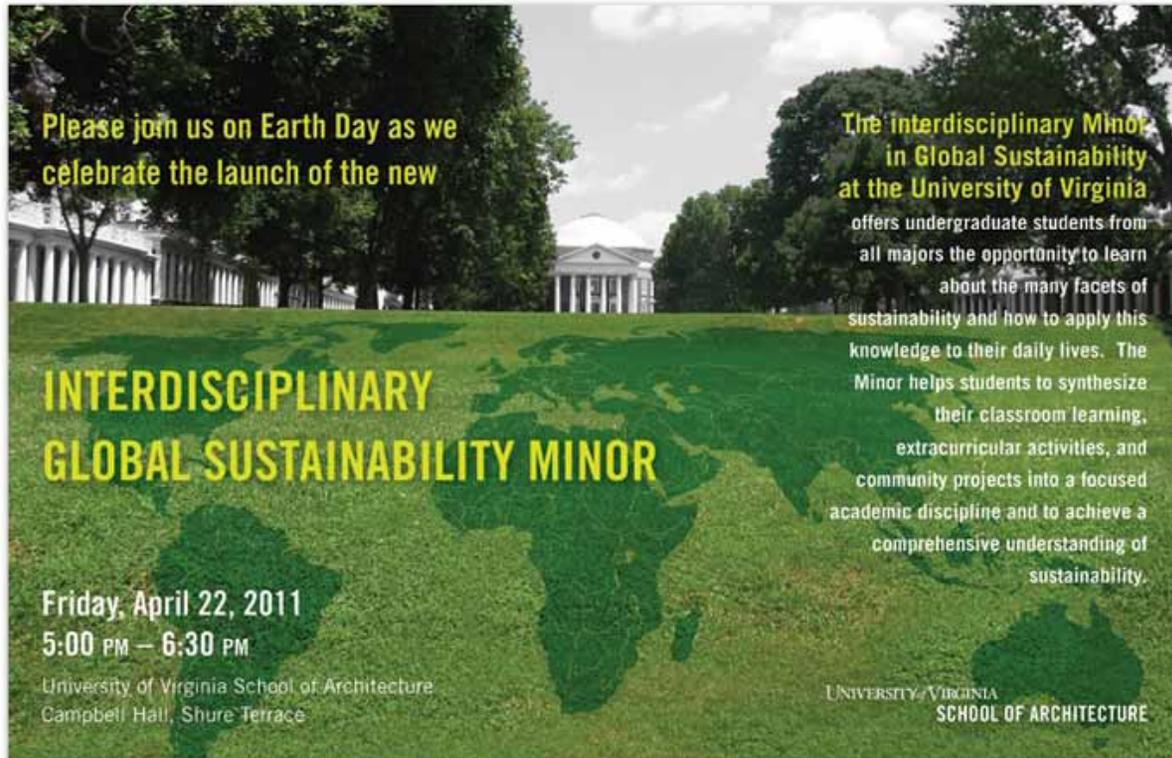
KEY INITIATIVES AND PROGRAMS

STEWARDSHIP OF RESOURCES – OUTREACH/ENGAGEMENT – COMMUNICATION



KEY INITIATIVES AND PROGRAMS

CURRICULUM AND RESEARCH



Please join us on Earth Day as we celebrate the launch of the new

INTERDISCIPLINARY GLOBAL SUSTAINABILITY MINOR

The interdisciplinary Minor in Global Sustainability at the University of Virginia offers undergraduate students from all majors the opportunity to learn about the many facets of sustainability and how to apply this knowledge to their daily lives. The Minor helps students to synthesize their classroom learning, extracurricular activities, and community projects into a focused academic discipline and to achieve a comprehensive understanding of sustainability.

