Sustainability Sub-Council, Fall 2023

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Agenda for Today

- Education
 - Sustainability General Education Requirement
- Green Research Program
- Plastic Waste Reduction (F&S and iSEE)
 - Updates
 - Discussion
- Carbon Credits
 - Background
 - Discussion





Sustainability Gen Ed Option



Review

Proposal: Create a 3 credit-hour gened category within Natural Sciences and Technology (NST), Social and Behavioral Sciences (SBS), and Humanities & the Arts (H&A) for a course in sustainability and environmental topics

- •Will be an option in each of the three categories for all undergraduate students
- Initially passed as an Illinois Student Government resolution
- •iSEE has been supporting student efforts to get this approved





Updates from College Deans

- An additional proposal was developed that would create a requirement.
- In Summer 2023, 4 open house events were hosted. All department heads were invited to review the requirement and option proposals and provide feedback.
 A survey was offered for those participants who could not attend the open houses.
- 18 distinct departments provided feedback with a total of 32 responses.



Departmental Feedback

Results from open houses and survey:

- 24 of 32 responses would support an option, with a subset preferring the requirement.
- → 5 of 7 preferences for "Neither" mistakenly believed that the option would increase the number of credit hours for graduation

Preferred Proposal



- Requirement Option Neither
- No Answer
- Either



Next Steps

- Resubmit the option proposal to college Deans
- Submit to Gen-Ed Board for review
- Pass proposal through UC Senate committees
 - Educational Policy
 - Campus Operations
 - Senate Executive Committee
- Invite supporters and contributors to speak on behalf of proposal during discussion
- Introduce final proposal to Senate floor





Green Research Program

Presented by Stephanie Hess & Jeremy Neighbors

Green Research Committee Charge

- Charged by leadership in OVCRI, F&S, and ISEE.
- Diverse committee from multiple colleges/departments representing faculty, students, safety, and facilities.
- Propose a safe and practical green research program that:
 - is applicable to all research environments.
 - contributes to iCAP goals and commitment to sustainability.
 - establishes a process for "Green" status.

Staffing and support framework

- 5-year pilot a partnership between OVCRI and F&S.
- Staffed by a Green Research Coordinator (GRC) and student workers reporting to F&S Associate Director for Sustainability.
- Supported by communications and IT staff, and volunteer Green Research Ambassadors from colleges, departments, and research groups.
- Primary duties of GRC will include:
 - Liaise with stakeholders
 - Develop and deliver training and educational information
 - Track and communicate progress

Initiatives: Communication & Education

- Communications/marketing plan.
- Training curriculum.
- Transparency
 - Metrics
 - Success stories
 - Recognition

Initiatives: Behavior

- Reduce, reuse, and recycle.
- Shut the sash, equipment timers, and other immediate changes that can be adopted.
- Promotion of an assessment tool, help research groups identify assessment tool items they can readily addressed, and help minimize barriers for participation.

Recognition

- Certification is a long-term goal.
- Recognize colleges, departments, research groups through:
 - publication from various levels of campus
 - monthly and annual events
 - plaques and certificates

Advisory Board

- Educational materials, initiatives, pilot programs, and metrics are reviewed by an advisory board consisting of:
 - Faculty
 - Campus-level safety
 - Students



Single-Use Plastic Reduction Efforts

Continuing high demand for plastic bottled water



*includes enhanced water

Bottled water patterns driven by athletics and dining retail



Plastic Waste Reduction Challenge for Athletics

- Lack of recycling infrastructure
 - Recycling bins at SFC and Memorial Stadium
 - Football tailgate recycling, led by F&S
- Need for clear communication and consistent application of new water bottle policy
 - Clear internal communication and external messaging to encourage use of reusable water bottles and recently added hydration stations
- Need for coordination and ownership of sustainability initiatives within DIA





College of Agricultural, Consumer & Environmental Sciences UNIVERSITY OF ILLINOIS URBANACHAMPAICH SUSTAINABILITY & RECYCLING PROGRAM

Control Con

- DIA, SFC, and Auxiliaries support purchasing 3-stream recycling bins for SFC upper concourse (ZW011) but lack funding.
- Recycling infrastructure at Memorial Stadium also a concern
- Propose purchasing bins for SFC
 Divide cost four ways: DIA, Student Affairs, SSC, iSEE/F&S via carbon credit sales; each group pay~\$10-20K
 Ask Coke for additional funding
 Sorting trash/recyclables left in the stands after games (DIA staff)



Increased collection possible but requires expectation setting

- First Tailgate Recycling events, F&S-led
 - Sept 23: 1000 pounds of waste diverted (3%)
 - Nov 11: 380 pounds of waste diverted (1%)
- Large quantities of recyclable waste still disposed in trash bins
- Many schools diverting 45-95%
- Volunteers and/or lot attendants distribute blue bags at point of entry. This was done at first event.
- Recycling bins monitored by volunteers in tailgate lots would set clear, specific expectations



Tailgate Recycling at Memorial Stadium



Recycling infrastructure at University of MI tailgate

Clear internal/external communication needed on water bottle policy

- Inconsistent, inconspicuous messaging
- Consistent, pronounced messaging to encourage spectators to bring reusable water bottles
 - Infographics
 - Social media
 - □ Signage at facilities
- Educate lot attendants, ushers about policy allowing reusable water bottles into facilities
- □ Sell reusable bottles at SFC events



Memorial Stadium







Examples of signage at other stadiums

Plastic Waste Reduction Challenge for Housing

- Good recycling infrastructure and access to glass fillers, but lack of bottle fillers
- Concerns about water safety
 - Survey data
 - Water quality testing





