Report on Improving UIUC STARS Score

By Tyler Swanson

Table of Contents

Executive Summary

The University of Illinois submitted its most recent Association for the Advancement of Sustainability in Higher Education (AASHE) Sustainability Tracking, Assessment & Rating System (STARS) Report on 2/25/2022 and was certified as a Gold institution with a score of 73.25. The report measures the University's sustainability practices in a variety of categories, including Academics, Engagement, Operations, Planning & Administration, and Innovation & Leadership.

The University of Illinois score of 73.25 shows that there is much room for improvement in sustainability at the University, and that more work is needed to achieve Platinum status (85 points or more) This report serves as the first step in achieving platinum status by comparing the University of Illinois to the nine platinum institutions that have achieved platinum status under the STARS most recent 2.2 rating system: University of California at Merced, University of California at Irvine, University of California at Berkeley, Arizona State University, The University of New Hampshire, the State University of New York School of Environmental Science and Forestry, Stanford University, and Cornell University.

The report is organized into the sections of the STARS Report. Each section of this report focuses on a credit from the STARS report where the University of Illinois performed worse than at least one platinum institution. Sections are broken into four parts: Background, AASHE Manual Background, Lessons from Platinum Institutions, and Recommendations for Implementation. The report is intended to synthesize the AASHE technical manual with other STARS reports to generate the best recommendations for the University of Illinois to achieve higher or maximum points for a given category in the STARS report. The recommendations provided in this report are not comprehensive and may require additional research of best practice to be fully implemented. Finally, this report will be utilized best if individual sections are sent to the relevant campus groups cited in the Recommendations for Implementation section.

Academics > Curriculum > Academic Courses

Background

The Academic Courses category is a measure of how an institution incorporates sustainability into the academic curriculum by measuring the percentage of total courses that involve a sustainability theme as well as the percentage of academic departments that offer courses with a sustainability theme. The University of Illinois received 4.31/14.00 total points for this category due to a low percentage of courses that are sustainability focused or inclusive (4.59%, full credit requires 20%) and a low percentage of academic departments with sustainability course offerings (37.13%, 90% required for full credit).

Three platinum level schools attained 14.00/14.00 points in this category. While Illinois is much larger than each of the three schools in the measurable categories, it is possible to increase the university's score by altering the methodology currently used to calculate the number of sustainability focused and inclusive courses as well as the number of academic departments that have sustainability course offerings.

Currently, the University of Illinois uses the following keywords to find sustainability focused and inclusive courses:

Sustain, Environ, Green, Energy, Solar, Wind, Geothermal, Fuel Cell, Waste, Pollution, Water, Land, Food, Transportation, Nature, and Ecosystem.

The descriptions of the courses that appear from the search are read and evaluated to determine whether or not the course should be included as a sustainability course offering. Further, courses were only counted once regardless of the number of sections that were offered and cross listings were not counted.

AASHE Manual Recommendations

AASHE determines the scores for the Academic Courses category in two parts. In part one, the total number of sustainability focused courses and the total number of sustainability inclusive courses are both multiplied by 40 and added together, the resulting number is divided by the total number of courses offered by the institution to equal the points earned (maximum 8). In part two, the total number of departments with sustainability course offerings is multiplied by 6.67 and then divided by the total number of departments to equal the total points earned (maximum 6).

Definition

AASHE defines sustainability in a pluralistic and inclusive way, encompassing human and ecological health, social justice, secure livelihoods, and a better world for all generations. Major sustainability challenges include (but are not limited to) climate change, global poverty and inequality, natural resource depletion, and environmental degradation. To identify additional sustainability challenges, it may be helpful to reference the principles outlined in the Earth Charter and/or the targets embedded in the UN Sustainable Development Goals (SDGs).

Sustainability-Focused Courses

AASHE requires courses that are "sustainability-focused" to indicate a primary and explicit focus on sustainability in the course title or description (ex. "Introduction to Sustainability", "Architecture for Sustainability", "Environmental Justice" etc.). Importantly, the course title or description does not have to include the word "sustainability if *"the primary and explicit focus of the course is on the interdependence of ecological and social/economic systems or a major sustainability challenge".*

Sustainability-Inclusive Courses

AASHE defines "Sustainability-Inclusive" as *"the course description or rationale provided in the course inventory must indicate that the course incorporates a unit or module on sustainability or a sustainability challenge, includes one or more sustainability-focused activities, or integrates sustainability challenges, issues, and concepts throughout the course".*

The AASHE Manual notes that asking faculty and departments to self-identify courses that are sustainability focused/inclusive using the definition in the standards and terms, or that reviewing the stated learning outcomes and course objectives associated with a course may yield a better understanding of which courses are truly sustainable than simply reading course descriptions.

Lessons from Platinum Institutions

Three platinum institutions achieved a perfect score in the Academic Courses section:

- The University of California at Merced
- The University of California at Irvine
- State University of New York College of Environmental Science & Forestry

The University of California at Merced has the methodology most like the University of Illinois, reviewing the descriptions of each course in the course catalog according to the AASHE Standards and terms and including courses offered in the summer term. A notable difference between UIUC and UCM is the amount of courses offered, with UIUC offering over 7,000 total courses and UCM offering just over 800.

The University of California at Irvine (UCI) conducts an extensive review of the over 2700 courses offered by the institution. First, faculty are surveyed to self-identify the sustainability-related courses they had taught within the academic year using a list of 519 keywords adapted by the Earth Charter and the United Nations' Sustainable Development Goals. The survey is supplemented by a review of offered courses and their descriptions using the 419 sustainability keywords. Course descriptions were further reviewed to determine to what degree it incorporated the ecological, social, and economic components of sustainability and/or whether it addressed a sustainability challenge.

The State University of New York College of Environmental Science & Forestry (SUNYEFS) uses a similar methodology to UCI, using "a team of staff, students, faculty, and administrators" to conduct an assessment of courses and to survey faculty, requesting that they self-classify the courses they offer. Notably, SUNYEFS includes 3 academic years in their report.

Recommendations

To increase the University's score in the Academic Courses subsection, UIUC must alter its definition of sustainability and the keywords used to search for sustainability courses, develop a survey for faculty to self-report their sustainability-related courses, and expand the size of the team which collects and reports this data.

When revising the definition of sustainability used to determine the related courses, UIUC would benefit by conducting an analysis of the Earth Charter and United Nations' Sustainable Development Goals to identify key themes and keywords which can be used to implement a more holistic version of sustainability at UIUC. The University could also employ the methodology used by UCI which includes 519 keywords from the Earth Charter and UN SDG's and has already been validated by AASHE. Given the volume of courses offered by UIUC, the University could also consider counting summer courses if it may lead to a better percentage on the STARS report.

Furthermore, evidence from the platinum institutions and recommendations from AASHE highlight the need to develop a survey that can be administered to either faculty or department administrators to collect information on the sustainability content of courses taught by the faculty member or offered by the department. As AASHE notes, this methodology may yield an understanding of the sustainability content of courses which is deeper than what may be found via an evaluation of the course title and description.

The development of an expanded definition of sustainability and sustainability course survey will require an increased volume of labor and effort to maintain on a semester or yearly basis. In order to meet the increased labor need imposed by the expanded methodology for sustainability course assessment, the University should create a team or committee of students, faculty, and administrators to implement the recommendations for the sustainability course assessment listed in this document. Responsibility for the design and recruitment of the committee should be designated to the Education iCAP Team.

Academics > Curriculum > Sustainability Literacy Assessment

Background

The Sustainability Literacy Assessment category is a measure of how an institution measures its students understanding of sustainability. The University of Illinois received 2.00 / 4.00 total points for the Sustainability Literacy Assessment category due to the fact that the Assessment offered by the University is not a pre-post assessment to the same cohort or representative group of students. If the assessment was administered as a pre-post assessment, the University of Illinois would likely have achieved full credit for the category as the University of Illinois employs similar methodologies to several platinum institutions in developing its survey, modeling the assessment from the successful efforts of other schools. In addition to simply adding a follow-up survey to the initial sustainability literacy assessment, the platinum institutions provide an array of avenues to improve assessment quality and increase responsiveness.

AASHE Manual Recommendations

Scoring Criteria

Institutions earn points for their sustainability literacy assessment based on key attributes of survey distribution and administration. Institutions may earn 2 points if the sustainability literacy assessment is administered to the entire student body or the predominant student body directly or by a representative sample; alternatively, institutions may earn 1 point if the assessment is administered to a subset of students or a sample of students that may not be representative of the institution's predominate student body. The institution's score will then be multiplied by 2 if the assessment is administered as a pre-post assessment to the same cohort of students or to a representative sample in the pre and post test.

Definition

AASHE cites Sulitest.org in defining sustainability literacy as "knowledge about our shared sustainability challenges as well as ways to create solutions to these challenges". The manual further explains that "sustainability literacy assessments are designed to assess student understanding of the interconnectedness of social, economic, and environmental issues and challenges, and not just knowledge about the environment or environmental problems".

Importantly, the AASHE manual states that an institution may use a single instrument to address sustainability literacy, culture and/or engagement to earn points for the sustainability literacy assessment credit as long as at least 33% or 10 questions of the assessment focus on student knowledge of sustainability topics and challenges.

Lessons from Platinum Institutions

Five platinum universities achieved full points for their Sustainability Literacy Assessment:

- Stanford University
- Cornell University

- University of New Hampshire
- State University of New York School of Environmental Science and Forestry
- Arizona State University

This report highlights the distribution methodologies of Cornell University and Stanford University specifically, as both institutions provide unique methods that the University of Illinois may consider implementing on campus.

Cornell University

Cornell University includes three sustainability literacy assessments in its report with one administered by a university committee and two administered by individual courses. Unique to Cornell's university-administered literacy assessment is its inclusion as a module in the to-do list for incoming students. The module includes four parts: the literacy survey, a 13-minute video, a campus sustainability resources page, and a short written response. Cornell requires this assessment for all incoming students resulting in a 98% completion rate and measures the growth in students understanding of sustainability by polling representative samples of students at the end of their first year and before graduation.

Stanford University

Stanford University administers an annual pre-post assessment to all undergraduates and graduate students. The survey is hosted on Stanford's "My Cardinal Green" online engagement platform and only students who complete the pre-survey are invited to complete the post-survey. Students who complete the survey earn points on My Cardinal Green. The survey is promoted via emails and promotions and in the Stanford report, the university's internal communications portal. Further, the survey is located at the top of each student's dashboard in the My Cardinal Green platform allowing for easy access.

Recommendations

The University of Illinois can learn from platinum institutions by implementing creative incentives for students to complete a sustainability learning assessment.

One option is to follow the practices of Cornell University and require all incoming freshman to partake in the sustainability literacy assessment. This could be done by including the literacy assessment in the MyIllini platform for admitted students or requiring students to take the assessment the same way students are required to attend introductory trainings such as ACE IT, with registration holds being placed on the accounts of students who do not take the assessment. The University could also follow the Cornell method of polling a representative group of students at the end of their freshman and senior years to earn points for the assessment being a pre-post design.

Alternatively, the University of Illinois could implement an assessment similar to Stanford University, including it on a web platform for all students to take. This would require developing a suitable platform to host the survey but could potentially be integrated with the Active Commuter Program, as students who take the survey could earn points or benefits for doing so.

To reduce survey fatigue and increase response rates, the University of Illinois could combine the Sustainability Learning Assessment and Assessment of Sustainability Culture into a single assessment for students. Furthermore, combining both assessments and distributing it to the entire student body could allow the University to achieve full points for the Assessing Sustainability Culture section of the STARS Report.

The iCAP Education Team should re-evaluate the University of Illinois' current Sustainability Literacy Assessment while considering the practices of Cornell University and Stanford University. This may also include an analysis of the questions asked by each platinum institution to determine whether the University should include additional questions in the assessment in addition to a consideration of whether a sustainability culture assessment can be included in the sustainability literacy assessment.

Academics > Research > Research & Scholarship

Background

Similar to the Academic Courses Category, the Research and Scholarship Category measures the degree to which an institution engages in sustainability research by measuring the percentage of research conducting employees engaged in sustainability research and the percentage of research conducting academic departments that are engaged in sustainability research. The University of Illinois achieved 10.62 / 12.00 points for the category with the reasoning for the imperfect score being a lack of departments conducting sustainability research (57.8%, 75% minimum required). Fortunately, it may be possible for the University of Illinois to improve its score to 12 by expanding the institution's definition of sustainability and casting a wider net for researchers engaged in sustainability researchers as a result.