Friday, April 22, 2011
5:00 PM – 6:30 PM

University of Virginia School of Architecture
Campbell Hall, Shure Terrace

UNIVERSITY OF VIRGINIA
SCHOOL OF ARCHITECTURE



KEY INITIATIVES AND PROGRAMS

CURRICULUM AND RESEARCH

eco MOD

Many people assume afford-well-built homes, must face the energy required to run them. It is through ecoMOD that community and curriculum work to re-imagine the idea of "home" through thoughtful, efficient, and strategic design.

DESIGN + BUILD + EVALUATE

ecoMOD is a research initiative. "ecoMOD" stands for "eco-modular design." The project is a multi-phase process that involves design, construction, and evaluation. The design phase involves a team of students and faculty members who work together to create a sustainable, affordable, and modular housing unit. The construction phase involves the building of the unit, and the evaluation phase involves the assessment of the unit's performance and the impact of the project on the community.

SUSTAINABLE + AFFORDABLE + MODULAR

- 1. Sustainable: ecoMOD is designed to be a sustainable housing unit. It features a variety of sustainable features, including solar panels, energy-efficient appliances, and low-VOC paints.
- 2. Affordable: ecoMOD is designed to be an affordable housing unit. It is built using a variety of low-cost materials and construction techniques.
- 3. Modular: ecoMOD is designed to be a modular housing unit. It is built using a variety of modular construction techniques, including prefabricated components and off-site construction.

1 CUT IN

['04 - '06]

The first prototype, the "CUT IN" unit, was designed and built in 2004. It was a small, single-story unit that was built using a variety of low-cost materials and construction techniques. The unit was designed to be a sustainable, affordable, and modular housing unit. It featured a variety of sustainable features, including solar panels, energy-efficient appliances, and low-VOC paints. The unit was built using a variety of modular construction techniques, including prefabricated components and off-site construction.

EVALUATION

The "CUT IN" unit was evaluated in a variety of ways. It was evaluated in terms of its sustainability, affordability, and modularity. It was also evaluated in terms of its impact on the community. The evaluation showed that the "CUT IN" unit was a successful prototype that demonstrated the potential of ecoMOD as a sustainable, affordable, and modular housing unit.

DESIGN FEATURES

- 1. Sustainable: The "CUT IN" unit features a variety of sustainable features, including solar panels, energy-efficient appliances, and low-VOC paints.
- 2. Affordable: The "CUT IN" unit is built using a variety of low-cost materials and construction techniques.
- 3. Modular: The "CUT IN" unit is built using a variety of modular construction techniques, including prefabricated components and off-site construction.

2 HAB

['05 - '06]

The second prototype, the "HAB" unit, was designed and built in 2005. It was a larger, two-story unit that was built using a variety of low-cost materials and construction techniques. The unit was designed to be a sustainable, affordable, and modular housing unit. It featured a variety of sustainable features, including solar panels, energy-efficient appliances, and low-VOC paints. The unit was built using a variety of modular construction techniques, including prefabricated components and off-site construction.

REHABILITATION

The "HAB" unit was evaluated in a variety of ways. It was evaluated in terms of its sustainability, affordability, and modularity. It was also evaluated in terms of its impact on the community. The evaluation showed that the "HAB" unit was a successful prototype that demonstrated the potential of ecoMOD as a sustainable, affordable, and modular housing unit.

DESIGN FEATURES

- 1. Sustainable: The "HAB" unit features a variety of sustainable features, including solar panels, energy-efficient appliances, and low-VOC paints.
- 2. Affordable: The "HAB" unit is built using a variety of low-cost materials and construction techniques.
- 3. Modular: The "HAB" unit is built using a variety of modular construction techniques, including prefabricated components and off-site construction.

3

['06 - '08]

The third prototype, the "3" unit, was designed and built in 2006. It was a larger, two-story unit that was built using a variety of low-cost materials and construction techniques. The unit was designed to be a sustainable, affordable, and modular housing unit. It featured a variety of sustainable features, including solar panels, energy-efficient appliances, and low-VOC paints. The unit was built using a variety of modular construction techniques, including prefabricated components and off-site construction.