Most residence halls have glass filler with spigot





Beliefs about drinking water: Freshman Survey

 91% of respondents report they prefer <u>enhanced</u> hydration stations (bottle fillers)





Enhanced

- Factors that would encourage greater use of reusable water bottles:
 - 25% said more conveniently located hydration stations (enhanced or basic)
 - 23% said more conveniently located hydration stations (enhanced only)
 - 22% said assurance of tap water safety



Basic

Concerns about drinking water: Freshman Parents on Facebook





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G Water Quality

- The university monitors water quality daily at five metered feeds and at eight points within the campus distribution system, and not at individual buildings
- Many dispensers (filler stations) lack filters
- Tap water meets EPA regulations but limited testing suggests high bacterial counts if filters are not changed often enough

□ Consider water testing in residence halls to support decision-making on filters, inform messaging campaign

F&S continues to promote waste reduction

- Education and awareness
 - Recycling video
 - Tours of waste management facilities
 - Class presentations
- Research programs
 - Seed funding to develop a sort-line using an AI model and near infrared spectroscopy
- Waste audit
 - 2023 update to assess waste and identify opportunities for waste reduction
- New and improved baler for recycling







Discussion and takeaways

Recycling

- Purchase recycling bins for SFC (see next slide)
- Sort waste left in seating areas
- Add inexpensive bins to tailgate lots and work with volunteers and lot attendants to assist with and set expectations for recycling

Reusable Water Bottles

- Clear, consistent signage and messaging on reusable water bottle policy
- Consistent application of water bottle policy by gate attendants and ushers
- Consider water quality testing in residence halls and provide assurance of water quality



G Recent developments regarding plastic waste

- New York Attorney General filed a lawsuit against PepsiCo on Nov 15, 2023 for "endangering the environment and misleading the public about its goals to eliminate singleuse plastic in its packaging."
- A successful lawsuit could compel companies to provide financing for plastic cleanup and collection. It may also be a step toward developing an extended producer responsibility policy
- Coca-Cola has consistently produced more plastic waste than PepsiCo. Plastic soda bottles have limited lifespan. Nationally, only 5-8% of plastics are ever turned into new products.



Carbon Credit Sales

Some history

UIUC committed to reach *net-zero GHG emissions by* 2050 when Chancellor Richard Herman signed the America College and University Presidents' Climate Commitment (ACUPCC)

Since 2008, campus reduced carbon emissions by 43%.

Reductions have been achieved through energy conservation efforts, led by F&S, and renewable energy.

- Energy conservation examples:
 - Retrocommissioning, recommissioning, and deferred maintenance
 - Energy performance contract
 - Heat recovery chillers
- Renewable energy examples:
 - Two solar farms and rooftop solar installations
 - Wind power purchase
 - Biomass boiler
 - Geothermal installations





Carbon accounting

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- Our emissions reductions generate *carbon credits*, which can be sold to third-party buyers.
- UIUC's first sale of carbon credits was in 2015 to Chevrolet, which retired the credits on behalf of the environment.
- The Carbon Credit Purchasing Program (C2P2) was then formed by Second Nature with investment from Chevrolet.
 - C2P2 offers multiple benefits for universities
 - UIUC contracted with C2P2 from 2018 to 2023.
 - UIUC sold over *500,000 carbon credits* for a value over of over *\$3M* from 2015 to 2023.
 - Funded projects for innovation in clean energy and energy efficiency, including the biomass boiler, anaerobic digester to compost food waste, mini agrivoltaics system, and others



2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023

University carbon emissions net of carbon credit sales

700k



2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023

Concerns about selling carbon credits

- It dilutes our iCAP goal to achieve carbon neutrality on campus and lower planetary emissions by a corresponding amount
 - If entity purchasing our credits chooses to:
 - either increase its own emissions or not reduce its emissions as much as it might otherwise
 - claim it is also meeting net zero emissions goals implying double counting of emissions reductions
 - could lead to claims that we are engaging in greenwashing
- Sale of carbon credits could be appropriate if
 - the purchaser agrees to retire those credits and not claim it to achieve its own carbon mitigation goals
 - unclear if a binding contract could be negotiated and enforced
 - if we do not claim it as emissions reductions to achieve our carbon neutrality goals
 - Purchase offsets at a lower price than the one we sell our credits for
 - Challenge of proving the offsets are additional

Carbon credit sale by other campuses

Other Big Ten schools do not appear to be selling carbon credits generated through their emissions reductions.

 University of Indiana at Bloomington specifically committed in its Climate Action Plan to pay for emissions reduction activities through university funds, *not* through carbon credit sales.

The two other universities participating in C2P2 are Ball State University and University of Wisconsin-Milwaukee.

• Ball State states it will stop selling carbon credits once the campus achieves carbon neutrality.



Implications of sales of carbon credits

- Reputational: Loss of claim of benefiting the climate immediately vs after we achieve carbon neutrality; potential risk of greenwashing
- Revenue to finance innovative sustainability projects on campus that could be invested more aggressively and to purchase cheaper offsets to speed up reaching our goal of achieving carbon neutrality
- Minor impact on our AASHE Gold star rating
 - Current score is 73.25 (gold rating range 65-85)
 - GHG emissions score is 3.15/8
- Current contract for carbon credit sales with Second Nature has ended in 2023- will need to explore avenues for verifying and selling carbon credits





Potential Next Steps

- Conduct a deeper analysis
 - of the potential financial implications and contractual ramifications of future sales
 - costs of achieving carbon neutrality
 - extent to which carbon reduction is feasible and ways to accelerate using potential carbon credit sales revenues
 - role for carbon credit sales and offset purchases for timing of carbon neutrality
- Explore potential avenues for contractors that will purchase carbon credits, costs of verification, carbon prices



Discussion



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THANK YOU!



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