AASHE Manual Recommendation

Criteria

Points for the Research and Scholarship category are split into two parts for a maximum of 12 points earned. To earn the maximum 6 points for part 1, 15% or more of an institution's employees that conduct research must be engaged in sustainability research. The point total is calculated by taking the number of employees engaged in sustainability research, multiplying it by 40, and dividing the result by the total number of employees that conduct research. To earn the maximum 6 points for part two, 75% or more of an institutions departments that conduct research must engage in sustainability research. This point total is calculated by multiplying the number of departments that conduct sustainability research by 8, and dividing the result by the total number of departments that conduct research.

Definition

To accurately determine which research employees are engaged in sustainability research, it is useful to review AASHE's definition of sustainability and sustainability research:

AASHE defines sustainability in a pluralistic and inclusive way, encompassing human and ecological health, social justice, secure livelihoods, and a better world for all generations. Major sustainability challenges include (but are not limited to) climate change, global poverty and inequality, natural resource depletion, and environmental degradation. To identify additional sustainability challenges, it may be helpful to reference the principles outlined in the Earth Charter and/or the targets embedded in the UN Sustainable Development Goals (SDGs).

Sustainability research is research and scholarship that explicitly addresses the concept of sustainability, furthers our understanding of the interdependence of ecological and social/economic systems, or has a primary and explicit focus on a major sustainability challenge.

Lessons from Platinum Institutions

Six institutions earned a perfect 12.00 / 12.00 score in the research and scholarship category:

- The University of California at Merced
- Cornell University
- University of New Hampshire
- University of California at Irvine
- State University of New York school of Environmental Science and Forestry
- Arizona State University

The institutions that stand out in the Research & Scholarship Category are Cornell University, Arizona State University, and The University of California at Irvine. Descriptions of these institutions' methodologies are detailed below:

Cornell University and Arizona State University

Cornell and Arizona State are included together because of their similar methodologies for assessing sustainability in Research and Scholarship with both relying on their sustainability organizations. Cornell listed all 619 members of its Atkinson Center for Sustainability, and Arizona State University listed all 353 members of its Global Institute of Sustainability. Neither institution appeared to rely on an analysis of the institution's total breadth of research.

The University of California at Irvine

UC-Irvine's methodology for identifying sustainability researchers is very similar to its methodology for identifying sustainability courses. UC-Irvine conducts a campus-wide faculty survey via an online form that asks respondents to self-identify sustainability research that they participated in during the previous year using a list of 519 sustainability keywords. The survey also asks respondents to include a brief description of their research. To ensure a complete inventory of sustainability research on campus, the previous year's inventory is reviewed and faculty websites and news releases are examined to identify additional faculty who conduct sustainability research, using the 519 keywords previously mentioned to determine whether the research is related to sustainability. Finally, a draft inventory is completed and sent to faculty representatives from several schools and departments to review and add any researchers who are not included.

Recommendations

The University of Illinois' previous STARS report listed that 55.23% of researchers across 57.8% of departments engage in sustainability-related research; however, the methodology used to complete the research inventory is narrow compared to recommendations from the AASHE manual and other platinum institutions. The University of Illinois may achieve a 12.00 / 12.00 for the Research & Scholarship by implementing one or both of the practices illustrated in the examples of Cornell University and UC-Irvine. Currently, the Institute for Sustainability, Energy, and Environment features the Illinois Sustainable Agriculture Scholars, Illinois Global Climate Change Scholars, Illinois Energy Scholars, and Illinois Water Scholars on its iSEE Research Overview page, and the research themes listed on the page include climate solutions, energy transitions, secure and sustainable agriculture, sustainable infrastructure, and water and land stewardship.

By broadening iSEE's definition of sustainability to include more of the principles listed in the Earth Charter and UN Sustainable Development Goals, perhaps by using the same keywords to identify sustainability themes used by UC-Irvine, iSEE will be able to highlight new sustainability topics and scholars on its research page. This methodology has the added benefit of building a sustainability research network similar in scale if not larger than Cornell's Atkinson Center for Sustainability while ensuring Illinois receives full points for this section of the STARS Report.

Implementation of the recommendations listed in this section should be considered for implementation by the Education iCAP team. Given the amount of labor that administering a faculty-wide survey and conducting an annual sustainability research inventory would entail, successful implementation of methods to conduct a sustainability research inventory may require a committee or working group to perform the necessary duties. A further suggestion is to add these responsibilities of the same working group tasked with taking inventory of the university's sustainability coursework.

Engagement > Campus Engagement > Student Educators Program

Background

The aim of the Student Educators program category is to "recognize institutions with programs that engage students to serve as educators in peer-to-peer sustainability outreach". The University of Illinois received 2.08 / 4.00 points for this category due to the range of Illinois' student educator programs not serving the entire student body, and the ratio of hours worked per student served by the program being less than 1. Fortunately, 4 platinum institutions earned 4.00 / 4.00 for the Student Educators Program Category, providing the University of Illinois with a range of potential programs to consider implementing.

AASHE Manual Recommendations

Scoring Criteria

AASHE rewards points for the Student Educators Program category in 2 parts, both of which are work 2 points.

Part 1 of the criteria measures the percentage of students served by a peer-to-peer sustainability educators program. The points are calculated using the following formula:

2 x (# Students Served by Programs / # of students enrolled for credit)

As is evident from the formula, an institution can only get the full two points for the category if 100% of the student body is served by a student educators program.

Part 2 of the criteria measures the ratio of hours worked by student educators compared to the number of students who are served by the program. The points are calculated using the following formula:

2 x (Total hours worked annually by trained educators / # students served by programs)

Once again, an institution can only earn the full 2 points for the category if the ration of hours worked to students served is 1.

Definitions

Two key meanings must be defined to understand correct reporting for this section: "Served" and "Peer-to-Peer".

The AASHE Technical Manual gives an example of a student "served" by a peer-to-peer student educators program as being "directly targeted" by a program. This definition is important, as it suggests that a student does not necessarily need to use the peer-to-peer program to be considered "served" by the program. Keeping this definition in mind is critical to ensuring proper reporting of data and could suggest that the University of Illinois is underreporting the total number of students served by student educator programs.

The AASHE Technical Manual defines Peer-to-peer education in the following manner:

A peer is an individual who is of equal standing with another and who belongs to a specific societal group, sharing distinct characteristics with this group

Using this definition reiterates the importance that any program mentioned in this category is primarily organized by students rather than faculty or staff. Fortunately, every program mentioned in the University's STARS submission appears to meet this requirement.

Lessons from Platinum Institutions

Four institutions earned a perfect 4.00 / 4.00 on the Student Educators Program category of the STARS report:

- Cornell University
- University of California at Berkeley
- University of California at Merced
- University of New Hampshire.

Altogether, these four institutions provide a broad range of programs the University of Illinois can consider launching to improve education of sustainability among students. Programs implemented by the platinum institutions are discussed below:

Cornell University

Cornell's student educator programs included Anabel's Grocery, Residential Sustainability Leaders, Dilmun Hill Student Farm, Residential Compost Managers, Resident Advisors, an ECO House Leadership Program, a Leadership for Sustainability course, and EcoRep Orientation Leaders. Some of these programs are similar to existing initiatives organized by the University of Illinois, while some are novel programs worth incorporating on campus.

Anabel's Grocery

Anabel's Grocery store is a student-run grocery store on Cornell's campus that sells price-reduced fresh produce as well as providing learning opportunities for students on topics such as food insecurity, food waste, sharing recipes, etc. Student leaders are appointed to the grocery store's leadership team after enrolling for a course, and the course gives students credit for working in the store and taking part in committees that engage with the rest of campus.

Anabel's grocery contains elements of various programs offered at the University of Illinois that are not centralized. These programs include Bevier Café, the mission of which is to ensure all students can eat, the Sustainable Student Farm which sells fresh produce on the quad, the student food bank that operates in the Activities and Recreation Center, the engagement iCAP team, and the iCAP ambassadors course.

Residential Sustainability Leaders / Resident Advisors / ECO House Leadership Program

Residential Sustainability Leaders (RSL) is a volunteer student educators program that focuses on providing education on and solutions to sustainability challenges in on and off campus housing. RSLs lead initiatives to incentivize recycling, waste reduction, and energy and water

conservation; additionally, they conduct sustainability related events and surveys for students in on and off-campus housing.

In addition to Residential Sustainable Leaders, Cornell also trains Resident Advisors in concepts of sustainability and environmental justice. RA's use this training to educate students on living sustainably in campus housing, and in leading discussions on the topic during community meetings and events.

ECO House Leaders serve similar roles to both Residential Sustainability Leaders and Resident Advisors, creating experiential learning opportunities related to food, nature adventure, creative construction, community service, growing produce, residential sustainability, and social justice.

Similar programs are offered at the University of California at Merced, University of California at Berkeley, and the University of New Hampshire, indicating that residential-focused sustainability programs are a best practice for achieving a perfect score in the Student Educators Program category.

Residential Compost Managers

Cornell offers a Residential Compost Managers program in which students may take a one-hour training to become compost managers, learning the science of compost, how it is managed on campus, climate and environmental justice, compost manager expectations, and peer education skills. As part of their role, compost managers serve their whole residential community, manage a centralized kitchen compost bucket, and educate their peers on how to compost.

EcoRep Orientation Leaders

EcoRep Orientation Leaders are members of the broader Orientation Leader Team that focus on educating incoming students on recycling and composting during new student orientation, managing recycling and composting bins at orientation events.

Leadership for Sustainability Course

Cornell's Leadership for Sustainability course is an EcoRep program that gives students credits to lead peer-to-peer education initiatives on campus. Students are taught leadership, project management, research, and behavior change skills, and use these skills to design, coordinate, and implement behavior change programs that focus on reducing energy use on campus.

University of California at Berkeley

Notable student educator programs offered by the University of California at Berkeley include the DeCal Program, the Bonnie Reiss Carbon Neutrality Initiative Fellowship Program, the Global Food Initiative Fellowship Program, the Health Workers Program, and energize colleges.

DeCal Program

DeCal is a program in which trained students create and facilitate legitimate university classes on a variety of different subjects. Facilitators must attend a workshop to receive pedagogical training and resources that helps them to be effective in their role. An analysis by UC Berkeley

found that during the 2018-2019 school year, 33 courses addressed sustainability issues and reached 1,229 students.

Bonnie Reiss Carbon Neutrality Initiative Fellowship Program

This fellowship program selects students to serve as fellows who engage and educate students on the UC system's carbon neutrality initiative which aims to achieve systemwide carbon neutrality by 2025. Fellows from across the UC system receive an orientation and training at the California Higher Education Sustainability Conference the summer before the fellowship begins.

Global Food Initiative Fellowship Program

The objective of the Global Food Initiative Fellowship Program is to fund student research, projects, or internships focusing on food issues. UC Berkeley hosts three fellows annually, but this program is system-wide and each UC campus hosts fellows as part of the program.

Health Workers Program

The UC Berkeley Health Worker Program is a peer-to-peer health education that trains student volunteers to engage in health promotion services in university residents halls. Student educators dedicate 8 hours per week to serving in the program and make themselves available to residents in university housing as well as Greek-life housing.

Energize Colleges

Energize colleges is a program of Strategic Energy Innovations with the goal of preparing students to become leaders in the energy economy. Students participating in the program learn knowledge and skills related to the green workforce and typically work in living lab projects; however, another project involved a student starting a volunteer program to educate the campus community that involved tabling and conducting surveys. Energize colleges also chooses a recently graduated student to be an energize colleges fellow that coordinates the energize colleges program.

Recommendations for Implementation at the University of Illinois

The University of Illinois scored a 2.08 / 4.00 for the Student Educators Program which reflects the student educators programs listed on the STARS report not serving the entire student body and not meeting an average of one hour of volunteer work per student served. The aforementioned platinum schools all achieved a perfect 4.00 / 4.00 score for this section, meaning the student educator programs serve the entire student body and the ratio of volunteer hours to students served is at least 1:1. For the University of Illinois to achieve a 4.00 / 4.00 in the Student Educators Program, we should reconsider how we declare a student "served" by our programs, utilize a holistic definition of sustainability that encapsulates sustainability definitions used in the Earth Charted and UN Sustainable Development Goals, incorporate other student educator programs that are not currently included in this section of the report, and consider adding additional programs used by other platinum institutions. Explicit recommendations are included below.