PRESERVATION

The "3" unit was evaluated in a variety of ways. It was evaluated in terms of its sustainability, affordability, and modularity. It was also evaluated in terms of its impact on the community. The evaluation showed that the "3" unit was a successful prototype that demonstrated the potential of ecoMOD as a sustainable, affordable, and modular housing unit.

DESIGN FEATURES

- 1. Sustainable: The "3" unit features a variety of sustainable features, including solar panels, energy-efficient appliances, and low-VOC paints.
- 2. Affordable: The "3" unit is built using a variety of low-cost materials and construction techniques.
- 3. Modular: The "3" unit is built using a variety of modular construction techniques, including prefabricated components and off-site construction.



- Environmental Science
- Environmental Thought and Practice
- Civil and Environmental Engineering
- Urban and Environmental Planning



IN PROGRESS . . .

SUSTAINABILITY STRATEGIC VISION AND PLAN

U.Va. Cornerstone Plan – Strategic Plan

- Pillar 1: Extend and Strengthen the University’s Distinctive Residential Culture
- Pillar 2: Strengthen the University’s Capacity to Advance Knowledge and Serve the Commonwealth of Virginia, the Nation, and the World through Research, Scholarship, Creative Arts, and Innovation
- Pillar 3: Provide Educational Experiences That Deliver New Levels of Student Engagement
- Pillar 4: Assemble and Support a Distinguishing Faculty
- Pillar 5: Steward the University’s Resources to Promote Academic Excellence and Access

How might sustainability support the five strategic drivers (above)? List initially populated from 5/23 meeting notes, please contribute additional ideas...	
DRIVERS #1, 2, 3 & 4: The UVA Sustainability House. An opportunity to enrich residential culture, serve as an interdisciplinary nexus for academic and research initiatives, a proving ground for ethical leadership and leadership (potentially via internships with UVA operational units), and an opportunity to engage students in pedagogy on a 24/7 basis.	DRIVER #2: Sustainability by its very nature is interdisciplinary, as is the Committee. The Committee can provide value in the discussion of interdisciplinary topics, particularly those with a sustainability component. (DJN)
DRIVER #4: There are numerous students who do great work, they write Recycling White Papers, they research other efforts, but in order to get credit, they have to have a faculty advisor. This can be a barrier, busy faculty aren’t always available to provide advising. Another project coming up is the Dominion Solar program. Dominion could have pursued many partners for this project. But, Dominion really wants to connect to the research component with this opportunity.	DRIVERS #3 & 4: An area where the entire Committee could contribute is in structuring living/learning collaborations among students/faculty/staff. Many in this room have worked with students on innovative projects (Bicycle Share, SustainaUnity , the Sustainability House, Zero Waste Athletics) where students are motivated not by wages or by credit hours, but by an intrinsic motivation. Students derive a huge benefit for this experience, as do faculty and staff involved in these projects. The Global Sustainability Minor’s practicum is a step in this direction; the Committee could look at pioneering this pedagogy beyond the Minor. (AJG)
DRIVER #5: The role of the Committee may be to propose to University leadership where we might invest. Especially in sustainability, there are many opportunities for investment in ourselves. (DES)	DRIVER #3: Another area where this could dovetail is in ethical leadership. Critical areas of sustainability have long time horizons that require principled leaders who are willing and able to take the long-view. There is an opportunity here.
DRIVER #2: We have some many stellar initiatives here, such as through FM, P&T, Dining, and more. One thing I’d love to see come up through this Committee, are initiatives that foster collaboration among units to embrace sustainability. Students are well-covered, but employees aren’t well connected. I would love to find more ways for cultural collaboration with	DRIVERS #1 & 4: What’s resonated with me in this meeting is the idea of the Sustainability House. Students are a unique and creative resource. The idea of having the house as a focal point, to connect a student population that is already here, but the physical presence of the house (or even a non-residential space) could connect and support the entire student body.



www.virginia.edu/sustainability