Existing Programs to Include

Some of the student educator programs included by platinum institutions who earned a perfect score are similar to programs already ongoing at the University of Illinois and could provide a significant increase in our point total if included in our next report. These programs include The Sustainable Student Farm and its programs, iSEE student interns and student iCAP team members, the iCAP Ambassadors course, and possibly Bevier café. Each of the aforementioned programs involves students providing outreach and education to the campus community and the work done impacts the entire student body in the case of providing fresh produce to students in the case of the sustainable student farm, or providing information on the progress of the iCAP in the case of iSEE interns. To successfully, incorporate this information into the stars report, data must be collected on the number of students involved in each program and how many hours they contribute, as well as a methodology for calculating the number of students that are served by the programs. This information could be collected in an excel file an updated every few years before the next STARS report is completed.

Programs to Implement

In addition to student educator programs offered by platinum institutions that are similar to what the University of Illinois currently offers, an array of unique programs that our campus can benefit from are also included in other STARS reports.

Residential Sustainability Programs

Cornell University offers several student educator programs that focus on sustainability topics in university housing and off-campus housing: Residential Sustainability Leaders, ECO House Leaders, Residential Compost Managers, and sustainability training for RA's. While implementing each of these programs at the University of Illinois may become redundant, it would be useful to develop a residential sustainability program that offers the same services available to students at Cornell. A recommendation for implementing such a program would be to create a "Sustainability Advocate" position in residence halls similar to current the Multicultural Advocate position. Similar programs are also offered at the University of California at Berkeley and at the University of New Hampshire. Sustainability Advocates would be tasked with creating educational outreach programs that teach students how to practice sustainability in university housing and to provide tips on how to be sustainable in apartments and houses. This would include lessons on energy and water conservation, recycling, composting, and other related sustainability topics. Creation of a Sustainability Advocate position could be initially developed and recommended by the education and/or engagement iCAP team in collaboration with University Housing staff. This recommendation would necessitate a budget allocation, as students would need to be compensated in some form for the work they are providing.

EcoRep Orientation Leaders

Another program offered at Cornell University that the University of Illinois may consider for implementation is EcoRep Orientation Leaders. Cornell uses the EcoRep program to educate

students on composting and recycling practices at events, and the University of Illinois can include this responsibility as well as incorporating other information such as sustainability resources such as the sustainability minor, the certificate in environmental writing, the environmental leadership program, and more. The engagement team may consider this program for formal recommendation and implementation during the 2023-24 academic year.

Sustainability Fellowship Programs

The University of California System hosts an array of fellowship programs for students to learn about and educate others on sustainability topics. These fellowships include the Bonnie Reiss Carbon Neutrality Initiative Fellowship Program, the Global Food Initiative Fellowship Program, and the Energize Colleges Fellowship Program. The Carbon Neutrality and Global Food initiative fellowship programs are both UC system-wide initiatives that collaborate to promote the UC system's carbon neutrality goals and research on food topics, while Energize Colleges hosts a fellowship that runs the campus undergraduate programs. The University of Illinois system, or the University of Illinois at Urbana-Champaign itself, may consider partnering for a system-wide research and student engagement fellowship for sustainability topics. Not only would such programs be beneficial for improving sustainability on campus, but they would provide professional development opportunities for students interested in pursuing careers in the green economy. Implementing a system-wide fellowship would require efforts in the Chancellor's office, but the engagement iCAP team or the Institute for Sustainability, Energy, and Environment could develop a fellowship program for UIUC students.

Engagement > Campus Engagement > Assessing Sustainability Culture

Background

The Assessing Sustainability Culture category reflects an institutions effort to assess sustainability culture in the campus community. The AASHE manual presents these assessments as a means for institutions to evaluate the success of their sustainability outreach and education initiatives and develop insight into how sustainability initiatives could be improved. The University of Illinois received 0.50 / 1.00 for this category due to the Sustainability Culture Assessment not being representative of the entire campus community. Every platinum institution earned a 1.00 / 1.00 for the Assessing Sustainability Culture.

AASHE Manual Recommendations

The AASHE Manual criteria for the Assessing Sustainability Culture category states that the assessment should focus on "sustainability values, behaviors, and beliefs, and may also address awareness of campus sustainability initiatives". Credit is not given for institutions who administer an assessment covering a single sustainability topic, nor is it given for assessments which exclusively address sustainability literacy. Institutions are able to combine the assessment of sustainability culture with the sustainability literacy assessment.

Scoring Criteria

1 point is available for the assessment of sustainability culture with the following point breakdown:

- 0.5 points: Assessment is administered to the entire campus community directly or by representative sample OR:
- 0.25 points: Assessment is administered to a subset of the campus community that may not be representative of the entire community.
- X 2: Assessment is administered longitudinally to measure change over time (ex. With one or more follow-up assessments administered to the same cohort or representative samples of the same population.

Lessons From Platinum Institutions

All eight STARS Platinum Institutions earned 1.00 / 1.00 in the Assessing Sustainability Culture category, providing the University of Illinois with several opportunities to create and disseminate an effective assessment.

Stanford University

Stanford University offers its sustainability culture assessment on their My Cardinal Green platform and is offered to the entire campus community. The My Cardinal Green program tailors the questions to the resources offered by the program, which allows My Cardinal Green to recommend resources to survey respondents based on their answers to the assessment questions. The Office of Sustainability is also able to use assessment data to track changes in sustainability

behaviors over time. This survey is similar to the sustainability literacy assessment Stanford also offers through its My Cardinal Green program.

Cornell University

Cornell uses the same program to assess sustainability culture that they use to assess sustainability literacy. Cornell's program is called "Mission Sustainability" and is included in the new student to-do list. Employees are also surveyed in areas where the sustainability program was deployed.

Arizona State University

Arizona State University created a committee of experts which reviewed similar surveys to compile a survey for the university. ASU then sends its culture assessment to all faculty and staff as well as a weighted, randomly selected sample of 50,000 students. This distribution achieved an 8% student and 20% faculty and staff response rate. ASU recently altered survey distribution from annually to every two years in order to avoid survey fatigue.

SUNYESF

The sustainability culture assessment at the State University of New York College of Environmental Science and Forestry was designed by a PhD student as part of his dissertation and won an AASHE Campus Sustainability Research award in 2019. Beyond reviewing the assessments of other STARS institutions, SUNYEFS conducts a review of academic literature on organizational culture, organizational climate, and sustainability behavior studies. Survey designers also conduct conversations with AASHE administrators to ensure the assessment lines up with the intent of the manual, and the survey is administered at other New York State campuses to conduct comparisons.

University of California at Berkeley

UC Berkeley conducts its assessment of sustainability culture as part of the UC system's Cool Campus Challenge, a competition to see what UC campus can reduce its carbon footprint the most. Part of the challenge asks participants to complete an online research and evaluation survey which assesses sustainability culture across the UC system.

Recommendations for Implementation

In order to achieve 1.00 / 1.00 in the Assessing Sustainability Culture category, the University of Illinois needs to develop a comprehensive assessment that can be distributed to the entire student body. AASHE notes that the sustainability literacy assessment and sustainability culture assessment can be distributed within the same survey, and the University of Illinois may consider merging the two assessments in order to avoid survey fatigue.

Development of the survey should be based on the award winning research done by the PhD student at SUNYESF, which takes a holistic approach to the survey development process. Illinois could also create a survey development committee similar to what is organized at Arizona State University, and then conduct a review of relevant research and of survey questions

asked by other STARS institution assessments. For the survey to earn full points, a representative sample of the campus community must be achieved, and this may be done in a manner similar to what Stanford and Arizona State University did, sending the survey to the entire student body or to a large, randomly selected but weighted sample of students. Stanford University presents another best practice in hosting the assessment on an online platform (My Cardinal Green) which allows the platform to provide survey respondents with recommendations of how to improve the sustainability of their lifestyle. Considerations for the development of a new sustainability culture assessment may be led by the engagement iCAP team or by the committee that designed the campus Sustainability Literacy Assessment.

Engagement > Campus Engagement > Employee Educators Program

Similar to the Student Educators Program, the Employees Educators Program category seeks to recognize institutions that have programs for employees to educate and mobilize their peers in regard to sustainability initiatives and programs. The University of Illinois received 1.91 / 3.00 points for the EEP Category as a result of not serving 100% of employees and not attaining a 1:1 ratio of hours served per employee reached. Three of eight platinum institutions achieved a 3.00 / 3.00 in the EEP category, providing the University of Illinois with methods to emulate.

AASHE Manual Background

Criteria

AASHE assigns points for the Employee Educators Program in two parts: the percentage of employees served by a peer-to-peer sustainability educators program and the education hours per employee served by a peer-to-peer program. The AASHE Technical Manual requires institutions who earn points for the credit to select or appoint employees to serve as peer educators and formally designate employees as educators (educators can be paid or volunteer), provide formal training to the employee educators on conducting peer outreach, and support the program with financial resources and/or administrative coordination. The EEP must also be explicitly focused on sustainability with the peer educators representing a diverse area of campus. Importantly, green office certification programs and their equivalents count for credit only if they have formally designated and trained employee educators. Furthermore, a group of employees may be served by an employee educators program if they do not actively participate in the program, but if an employee educator is in the employee's department or building engaging in outreach or education activities.

Points are awarded via the following equation:

1.5 x (# of employees served / total employees)

And

1.5 x (# of hours worked annually by trained educators / # of employees served)

Lessons from Platinum Institutions

Three platinum institutions earned 3.00 / 3.00 points for the employee educators program: The University of California at Merced, The University of New Hampshire, and Arizona State University. Notably, both the University of California at Merced and the University of New Hampshire include a form of Green Office Program, and UC Merced includes a Green Labs program in their STARS Report Submission. Additional recommendations and best practices from the three platinum institutions are detailed below:

University of California at Merced

In addition to the Green Office Program and Green Labs Program, UC Merced offers zero-waste trainings to students faculty and staff that inform community members on how to reduce the volume of waste generated from campus events. UC Merced furthers its commitment to zero

waste education by providing training to custodial staff on the University's zero waste efforts. The training offered to custodial staff includes information on landfill, compost, and recycling streams along with information on waste operations.\

University of New Hampshire

Sustainability STARS Leadership Program

UNH hosts an improved green office program called the "Sustainability STARS Leadership Program". This program requires staff and faculty to complete a virtual training model on sustainability, attend a sustainability institute organized meeting with other Sustainable Office participants, take an inventory of their office/departments sustainability practices, organize a sustainability initiative in their office, and create recommendations for changes to advance sustainability in the department/office. Participants in the STARS Leadership program are expected to commit a minimum of 20 hours to the role per academic year.

Community of Learning: Racial Equity

The UNH Sustainability Institute partners with the Office of Community, Equity, and Diversity to offer a peer-to-peer outreach program that educates community members on social justice through the context of regional food systems. The program trains and supports participants in the aforementioned topics and encourages participants to share awareness and support with their colleagues. Participation in the program involves review and reflection on a mix of readings, videos, and other materials, and culminates in engagement with a 21 day racial equity havit building challenge.

Arizona State University

Green Devil Program

The ASU Green Devil Program is a network of trained members who advocate for sustainability within their department similar to a Green Office or Green Labs Program. Green Devils attend four program meetings each year where they are provided with updates and trainings on new campus sustainability opportunities to share with colleagues. Green Devil Members typically strive to obtain Sustainable Office Certification. All employees are offered the opportunity to join the Green Devil Program.

Sustainability Certification Program

The ASU Sustainability Certification Program offers opportunities for the university community to contribute to ASU sustainability goals through a series of tasks focusing on various aspects of sustainability. Certifications can be obtained at the individual or department level, with certifications offered for lab, office, and shop programs.

ASU utilizes Canvas to administer the Office Sustainability Certifications, providing toolkits and tutorials on how to become certified. Departments choose a "champion" whose goal is to ensure the certification is both achieved and maintained.

The ASU certification is maintained by a dedicated program manager and two student employees who update the program criteria regularly.

Recommendations for Implementation

The Employee educator programs offered by platinum institutions are very similar to the Certified Green Office Program offered by the University of Illinois. Programs that the University of Illinois may seek to emulate are the *Community of Learning: Racial Equity* program offered at the University of New Hampshire and both the *Green Devil Program* and *Sustainability Certification Program* offered at Arizona State. While both the Green Devil and Sustainability Certification programs both reflect several aspects of the Certified Green Office Program. Illinois can consider implementing aspects such as the use of Canvas to disperse training materials to departments, increasing the net of green certification programs to include labs and shops, and having dedicated employees working to improve the program. Importantly, expanding the scope of the green certification programs included in the STARS report increases the number of employees "served" by employee educator programs even if certain offices, labs, or shops choose not to participate. When submitting the next report, it is important that Illinois counts all employees who have an employee educator program available to them as "served" and not just employees who are enrolled in such programs. Expansion of employee educator programs can be discussed and overseen by the Engagement iCAP Team.

Engagement > Campus Engagement > Staff Professional Development and Training

According to the AASHE STARS Technical Manual, the Staff Professional Development and Training section of the STARS report is designed to recognize institutions who ensure that staff members have the opportunity to participate in professional development and training opportunities in sustainability. The University of Illinois received 1.25 / 2.00 points for this section, by having 1-24% of regular, non-academic staff participating annually in sustainability professional development and training events. Illinois offers internal opportunities in the form of the iSEE Congress and the Levenick Fellows Program internally, and various external conferences, certification opportunities, workshops, seminars, and sessions.

AASHE Manual Background

The STARS report breaks credit for the Staff Professional Development and Training category into two parts: Availability of professional development and training in sustainability, and Participation in professional development and training in sustainability.

Part 1 of the section is worth 1 point and is earned by an institution making sustainability professional development and training opportunities available to all non-academic staff members at least once a year. Partial points are not available for part 1.

Part 2 of the section is worth 1 point and is earned when 75% or more of full-time and part-time non-academic staff participate annually in sustainability professional development and training that is provided or supported by the institution. Partial points are available for part 2, with institutions eligible to earn 0.25 points when 1-24% of employees participate annually in sustainability professional development in training, 0.5 points when 25-49% of employees participate, and 0.75 points when 50-74% of employees participate.

Notably, this section does not apply to academic staff, and when accounting for participation in external professional development or training opportunities, they only count for the purpose of credit if the institution offers financial or other support for attendance of the event,

Lessons From Platinum Institutions

Three platinum institutions earned the full 2 points available for the Staff Professional Development and Training section, providing insight on professional development opportunities offered:

- Cornell University
- Stanford University
- State University of New York School of Environmental Science and Forestry

Cornell University

Cornell Sustainability Office Professional Development Programs

The Cornell Sustainability Office (CSO) offers several sustainability education programs throughout the year that are made available to non-academic staff. Each year the CSO holds two

3-hour sustainability sessions (Introduction level and advanced level) that discuss personal and professional decision-making skills such as the quadruple bottom line. Participants are encouraged to share what they learn with their coworkers. A similar program offered by the CSO is a series of brown bag lunches that are coordinated with specific groups across campuses during the year. These lunch programs cover content from Cornell's Sustainability Management Academy course and provide information and tools that specific units and departments can implement.

In Addition to direct education programs, Cornell offers leadership and team-based sustainability education programs through "Turning Point" a five-day leadership program for staff and an annual "Green Team Summit" for the entire Cornell community. Turning Point is a professional development program that includes specific skills related to sustainability as part of the broader Cornell Skills for Success. These lessons include education on acting and taking initiative in the workplace, promoting inclusion, displaying sound judgement in problem solving, and supporting the organization's shared vision and mission. The Green Team Summit includes numerous sustainability-focused lectures, workshops, poster sessions, and exhibitions where researchers can present new findings in the field of sustainability.

Finally, Cornell partners with external organizations to educate employees on topics such as energy efficiency to help employees learn how to utilize grant programs and lower their individual energy bills.

Stanford University

Stanford University includes wellness trainings in its response to the Staff Professional Development category of the STARS report. In addition to sustainability trainings on sustainable offices and best practices in waste reduction, Stanford offers programs on stress reduction, mindfulness, health, and other wellness-related trainings. Sexual Harassment trainings are also included to promote a respectful workplace. Finally, Stanford offers a "Stepping Stones To Success Program" offered by Residential & Dining Enterprises that offers online and hybrid courses teaching language, math, computer skills, GED and college preparation, and business management.

In regard to external development opportunities, Stanford offers a STAP program that provides reimbursement for tuition, registration fees and required textbooks for any training activity directly related to employees' jobs or career development efforts. Each employee is eligible to use $800 in STAP funds per year and can be used on various continuing education courses or other professional accreditations.

State University of New York School of Environmental Science and Forestry

SUNYESF provides several notable external sustainability training initiatives for employees such as the Urban Green Council's GRPO training. GRPO is a national program that teaches the principles of sustainability and trade-specific green construction knowledge to people who build, renovate, and maintain buildings. Additionally, faculty and staff regularly attend conferences such

as GreenNY webinars, Association of Physical Plant Administrators, USGBC Green Building Conferences, AASHE Global Conference on Sustainability in Higher Education, and more.

Recommendations for Implementation

The University of Illinois attained 1.25 / 2.00 possible points for the Staff Professional Development Training program due to an overall lack of employees participating in Sustainability Professional Development trainings. This may be do in part to the lack of sustainability trainings offered at the University, and points may increase if the University considers implementing programs similar to those offered at Cornell which focus on specific sustainability topics as well as programs at Stanford which highlight wellness aspects that are a part of sustainable campuses but are not traditionally included. Furthermore, the University of Illinois could consider implementing a funding program similar to Stanford's which allows staff to fund their continuing education or professional accreditation programs. While this may not directly result in sustainability education, it could be used for such a purpose.

Developing and coordinating new sustainability professional development training programs may be challenging when considering course curricula and overseeing entities. Development of these programs may be best undertaken by the education iCAP teams, while implementation and management may be best organized by iSEE.

Engagement > Public Engagement > Community Service

According to the AASHE STARS Manual, the Community Service credit is awarded to institutions that engage their students and employees in community service, with the idea that volunteerism is a fundamental aspect of achieving sustainability. The University of Illinois achieved 1.38 / 5.00 points for the Community Service credit, with 24,203 students contributing a total of 155,866 hours of community service as reporting in the UIUC STARS Submission. The low number of points is due to the University of Illinois not engaging 100% of students in community service, yielding a low average hours served per student, and lack of employee volunteering program.

AASHE Manual Background

The AASHE Manual divides the points for the Community Service credit into 3 parts: Percentage of students participating in community service, Community service hours per student, Employee community service program.

Part 1

Points are awarded for the percentage of students participating in community service with the following calculation:

2.25 x ((# Students engaged in community service) / (Total number of students))

As noted by the calculation, an institution only earns the full 2.25 points for part 1 if 100% of students are engaged in community service; however, institutions can also earn partial credit based on the percentage of students engaged in community service.

Part 2

Points are awarded for the number of student community service hours contributed. The following calculation determines the points awarded for the credit:

0.1125 x ((# of student community service hours contributed) / (Total number of students))

An institution may earn a maximum of 2.25 points for part 2 when students engage in an average of 20 hours of community service per year. Similar to part 1, institutions can earn partial credit based on the average number of community service hours contributed.

Part 3

Points are awarded for part three based on whether or not an institution has a formal program to support employee volunteering during regular work hours. Partial credit is not awarded for part 3, with 0.50 points available for institutions with the program.

Lessons From Platinum Institutions

No institutions earned perfect credit for the community service credit, with the maximum points awarded for the credit being 4.4. The average point total achieved by platinum institutions in the community service credit stands at 3.33. The three institutions with the top score are as follows:

- State University of New York School of Environmental Science and Forestry (4.4)
- Cornell University (3.88)
- University of California at Irvine (3.72)

State University of New York School of Environmental Science and Forestry

During the COVID-19 pandemic, SUNYEFS authorized employees who are willing to volunteer at COVID vaccination locations during their work day without penalty. SUNYEFS also awards employees who are committed to serve the public good with the President's Award for Community Service and the Quality of Work-Life Award for Excellence in Public Service.

Students are provided with numerous opportunities to engage in community service. One such opportunity is the Alternative Spring Break Program, in which 10-12 students and three staff spend the break volunteering in the community for the entirety of each day. Another program is called "Saturday of Service" and spreads students and staff among various park or community sties to volunteer.

Cornell University

In addition to volunteering opportunities provided through registered student organizations, Cornell University facilitates community service in the student body with several educational programs. Engaged Cornell oversees a list of the University's over 280 community-engaged learning courses that allow students to collaborate with communities to design, implement, and evaluate real solutions to real problems.

Cornell provides a list of the courses offered here: https://engaged.cornell.edu/courses/

Students can also take the commitment to community service further. Students are eligible to pursue certificates in Engaged Leadership, which is noted on transcripts for students. Students are also able to join the "Cornell Commitment", a scholarly program that largely focuses on academics, but also features a service component. Finally, students have the opportunity to participate in the Community Learning and Service Partnership program (CLASP). This program allows employees and students to work together in learning partnerships which features a fieldwork component.

Schools within Cornell provide their own community service opportunities. The Cornell Law School operates a Public Service Challenge to recognize law students who devote time to public service activities. Students receive a certificate when they complete 25 or more pro bono hours each year. At the Cornell College of Veterinary Medicine, outreach services and programs are provided to the community such as free walk-in clinics twice per month run by students.

Recommendations for Implementation

The University of Illinois received 1.38 / 5.00 for the Community Service credit of the STARS report. The lack of points is due to only 50% of students engaging in community service, the average hours contributed per student being 2.98 per year, and the lack of a formal program to promote employee volunteering during the work day. Improving the point total for the Community Service credit will require the University to improve tracking of community service participation and hours, as the UIUC STARS Report mentions, the community service hours are likely higher than reported due to a lack of accurate data collection. The programs offered at SUNYESF and Cornell University both provide ideas for University organized community service opportunities that could be considered for implementation. Improvement of community service numbers will be a responsibility of the Office of Civic Life, but could be motivated by a recommendation from the Engagement iCAP Team.

Operations > Air & Climate > Emissions Inventory & Disclosure

Background

The Emissions Inventory & Disclosure credit is developed to recognize institutions that account for and publicly disclose the greenhouse gas and air pollutant emissions that result from institutional activities. The University of Illinois achieved 2.19 / 3.00 for the Emissions Inventory and Disclosure credit, missing points for not including certain Scope 3 GHG emissions and Air pollutants.

AASHE Manual Background

Scoring

The Emissions Inventory & Disclosure Credit is worth 3 points and is broken into 2 parts: Greenhouse gas emissions inventory and Air pollutant emissions inventory.

Part 1

The greenhouse gas emissions inventory is worth 2.5 points. Institutions earn 1.25 points for completing an inventory that measures Scope 1 and Scope 2 GHG emissions. The remainining 1.25 points are split between Scope 3 emissions inventory and independent validation/verification of the inventory. An institution earns 0.104 points for each Scope 3 emission it inventories up to 0.625. The Scope 3 emissions listed in the report include:

- Business travel
- Commuting
- Purchased goods and services
- Capital goods
- Fuel and energy related activities
- Waste generated in operations
- Other sources

Part 2

The air pollutant emissions inventory is worth 0.5 points. Institutions earn points based on the amount of air pollutants they track, earning 0.167 points per source with maximum points being achieved at 3 sources. The air pollutant emissions attributes listed in the report include:

- Major Stationary Sources
- Area Sources
- Mobile Sources
- Commuting
- Off-site electricity production

Lessons from Platinum Institutions and Recommendations

Two platinum institutions earned the maximum 3.00 / 3.00 points for the Emissions Inventory & Disclosure credit: The University of New Hampshire and Arizona State University. Both institutions use the same tool to conduct the greenhouse gas inventory as the University of Illinois (SIMAP). The difference in point totals between Illinois and the Platinum institutions is the number of Scope 3 emissions tracked and the air pollutant sources tracked. The University of New Hampshire and Arizona State University both inventories each of the Scope 3 emissions listed, and the University of New Hampshire tracked 4 of 5 air pollutant sources while Arizona State tracked 3 of 5. Conversely, the University of Illinois tracked 3 Scope 3 sources and did not track any air pollutant sources. For the University of Illinois to achieve full points for the Emissions Inventory and Disclosure credit, the scope 3 emissions inventory must be expanded and air pollution sources must be tracked.

Operations > Air & Climate > Greenhouse Gas Emissions

The Greenhouse Gas Emissions credit recognizes institutions who have made strides in reducing their adjusted net Scope 1 and Scope 2 greenhouse gas emissions. Scope 1 emissions are those which come from institution controlled sources, while Scope 2 emissions are indirect greenhouse gas emissions that result from activities which take place within the institution's organizational boundaries. The University of Illinois received 3.15 / 8.00 points for the Greenhouse Gas Emissions category, highlighting room for improvement. Fortunately, 3 platinum institutions achieved 8.00 / 8.00 points for the credit, providing insight the University of Illinois can utilize to increase its point total.

AASHE Manual Background

Scoring

The 8 points available in the Greenhouse Gas Emissions credit are split into 2 parts worth 4 points each: Part 1: Reduction in GHG emissions per person, Part 2: GHG emissions per unit of floor area.

Part 1

The Reduction in GHG emissions per person criteria is based on an institution reducing its adjusted net Scope 1 and Scope 2 GHG emissions per weighted campus user compared to a baseline. Partial points are available for Part 1, and points will not be deducted in the emissions per weighted campus users increases between STARS report submissions

The STARS report automatically calculates the point total based on information entered by the institution using the following formula:

$4 \times \{[(A / B) – (C / D)] / (A / B)\}$

A = Adjusted net Scope 1 and 2 GHG emissions in the baseline year (MTCO2e)

B = Weighted campus users, baseline year

C = Adjusted net Scope 1 and 2 GHG emissions, performance year (MTCO2e)

D = Weighted campus users, performance year

Part 2

The GHG emissions per unit of floor area awards points to institutions who reduce their greenhouse gas emissions per square foot with the end goal of achieving net zero Scope 1 and 2 greenhouse gas emissions. Partial points are available to institutions who do not achieve net zero emissions.

Points for part 2 are calculated using the following formula:

Points Earned $= 4 \times \{[A-(B/C)]/A\}$

A = Minimum performance threshold (MTCO2e per gross square meter or foot)

B = Adjusted net Scope 1 and 2 GHG emissions, performance year (MTCO2e)

C = EUI-adjusted floor area, performance year (square meters or feet)

Carbon Sinks

The STARS report allows for three carbon sinks to be counted when calculating greenhouse gas emissions: Third-party verified purchased carbon offsets, Institution0catalyzed carbon offsets ("local offsets"), and Carbon storage from the composting of on-site materials. Purchased offsets that have not been third-party verified do not count when calculating greenhouse gas emissions for the stars report.

Lessons From Platinum Institutions / Recommendations for Implementation

Three platinum institutions earned 8.00 / 8.00 points for the Greenhouse Gas Emissions credit, meaning they achieved net-zero Scope 1 and 2 greenhouse gas emissions on a weighted campus user and floor area basis: The University of California at Merced, The State University of New York School of Environmental Science and Forestry, and Arizona State University. Notably, each of these three institutions achieved their net-zero status through the purchase of carbon offsets. The breakdown of emissions between the University of Illinois and these platinum schools is displayed in the table below:

Institution	Total Gross Scope 1 and 2 Emissions (Performance year / Baseline year) MTCO2e	Net Carbon Sinks (Performance Year) MTCO2e	Adjusted net GHG emissions (Scope 1 & 2)
UC-Merced	7,422.14 / 8,115	7,422.14	0
SUNYESF	6,830 / 9,363	7,000	0
ASU	59,178 / 208,472	59,178	0
UIUC	350,070.90 / 509,606	0	350,070.9

As evidenced from the table above, the University of Illinois has achieved a significant reduction in emissions from the baseline year, but the purchase of carbon offsets may be necessary in order for full points to be earned in the Greenhouse Gas Emissions category. The types of carbon offsets used by the platinum institutions vary. The University of California at Merced purchased carbon offsets from the Climate Action Reserve, stating that the purchase followed a rigorous project registration process to verify the offset project would contribute to real and additional emissions reductions. SUNYESF included the campus-owned forest locations as carbon sinks, with the estimated carbon sequestration being tracked by the university. Lastly, Arizona State University purchased offsets from Schneider Electric through the Verra carbon offset registry. To achieve full points for the Greenhouse Gas Emissions credit in future STARS reports, the University of Illinois should consider the purchase of carbon offsets.l

Operations > Buildings > Building Design & Construction

Background

The Building Design & Construction credit rewards institutions that have incorporated environmental features into their design and construction projects. The idea of the criteria is that environmentally-conscious design features can increase energy savings and reduce environmental impacts. The criteria measures the floor area of an institution's eligible building space that is designed and built with published green building codes, policies, and/or rating systems. The University of Illinois achieved 2.03 / 3.00 points for the Building Design and Construction credit, just below the platinum institution average of 2.12 points for the credit.

AASHE Manual Background

Criteria

The AASHE Manual specifies that the buildings to be included in the calculation of the Building Design & Construction Credit must have been constructed or undergone major renovations in the previous five years and must have been built in accordance with a published green building code, policy, guideline, or rating system. These green design features may be multi-attribute, meaning they address multiple attributes of sustainability, or single-attribute, focusing predominately on one aspect of sustainability. The manual notes that building space that is certified under a multi-attribute green building rating system developed or administered by a WorldGBC member Green Building Council is weighted more heavily for scoring purposes than space designed and built under other standards and policies. Furthermore, floor area built under multiple green building codes cannot be double counted.

Scoring

The Building Design and Construction credit is worth 3 points, an institution earns all 3 points when all eligible building space completed in the previous five years is certified at the highest achievable level of a multi-attribute green building council rating system. Points are scaled depending on the level of certification reached by an institution. The scoring table is listed in the following figure:

Design and construction level	Factor		Floor area certified or designed and built at each level		Total floor area of new or renovated building space		Points earned
Certified at the highest achievable level under a multi-attribute GBC rating system (e.g., LEED BD+C Platinum or Certified Living Building)	3.0		———				
Certified or at the 2nd highest level under a 4- or 5-tier, multi-attribute GBC rating system (e.g., LEED BD+C Gold)	2.5		———				
Certified at mid-level under a 3- or 5-tier, multi-attribute GBC rating system (e.g., BREEAM Very Good)	2.25		———				
Certified at a step above minimum level under a 4- or 5-tier, multi-attribute GBC rating system (e.g., LEED BD+C Silver)	2.0	×	———	÷	———	=	
Certified at minimum level under a multi-attribute GBC rating system (e.g., LEED BD+C Certified)	1.5		———				
Certified/verified at any level under a a multi-attribute, non-GBC rating system, a green building code, or a single-attribute rating system	1.5		———				
Designed and built in accordance with a multi-attribute green building code, policy/guideline, or rating system, but not certified	1.25		———				
Designed and built in accordance with a single-attribute green building code, policy/guideline, or rating system, but not certified	0.625		———				
Total points earned →							**Up to 3**

Definitions

The AASHE Manual defines “Major renovation” as an extensive alteration work, the extent and nature of which is such that “the primary function space cannot be used for its intended purpose

while the work is in progress and where a new certificate of occupancy is required before the work area can be reoccupied."

Lessons from Platinum Institutions

Two institutions have achieved 3.00 / 3.00 points for the Building Design and Construction Category: The University of California Merced and The University of California Irvine. Both institutions achieved LEED Platinum certification on their newly built space, and UC Irvine notes that they worked collaboratively with the US Green Building Council over the course of a decade to develop a campuswide approach to green building certification.

Recommendations for Implementation

Achieving 3.00 / 3.00 points for the Building Design and Construction category means certifying 100% of new building projects at the highest level attainable under a multi-attribute green building council rating system for design and construction. Currently, Illinois law requires a minimum certification of LEED Silver for all major renovations and new construction projects over 10,000 square feet; however, this law and the University of Illinois' adherence to it have only resulted in 2.03 / 3.00 total points, with the majority of GBC certified projects (21,032,816.64 / 22,826,870.64 square feet) being certified at LEED Silver or its equivalent. To increase the sustainability of University building space and improve the University of Illinois' score on the STARS report, University policy regarding new construction and renovation projects must increase in stringency from a LEED Silver requirement to a LEED Platinum requirement. Design and implementation of such a recommendation may be undertaken by the iCAP energy team in cooperation with Facilities and Services.

Operations > Buildings > Building Operations & Maintenance

Background

The Building Operations & Maintenance Credit focuses on recognizing institutions engaged in practices that protect the health of a buildings occupants as well as the environment. Given that building stock is a large source of energy consumption and greenhouse gas emissions, sustainable operation and maintenance practices can reduce an institutions energy and water consumption as well as overall environmental impact. The university earned 0.00 / 5.00 points for this credit, as there is no square footage on campus that is certified under a sustainable operation and maintenance certification. Notably, no platinum institutions earned the full 5.00 / 5.00 points for this credit.

AASHE Manual Background

Criteria

Criteria for the Building Operations & Maintenance credit is similar to that of the Building Design and Construction credit. Institutions must operate and maintain their buildings in accordance with a sustainable management policy/program and/or a green building rating system focused on operations and maintenance. Institutions can choose to follow multi-attribute or single-attribute policies and rating systems, with those that are multi-attribute and developed/administered by a WorldGBC member Green Building Council receiving more weight for scoring purposes.

Scoring

Institutions may earn a maximum of 5.00 points for the Building Operations & Maintenance credit, with maximum points earned when 100% of an institution’s floor area is certified at the highest achievable level under a multi-attribute GBC rating system such as LEED Platinum. Partial points are available for the credit if an institution’s floor area is certified at a level below the highest achievable level, with points decreasing for every level below the maximum. The scoring formula is depicted in the figure below:

Operations and maintenance (O+M) level	Factor		Floor area operated and maintained at each level		Total floor area of building space		Points earned
Certified at the highest achievable level under a multi-attribute GBC rating system (e.g., LEED O+M Platinum)	5	×	_____	÷	_____	=	
Certified at the 2nd highest level under a 4- or 5-tier, multi-attribute GBC rating system (e.g., LEED O+M Gold)	4		_____				
Certified at mid-level under a 3- or 5-tier, multi-attribute GBC rating system (e.g., BREEAM-In Use Very Good)	3.5		_____				
Certified at a step above minimum level under another 4 -or 5–tier, multi-attribute GBC rating system (e.g., LEED O+M Silver)	3		_____				
Certified at minimum level under a multi-attribute GBC rating system (e.g., LEED O+M Certified, BREEAM In-Use Pass)	2.5		_____				
Certified at any level under a non-GBC rating system or a single-attribute rating system focused on O+M	2.5		_____				
Operated and maintained in accordance with a multi-attribute sustainable management policy/program, but not certified	2		_____				
Operated and maintained in accordance with a single-attribute sustainable management policy/program, but not certified	1		_____				
Total points earned →							**Up to 5**

Lessons from Platinum Institutions

No platinum institutions earned the full 5.00 / 5.00 points for the Building Operations & Maintenance credit, with the maximum score achieved being the University of California Irvine achieving 2.05 points. The average score for the category is 1.62 / 5.00 points. Institutions

highlighted in this section are The University of California Irvine, The University of California Berkeley, Arizona State University, and The University of New Hampshire.

University of California Irvine

UC Irvine cites in its report that all campus buildings follow the UC Sustainable Practices Policy which delineates sustainable operations and maintenance in all areas of sustainability such as energy efficiency, renewable energy, sustainable transportation, etc. UC Irvine notes that seven campus buildings are certified by the US Green Building Council LEED EB:OM program with one Gold, four Silver, and 2 Certified.

University of California Berkeley

UC Berkeley certifies its building space in accordance with the UC Sustainable Practices Policy while certifying its newest buildings under USGBC True: Platinum and USGBC WELL. These certifications provide specific parameters on zero waste and health operations and maintenance.

Arizona State University

Arizona State University operates building space in accordance with a single attribute sustainable management policy but has not certified its operations and management practices. ASU maintains an indoor air quality program that continuously monitors the indoor air quality of buildings and notifies maintenance teams of indoor air quality issues on campus in order to resolve them quickly.

ASU also includes building-level energy and water meters that are benchmarked for use as compared with similar building types to identify problems and prioritize efficiency, models an Integrated Pest Management Program based on UC Davis, and purchases Green Seal certified products for all possible use cases.

University of New Hampshire

UNH undertakes an integrated approach to building operations and maintenance that focuses on several aspects of sustainability including occupant health, resource use, site management, and access by non-vehicle transportation.

UNH has developed an Indoor Air Quality Management Plan to proactively identify and correct potential sources of pollutants in indoor areas. The plan will also educate and inform the community about addressing indoor air quality concerns in the workplace.

UNH uses building automation systems to help optimize building operations. The University submeters every building for consumption of electricity, natural gas, domestic cold water, hot water heat, steam heat, and chilled water cooling. The meters are publicly available to view and inform building management plans. Further, UNH manages all core campus buildings with an energy management system that controls heating in buildings based off of course schedules.

The UNH building management program includes strategies and timelines for ensuring that waste stations are upgraded to include UNH’s new standard for recycling/compost/waste bins and signage and that the bins are checked periodically to ensure they are available and updated.

Waste and toxics are minimized at UNH with procurement guidelines that mandate the use of the most efficient, environmentally friendly products and services. Housekeeping and janitorial staff also work based off of the university's sustainable building management policy and are trained in green cleaning practices.

Recommendations for Implementation

The Building Operations & Maintenance credit is one which platinum institutions have proved is difficult to attain full credit for. While certifications are available for institutions to pursue and achieve, they are not commonly undertaken by these platinum institutions. The University of Illinois should consider exploring the requirements of LEED Operations and Management certifications to determine the feasibility of enrollment. If LEED certification is attainable, it should be pursued by the university, if not, then the university should consider implementing policies such as those used at Arizona State University and the University of New Hampshire. The University of Illinois System could also consider developing a system-wide sustainable operations and maintenance program similar to what is employed in the UC system. Discussion and implementation of such a recommendation is best undertaken by the Energy iCAP team in cooperation with Facilities and Services.

Operations > Energy > Building Energy Efficiency

Background

The Building Energy Efficiency Credit recognizes institutions who are improving the energy efficiency of their buildings. The University of Illinois scored 4.11 / 6.00 for the Building Energy Efficiency Credit having achieved a 31.81% reduction in total source energy consumption per unit of floor area from the FY07 baseline year. No platinum institution achieved full 6.00 / 6.00 points for the BEE credit, with one institution earning 5.57 / 6.00. serving as the lesson for improvement.

AASHE Manual Background

The Building Energy Efficiency Credit is broken into two criteria worth three points each.

Part 1 - Criteria

The first part of the criteria is focused on site energy use per unit of floor area. An institution earns points if their annual site energy consumption is less than the minimum performance threshold of 389 Btu per gross square meter per Celsius degree day (65 Btu pr gross square foot per Fahrenheit degree day). The University of Illinois utilized the Fahrenheit degree day mark, which affects the scoring calculation.

Part 1 – Scoring

Part 1 is worth 3 points which are earned when an institution's total annual energy consumption is 90% or more below the minimum performance threshold of 65 Btu (0.000065 MMBtu) per gross square foot per Fahrenheit degree day. Partial points are awarded for each percentage point below the threshold less than 90%. All of the information required to award points for part 1 is calculated by the reporting tool.

Part 2 – Criteria

Part 2 of the criteria is based on the reduction in source energy use per unit of floor area, meaning the institution has reduced its total source energy consumption per gross square meter or foot of floor area compared to a baseline.

Part 2 – Scoring

Part 2 is worth 3 points which are earned when an institution reduces its total energy consumption per gross square meter/foot of floor area by 50% compared to the baseline. Once more, partial points are awarded for reductions less than 50%.

Definitions

"Degree day"

Degree days are a representation of outside air-temperature data widely used to normalize the effect of outside air temperature on building energy consumption. Degree days are broken into heating and cooling degree days.

According to the AASHE technical manual, Heating degree days are “A measure of how much (in degrees) and for how long (in days) outside air temperature was lower than a specific “base temperature” (or “balance point”). They are used for calculations relating to the energy consumption required to heat buildings.”

According to the AASHE technical manual, Cooling degree days are “A measure of how much (in degrees), and for how long (in days), outside air temperature was higher than a specific base temperature. They are used for calculations relating to the energy consumption required to cool buildings.”

“Energy intensive space”

Energy intensive space includes “laboratory space”, “healthcare space”, and “other energy intensive space”. however classrooms, offices, residence halls, auditoriums, gymnasiums, arenas/stadiums, clinic, storage facilities, and convention centers would NOT typically qualify.

“EUI-adjusted floor area”

EUI-adjusted floor area is a figure that adjusts each institution’s actual floor area to account for significant differences in energy use intensity (EUI) between types of building space. Energy use intensity is a unit of measurement that represents the energy consumed by a building relative to its size, for example, 1,000 MMBtu per square meter.

Lessons From Platinum Institutions

Stanford University (5.57 / 6.00)

Stanford University achieved 5.57 / 6.00 points for the Building Energy Efficiency category consuming 14.96 Btu per gross square foot per degree day and achieving a 57.02% reduction in total source energy consumption per unit of floor area from baseline. Unfortunately, Stanford does not elaborate on their practices, but the institution comprised 5,000,000 gross square feet and had over 3,000 fewer degree days.

Recommendations for Implementation

The University of Illinois achieved Total site energy consumption per unit of EUI adjusted floor area per degree day of 22.09 Btu; however, the University must reduce consumption to 6.5 Btu to achieve the full 3 points for part one of the Building Energy Efficiency Credit. Additionally, the university needs to achieve a further 19% reduction in total space energy consumption per unit of floor area form baseline to achieve the full 3 points for part 2 of the Building Energy Efficiency Credit.

Achieving maximum points for the Building Energy Efficiency Credit will require the implementation of stringent energy conservation standards from Facilities & Services. The Energy iCAP Team may lead the way in development of new conservation standards in partnership with F&S.

Operations > Energy > Clean & Renewable Energy

Background

The Clean & Renewable Energy Credit is intended to award points to institutions who support the development and use of energy from clean and renewable sources. The University of Illinois achieved 0.12 / 4.00 points for the credit and no school achieved the full 4.00 / 4.00 points. This section reviews 3 of the top scoring institutions to compare best practices.

AASHE Technical Manual

Criteria

The AASHE criteria allows for institutions to develop and use clean and renewable energy sources using a combination of clean and renewable electricity, clean and renewable thermal energy, and/or purchasing unbundled renewable energy products.

Clean and renewable electricity

The clean and renewable electricity portion of the criteria provides institutions the opportunity to purchase or otherwise import electricity from certified/verified clean and renewable sources. Purchasing or importing electricity involves utility-provided green power purchasing options, power purchase agreements, and equivalent products that bundle physical electricity with the right to claim its renewable energy attributes.

Institutions are also able to generate electricity from clean and renewable sources on-site and retain or retire the rights to its renewable energy attributes. This means that if the institution generates renewable energy but sells the Renewable Energy Certificates or the equivalent, it cannot claim that energy in the STARS Report.

Clean and renewable thermal energy

Institutions can use clean and renewable stationary fuels on-site to generate thermal energy such as using certain types of biomass for heating. Alternatively, institutions can purchase or otherwise importing steam, hot water, and/or chilled water from certified/verified clean and renewable sources.

Unbundled renewable energy products

Instead of generating or purchasing clean electricity or thermal energy, institutions can purchase renewable energy credits or equivalent unbundled renewable energy products that are certified by a third party to count towards the institution’s clean energy attributes.

Scoring

Clean and renewable energy option	Factor		Energy products that meet criteria		Total energy consumption		Points earned
1. Imported green power	4	×	———	÷	———	=	
2. On-site renewables			———				
3. Clean and renewable fuels used to generate thermal energy			———				
4. Imported thermal energy from clean and renewable sources			———				
5. Purchased RECs/GOs/I-RECs			———				
Total points earned →							**Up to 4**

As depicted in the image above, institutions earn points for the percentage of clean energy resulting from the sum of the clean and renewable energy options specified in the scoring criteria. Full points are earned when an institution's energy consumption is fully accounted for by one of the five specified clean and renewable energy options.

Lessons From Platinum Institutions

University of New Hampshire (2.61 / 4.00)

The University of New Hampshire utilizes a landfill gas pipeline as the primary source for an on-campus cogeneration plant that provides heating, cooling, and electricity to the University. The University sells the RECs associated with the cogeneration plant; however, it retains the rights for the thermal energy generated by the plant, which results in 401,711.35 MMBtu of clean energy attributed to the campus. In addition to clean thermal energy generation, UNH purchases Green-e certified Wind Renewable Energy Certificates to equal the total electricity demand of the campus (69,871 MWh). In total, UNH attributes 65.23% of its total energy consumption to clean and renewable sources.

Arizona State University (2.04 / 4.00)

Arizona State University sources its clean energy from solar projects and renewable energy credits purchased by the University. ASU signed a PPA with Arizona Public Service to purchase 65,000 megawatt hours of solar energy per year on a 20-year contract in addition to generating24.25 MW of energy from 90 different solar systems across ASU campuses and research parks. Some of the RECs are sold and repurchased. In addition to Solar PV systems, ASU operates several solar thermal systems across its campuses totaling 7298.34 MMBtu of

thermal energy. In regard to renewable energy credits, RECs are purchased to match imported electricity use and on-site solar PV that does not retain its RECs for a total of 996,767.86 MMBtu of RECs. In total, 50.92% of Arizona State's energy consumption is attributed to clean and renewable sources.

Stanford University (2.70 / 4.00)

Stanford University sources its clean energy from a mix of on-site and off-site solar energy production as well as REC purchases. 32 sites on Stanford's campus feature rooftop solar, which the report estimates totals 5 MW of capacity (21,647.08 MMBtu). Further, solar is procured through a PPA with the off-site Stanford Solar Generating Station (590,123.10 MMBtu). An additional 164,458.4 MMBtu of RECs are procured to achieve Stanford University's goal of a 65% renewable energy portfolio, with the university achieving 67.44% in its STARS report.

Recommendations for Implementation

The University of Illinois sources 3.1% of its total energy portfolio from clean and renewable sources, with all of the energy coming from solar farms 1 and 2. Notable is that Illinois' total energy consumption (4,372,766.07 MMBtu) is more than double the energy consumption of each platinum school profiled for this credit in the report. Increasing the point total for the Clean & Renewable Energy Credit will require the University of Illinois to increase renewable energy generation and procurement while also reducing total energy consumption.

Operations > Food & Dining > Food & Beverage Purchasing

Background

The Food and Beverage Purchasing credit is intended to reward institutions who use food and beverage purchases to advance sustainable food systems. The University of Illinois received 1.45 / 6.00 for the Food & Beverage Purchasing credit. No platinum institution earned full points for this credit, and the average score was 1.73 / 6.00. Given that Illinois was within very close range of many platinum institutions in this credit, platinum institution lessons will be derived from the institution with the highest score.

AASHE Manual Background

Criteria

Food and beverage products that count for the Food and Beverage Purchasing credit must be plant-based or meet one of the approved standards utilized by AASHE for the STARS report. The list of standards reflect goods that are sustainably or ethically produced and is detailed below:

Sustainable agriculture

International standards	Regional standards
• Biodynamic Certified (Demeter) • Bird Friendly Coffee • Certified Organic under any IFOAM-endorsed standard • Certified Sustainably Grown (SCS) • LEAF Marque (Linking Environment and Farming) • Naturland certified • Rainforest Alliance Certified (Sustainable Agriculture SAN Standard) • Regenerative Organic Certified • UTZ certified	• American National Standard for Sustainable Agriculture (ANSI/LEO-4000) (Silver or higher) - U.S. • Bee Better Certified (Xerces Society) - U.S. • Biopartenaire label - France • Filière Biologique du Québec (BIO Québec, Aliments du Québec - Bio, and Aliments préparés au Québec – Bio) • Food Alliance Certified - U.S. • Participatory Guarantee System (PGS) verified (e.g., Certified Naturally Grown) • Protected Harvest Certified - U.S. • Salmon Safe Certified - U.S. • USDA Transitional Organic - U.S.

Other sustainability standards and ISO Type I ecolabels developed/administered by a Global Ecolabelling Network or ISEAL Alliance member organization OR that meet or exceed the minimum crop production standards outlined in an IFOAM-endorsed organic program or IFOAM Common Objectives and Requirements of Organic Standards (COROS).

Sustainable seafood

International standards	Regional standards (for products not covered by the international standards)
• Marine Stewardship Council blue ecolabel (paired with MSC Chain of Custody certification) • Monterey Bay Aquarium Seafood Watch (Best Choices, Good Alternatives, and Recommended Eco-Certifications)	• Australian Marine Conservation Society (Green 'Better Choice') • Marine Conservation Society (Rating 1-2) - U.K. • Mr. Goodfish seasonal recommendations - Europe • Ocean Wise Recommended - Canada • Royal Forest and Bird Protection Society (Ranking A-C) - New Zealand • Sailors for the Sea Blue list - Japan • WWF/Good Fish Foundation (Green and Amber/Yellow list) - Africa, Asia, Europe

Fair trade/labor

International standards	Regional standards
• Ecocert Fair Trade (EFT) • Fair for Life (IMO) • Fairtrade mark (Fairtrade International) • Fair Trade Certified (Fair Trade USA) • FairWild certified • Guaranteed Fair Trade (WFTO) • Hand in Hand (Rapunzel) • Small Producers' Symbol (SPP)	• Equitable Food Initiative certified - U.S. • Fair Food Program (Fair Food Standards Council / Coalition of Immokalee Workers) - U.S. • Fair Trade Federation member - U.S. and Canada • Food Justice Certified (Agricultural Justice Project) - U.S. • Milk with Dignity (Migrant Justice) - U.S.
Other fair trade/labor standards developed/administered by a farmworker organization or a Global Ecolabelling Network, ISEAL Alliance, or WFTO member organization.	

Humane animal care

International standards	Regional standards
• Animal Welfare Approved (A Greener World) • Certified Humane Raised and Handled • Global Animal Partnership Certified (Step 2 and above)	• AGA-Certified Grassfed - U.S. • American Humane Certified (Laying Hens - Free Range and Pasture only) - U.S. and Canada • Bioland - Germany • BuyingPoultry (Best Choices and Better Choices) - U.S. and Canada • Label Rouge - France

	• NOFA-NY or PCO Certified 100% Grassfed - U.S. • RSPCA Approved - Australia • RSPCA Assured - U.K. • SPCA Certified - Canada
Other animal welfare standards and ISO Type I ecolabels that exceed the minimum animal husbandry standards outlined in a relevant IFOAM-endorsed organic program or IFOAM COROS.	

The criteria also notes that institutions with Real Food Calculator results that are validated by the Real Food Challenge can report their Real/Good Food percentage as the percentage of expenditures on sustainably or ethically sourced products; however, the percentage of expenditures on plant-based foods must be reported separately. Further, the university must submit an inventory of sustainable or ethically produced products that includes the product name, a description, and the recognized sustainability standard that is met.

Scoring

The Food & Beverage Purchasing category is worth 6.00 points and is calculated with the following formula:

Criteria	**Factor**		**Percentage of total annual food and beverage expenditures on products that meet each criterion (0-100)**		**Points earned**
Sustainably or ethically produced	0.06	×	_____	=	
Plant-based	0.03	×	_____	=	
Total points earned →					**Up to 6**

The scoring system allows for an institution to decide how it will achieve the full credit for the point, and it is important to note that plant-based purchases which are sustainably or ethically produced count for both categories.

Lessons From Platinum Institutions

Stanford University (3.28 / 6.00)

Stanford sourced 34.87% of its annual food and beverage expenditures from products that were sustainably or ethically produced, and 39.61% of annual food and beverage expenditures were plant based. Stanford's sustainable dining program takes the form of an initiative called "One Plate, One Planet" based on six pillars: Climate Smart Dining, Racial equity and supporting Black businesses, Curbing deforestation through supply chain pressure, Thriving oceans, Catalyzing a circular economy of food, and Embracing systems thinking. Stanford's policies go beyond sustainable purchasing and include sustainable operations undertaken by the Residential Dining Organization. Sustainable practices undertaken by Stanford's dining program include

composting food waste and also converting waste to animal feed, promoting recycling, donating leftover edible food, converting waste oil to biodiesel, and practicing energy and water conservation.

Recommendations for Implementation

The University of Illinois sources 3.34% of its total annual food and beverage expenditures from sustainable or ethical sources, and 41.56% of food and beverage expenditures are plant based. Comparing this information to that of Stanford University, it is apparent that Illinois must increase its purchasing of sustainably or ethically produced food. This effort is best achieved by undertaking a thorough analysis of the standard programs that are eligible for inclusion in the STARS report, and determining whether it is within the University's power to source food and beverage purchases from companies that meet these guidelines. Such a review is best undertaken by the resilience or engagement iCAP teams in conjunction with the University's dining branch.

Operations > Grounds > Landscape Management

Background

The Landscape Management Credit rewards institutions who undertake sustainable practices in the management of university grounds such as organic or integrated pest management (IPM) The University of Illinois achieved 0.29 / 2.00 points. No platinum institution achieved full points for this credit with the average score being 1.36 / 2.00. Lessons from platinum institutions are taken from the institutions who were closest to achieving full points for the category.

AASHE Technical Manual

Criteria

The AASHE Technical Manual specifies that only two landscape management techniques may be included for scoring in the STARS report: Organic and Integrated Pest Management.

Scoring

The Landscape Management Credit is worth 2.00 points which is achieved when 100% of campus grounds are managed organically, which the manual specifies does not include the use of inorganic fertilizers and chemical fungicides and herbicides. The scoring formula for the credit is detailed in the image below:

Management level	Factor		Area managed at each level		Total area of managed grounds		Points earned
Organic	2	×	_____	÷	_____	=	
IPM	1		_____				
Conventional	0		_____				
Total points earned →							**Up to 2**

Notably, an area of campus grounds can only be managed by one of the two practices; therefore, the same area cannot be counted for IPM and Organic points. Partial points are available for this category based on the percentage of campus area managed under an Organic or IPM program.

Definitions

Ecologically preferable materials

According to the AASHE Technical Manual *"Ecologically preferable materials include OMRI Listed products (Organic Materials Review Institute) and/or products listed/certified by an IFOAM-endorsed standard. Consistent with the NOFA Standards for Organic Land Care, rescue treatments using non-organic pesticides to control insect and disease problems that can cause significant harm are allowed, providing there are no effective organic alternatives"*

Integrated Pest Management

According to the AASHE Technical Manual *"Integrated pest management (IPM) uses a combination of biological, cultural, physical/mechanical and chemical management tools to solve pest problems while minimizing risks to people and the environment. Although every IPM program is different, successful programs use the same four-tiered approach: 1) set action thresholds, 2) monitor and identify pests, 3) prevent or remove conditions that attract pests, and 4) control. For more information, see the U.S. Environmental Protection Agency's IPM Principles"*

Lessons From Platinum Institutions

University of California at Merced (1.97 / 2.00)

The University of California at Merced manages 96.59% of its land organically, with the other 3.41% managed with Integrated Pest Management practices. UC-Merced attributes much of this organic land management to the overall lack of development of the campus grounds. 274 acres of the 1,026-acre campus are developed, and the land that is undeveloped is not managed with any chemicals. UC-Merced notes that 633 acres of campus land is grazed by organic dairy farmers who follow the National Organic Program standards.

UC-Merced's Integrated Pest Management is based on four principles:

- Limiting food, shelter, and water sources for animal pests, and implementing proper plants and following cultural practices to limit plant pests.
- Maintaining a log of data on the location and numbers of pest populations on campus.
- Setting action thresholds to determine tolerable damage to campus landscapes and establishing best control methods.
- Utilize a variety of pest control methods including cultural, mechanical, physical, biological, and chemical practices.

University of California at Berkeley (1.95 / 2.00)

UC-Berkeley manages 95.05% of its land organically, with the other 4.95% managed with Integrated Pest Management. Berkeley touts its organic management practices on campus glades, which includes testing the structure, pH, nutrient content, and biological life contained in the soil. This information is used to inform the fertilizer and soil amendments needed to correct nutritional imbalances and foster soil life.

Berkeley notes in its report that the land managed with Integrated Pest Management are only managed that way because of the need to use inorganic materials to selectively treat wood stumps and newly wooded areas. Further, chemical treatments do not include glyphosate-based herbicides due to a UC-System ban.

Recommendations for Implementation

The University of Illinois scored 0.29 / 2.00 in the Landscape Management credit with 0.39% of campus land managed organically and 28.11% of land managed with Integrated Pest Management. It is notable that the University of Illinois' total campus area is much greater than

both UC-Merced and UC Berkeley (6,370/1,026/1,232 acres respectively); however, the opportunity to improve the sustainability of landscape management practices remains. While campus land used for agricultural research or production should be left to the discretion of scientists and farmers, the university should seek to manage land that does not have a scientific or agricultural purpose organically, with Integrated Pest Management as a backup plan when organic management is not agreeable. Development of a new landscape management plan is best undertaken as a collaborative effort between the Land & Water iCAP team, university scholars, and the university grounds management team.

Operations > Purchasing > Sustainable Procurement

Background

The Sustainable Procurement credit is intended to award institutions who apply sustainability to university procurement decisions. University procurement presents the opportunity to engage in sustainability by purchasing environmentally and socially preferable products or purchasing from companies with strong sustainability commitments. The University of Illinois scored 2.00 / 3.00 in this credit, with every other platinum institution earning full points. Lessons from Platinum Institutions for this credit will be taken from institutions with comparable student populations to ensure recommendations are feasible at a large institution.

AASHE Manual Background

Criteria

Criteria for the Sustainable Procurement credit is divided into three categories: Institution-wide sustainable procurement policies, Life Cycle Cost Analysis, and Product-specific sustainability criteria.

The Institution-wide sustainable procurement policies criteria require institutions to have written policies, guidelines, or directives that seek to support sustainable purchasing across multiple commodity categories, institution-wide. Policies can include a stated preference for post-consumer recycled or bio-based content, a stated intent to support disadvantaged businesses, social enterprises, or other businesses with positive social and economic impacts, and a vendor code of conduct or equivalent policy that sets standards for social and environmental responsibilities among business partners exceeding basic legal compliance.

Life Cycle Cost Analysis (LCCA) is a method for assessing the total cost of ownership over the life cycle of a product or system; notably, LCCA differs from Life Cycle Assessment (LCA) as an LCA is a method for assessing the environmental impacts of a product or service over the product's life cycle. The LCCA criteria requires an institution to employ LCCA when evaluating energy and water using products, systems, and components.

Product-specific sustainability criteria requires institutions to publish sustainability criteria for specific product categories that address sustainability concerns related to the product. For example, an institution can implement a policy of having a preference for energy star certified electronic products.

Scoring

Each portion of the criteria is scored separately for the purposes of the credit.

Part 1 awards 0.50 points to an institution for having written policies, guidelines, or directives that seek to support sustainable purchasing across multiple commodity categories institution-wide.

Part 2 awards 1 point to an institution that employs LCCA as a policy when evaluating energy and water consuming products and systems. Partial points for this category are available if the LCCA policy is not employed for all purchases.

Part 3 is worth 1.5 points and awards an institution 0.25 points for each category of products/services which it has published sustainability criteria for.

Lessons from Platinum Institutions

University of California at Berkeley (3.00 / 3.00)

UC-Berkeley's institution-wide sustainable procurement policies establish nine areas of sustainable practice goals. Berkeley's practices include reducing unnecessary purchasing first, then prioritizing the purchase of surplus or multiple-use products before looking at recyclable, compostable, or otherwise sustainable products. Additionally, the UC system has published sustainable procurement guidelines that establishes minimum sustainability requirements for products and services purchased by the university and identifies preferred product attributes.

The UC system has implemented several guidelines relating to LCCAs on all campuses. These guidelines include prioritization of recyclability, durability, and other life-cycle concerns in a range of supply chain decisions. Examples include focusing on purchasing Energy Star and WaterSense certified products and ensuring sustainable packaging.

UC-Berkeley has also published sustainability purchasing criteria for the following categories:

- Chemically intensive products and services
- Consumable office products
- Furniture and furnishings
- Information Technology and Equipment
- Food service providers
- Professional service providers
- Transportation and Fuels

Arizona State University (3.00 / 3.00)

ASU has implemented institution-wide sustainable procurement guidelines relating to capital expenditures. These guidelines require:

- Capital expenditures over $2,000,000 to include small and disadvantaged business enterprises in project design and engineering as long as the results are comparable in quality and do not increase material costs.

- Request that all products used in the performance of capital projects be of low or no-content of reactive organic compounds to the maximum extend possible.
- All campus construction be built to at least LEED Silver or an equivalent standard.
- All appliances purchased be Energy Star certified.
- At least 15% of the institution's energy consumption comes from renewable sources.

LCCA is employed by ASU as a matter of policy and standard practice. The requirement to conduct an LCCA is differentiated by the size of the purchase made:

- Projects that cost less than $10,000 are covered by the sustainable purchasing guidelines that require only the most water-efficient appliances available for a given use should be
- purchased and that all electrical products purchased have the US EPA Energy Star certification.
- Projects that are greater than $10,000 require the decision to consider all costs associated with purchase installation, commissioning, operation, replacement, and end of life.
- Projects that are greater than $100,000 require a full Life Cycle Cost Analysis to be completed that includes the university's proxy price of carbon for energy use calculations and a discount rate for future costs.

Arizona State has also published sustainability purchasing criteria for the following categories:

- Chemically intensive products and services
- Consumable office products
- Furniture and furnishings
- Information Technology and Equipment
- Food service providers
- Garments and linens
- Professional service providers
- Transportation and Fuels

Detailing the exact purchasing criteria would require more space than is available in this report, but the exact criteria is worth reviewing for mirroring at the University of Illinois.

Recommendations for Implementation

The University of Illinois achieved 2.00 / 3.00 for the Sustainable Procurement credit. The missing points can be attributed to the less comprehensive employment of an LCCA for certain systems or projects and not others. Points were also missed due to the university having a lack of sustainable procurement guidelines for individual product categories. Illinois has guidelines for chemicals, office products, information technology, and food service providers which altogether counts for 1.00 of 1.50 available points. To increase points in the sustainable products category, sustainable purchasing guidelines must be established for at least two of the following categories: furniture and furnishings, garments and linens, professional service providers, or transportation and fuels. Development of new sustainable purchasing guidelines for these product categories can be done by reviewing the practices of UC-Berkeley, ASU, or other

platinum institutions. Likewise, the LCCA process used by Arizona State University may be a beneficial practice to implement at the University of Illinois. Determining a responsible party to develop a new sustainable procurement policy is challenging given the variety of products and the different units involved in purchasing, but is likely best done from a top-down directive.

Operations > Purchasing > Electronics Purchasing

Background

The Electronics Purchasing credit rewards institutions who purchase environmentally preferable electronics. The University of Illinois did not purchase any electronics with an environmentally preferable label, and only one platinum institution earned the full 1.00 / 1.00 points for the credit.

AASHE Manual Background

Criteria

Purchases that count for this credit are electronics which are EPEAT registered, third party certified under a multi-attribute sustainability standard or ISO Type 1 ecolabel, or labeled under a single-attribute standard for electrical equipment. Specialized equipment not registered under EPEAT standards may be excluded.

Scoring

Points for the electronics purchasing credit are determined by the level of certification attained by various percentages of the electronics purchased. The breakdown for calculating the Electronics purchasing credit score is detailed below:

EPEAT registration, certification, or label	**Factor**		**Annual expenditures on environmentally preferable electronics**		**Total annual expenditures on electronics**		**Points earned**
EPEAT Gold and/or certified at the highest achievable level under a multi-attribute sustainability standard	1	×	_____	÷	_____	=	
EPEAT Silver and/or certified at mid-level under a multi-attribute sustainability standard	0.75		_____				
EPEAT Bronze and/or certified at minimum level under a multi-attribute sustainability standard	0.5		_____				
Labeled under a single-attribute standard	0.25		_____				
Total points earned →							**Up to 1**

Definitions – From the AASHE Technical Manual

EPEAT

EPEAT is a certification for computers and other electronic products. The standard's evaluation criteria include: energy efficiency, reduction and elimination of environmentally sensitive materials, materials selection, design for end-of-life, product longevity and life cycle extension, end-of-life management, corporate performance, and packaging characteristics.

ISO Type 1 ecolabel

The International Organization for Standardization (ISO) has identified three broad types of voluntary labels, with ecolabelling fitting under the strongest Type 1 designation. Consistent with the Global Ecolabelling Network, a Type 1 ecolabel is a "voluntary, multiple-criteria based, third party program that awards a license that authorizes the use of environmental labels on products indicating overall environmental preferability of a product within a particular product category based on life cycle considerations".

Lessons from Platinum Institutions

University of California at Irvine (1.00 / 1.00)

The UC-Irvine STARS report lists $2,288,018.01 with 100% of that spending on EPEAT Gold registered products. The purchasing is the result of UC-Irvine's standard to only purchase EPEAT Gold electronics.

Recommendations for Implementation

The University of Illinois does not list any certified electronics purchases on the STARS report, causing the University to lost points both on the Electronics Purchasing credit and the Sustainable Procurement credit. Going forward, it is important for the University of Illinois to establish a sustainable electronics purchasing guidelines to both increase the sustainability of the University electronics inventory and improve the University's STARS certification.

Operations > Transportation > Campus Fleet

Background

The Campus Fleet credit rewards institutions who utilize cleaner fuels and fuel-efficient vehicles in the campus vehicle fleet. The reasoning behind the Campus Fleet credit is that institutions can support markets for cleaner fuels and vehicles by creating demand. The University of Illinois received 0.08 / 1.00 points for the credit, and no institution earned full points, with the average being 0.30 / 1.00 for platinum institutions.

AASHE Manual Background

Criteria

Vehicles and fuels supported by the Campus Fleet credit include:

- Gas-Electric Hybrid
- Diesel-Electric Hybrid
- Plug-in Hybrid
- 100% Electric (Includes utility bicycles and tricycles)
- Fueled with Compressed Natural Gas
- Hydrogen fueled
- Fueled with B20 or higher biofuel for more than 4 months of the year
- Fueled with locally produced oil recovered and recycled on campus or in the local community

Notably, vehicles that meet multiple criteria cannot be double counted.

Scoring

An institution earns full points for the Campus Fleet credit when all vehicles in the fleet are alternatively fueled or powered, and partial points are available for institutions who do not have a fully alternatively fueled or powered fleet.

Lessons from Platinum Institutions

University of California at Irvine (0.49 / 1.00)

Two main programs propel UC-Irvine's clean transportation initiative forward: Electrify UCI and Pump2Plug. Electrify UCI began with an initial phase of divesting from gasoline-powered golf carts and ensuring future cart purchases are electric. Currently, all new vehicle purchase requests are submitted to the Sustainable Transportation department to ensure the new acquisition is a clean vehicle. This program has led the campus shuttle buses to be scrapped and replaced with a fully electric fleet provided by *Build Your Dreams* which provide over 2 million rides a year.

Pump2Plug is a university incentive program that encourages staff and stufents to convert from fossil fuels to electric and plug-in vehicles by offering 3 years of free level 1 charging and

reduced-cost level 2 charging on campus. Over 300 staff and students have leased or purchased a qualifying vehicle since the program began.

Arizona State University (0.45 / 1.00)

Arizona States efforts to increase the sustainability of its campus fleet include implementing a new vehicle purchasing policy to require electric vehicles, installing geo-trackers on fleet vehicles to right-size the fleet and determine which vehicles can be replaced by electric vehicles, and installing charging stations on all campuses. Of ASU's 845 fleet vehicles, 358 are fully electric vehicles.

Recommendations for Implementation

The University of Illinois received 0.08 / 1.00 points for the campus fleet credit. While Facilities & Services has implemented a sustainable fleet plan, the use of clean fuel and power technologies is lacking university-wide. Improving the university's score for the Campus Fleet credit requires a re-evaluation of existing sustainable fleet plans and the development of new sustainable fleet plans where they do not currently exist. It may also be beneficial for the University to implement a policy requiring the purchase of electric or otherwise clean vehicles. Implementation of this recommendation may be developed by the Transportation iCAP team in collaboration with Facilities & Services.

Operations > Transportation > Commute Modal Split

Background

The Commute Modal Split credit is intended to reward institutions where students and employees use alternatives to conventional single-occupancy vehicles when traveling to and from the institution. Increasing the commute modal split towards practices such as carpooling or using public transportation generates a range of benefits such as decreased air pollution and traffic congestion. The University of Illinois received 3.93 / 5.00 points for this credit, which is higher than the average among platinum institutions (3.53 / 5.00) and is only lower than 1 platinum institution.

AASHE Manual Background

Criteria

The Commute Modal Split credit is split into two parts: Student commute modal split and Employee commute modal split. Both parts track the amount of people who commute to and from campus using sustainable commuting options such as walking, biking, carpooling, taking public transportation, riding a motorcycle/scooter, or using a zero emissions vehicle.

Scoring

Scoring for the Commute Modal Split category is split between parts 1 and 2, and the number of points available for each part depends on the ratio of full-time equivalent of students to the full-time equivalent of employees. The formula for scoring is as follows:

$$\text{Points available for Part 1} = 5 \times [(A / (A + B))]$$
$$\text{Points available for Part 2} = 5 \times [(B / (A + B))]$$

Where:

A = Total full-time equivalent student enrollment

B = Full-time equivalent of employees

Lessons from Platinum Institutions

University of California at Berkeley (4.28 / 5.00)

UC-Berkely conducts an annual transportation survey on campus to determine modal split. The data in Berkeley's STARS report shows that 95% of students use more sustainable commuting options as their primary mode of transportation along with 60% of employees. The most common mode of transportation among students was walking, cycling, or use of another non-motorized mode of transportation (71%), while the most common mode among employees was a single-occupancy vehicle (40%).

Recommendations for Implementation

The University of Illinois received 3.93 / 5.00 points for its commute modal split, putting Illinois above 8 of 9 platinum institutions. Given Illinois' high score for this category, continued

engagement with students and employees is necessary, along with consistent surveying to determine how commute methods change over time. The University of Illinois conducted a commuter method survey in spring 2022, and annual distribution of the survey may be useful for tracking the effectiveness of engagement programs. Development and implementation of this recommendation may be conducted by collaboration between the Transportation and Engagement iCAP teams with support from Facilities & Services.

Operations > Waste > Waste Minimization & Diversion

Background

The Waste Minimization & Diversion credit rewards institutions who minimize waste production by diverting materials from landfills and incinerators as well as practicing recycling and composting. The University of Illinois received 4.37 / 8.00 points for the credit, and no platinum institution received full points, with the average credit being 4.95.

AASHE Manual Background

Criteria

The Waste Minimization & Diversion credit is divided into three parts: Reduction in total waste per person, Total waste per person, and Waste diverted from the landfill or incinerator.

Reduction in total waste per person recognizes institutions that have implemented source reduction strategies to reduce the total amount of waste generated per weighted campus user compared to a baseline.

Total waste per person is determined by calculating total annual waste generation divided by weighted campus user, with the goal to achieve an amount less than 0.45 tons.

Waste diverted from the landfill or incinerator reflects materials that were recycled, composted, donated, or re-sold instead of being sent to landfill or incinerated. This credit includes waste from on-campus dining services, while construction and demolition waste as well as hazardous waste management are not included and are tracked in separate credits.

Scoring

Part 1

Part 1 of the credit is worth 2.5 points which are achieved when an institution reduces its total waste generation by 50% or more compared to a baseline, with partial points awarded for institutions who make a reduction less than 50%. The formula for calculating the points is detailed below:

$$\text{Points earned} = 5 \times \{ [(A / B) - (C / D)] / (A / B) \}$$

A = Total waste generated (diverted + disposed), baseline year
B = Weighted campus users, baseline year
C = Total waste generated (diverted + disposed), performance year
D = Weighted campus users, performance year

Part 2

Part 2 of the credit is worth an additional 2.5 points achieved when an institution's total annual waste generation per weighted campus user is 90% less than the minimum performance threshold of 0.46 tons; again, partial points are awarded for institutions who make progress toward the goal but do not reach it. The formula for calculating the points is detailed below:

$$\text{Points earned} = 5 \times \{ [(A / B) - (C / D)] / (A / B) \}$$

A = Total waste generated (diverted + disposed), baseline year
B = Weighted campus users, baseline year
C = Total waste generated (diverted + disposed), performance year
D = Weighted campus users, performance year

Part 3

Part 3 of the credit is worth 3 points and is achieved by diverting 100% of waste from the landfill or incinerator. 10% of the waste can be disposed of via post-recycling conversion. Partial points are awarded for institutions who make progress toward the 100% diversion goal and the following formula is used:

$$\text{Points earned} = 3 \times \{ [(A + B + C) + (F \text{ if } D \geq F, \text{ else } D)] / (A + B + C + D + E)] \}$$

A = Materials recycled, performance year
B = Materials composted, performance year
C = Materials donated or re-sold, performance year

D = Materials disposed through post-recycling residual conversion, performance year
E = Materials disposed in a solid waste landfill or incinerator, performance year
F = Maximum allowable residual conversion [0.1 × (A + B + C + D + E)]

Lessons from Platinum Institutions

University of California at Irvine (5.43 / 8.00)

UC-Irvine pursues many methods for waste diversion and improving the recycling stream. A unique method of waste diversion pursued by UC-Irvine is to maintain and service Goodwill donation boxes on campus year-round for the collection of clothing and small electronics. Irvine notes that the presence of the boxes has reduced the volume of materials left behind by students at move out while increasing donation materials for Goodwill.

UC-Irvine also participates in the Campus Race to Zero Waste to encourage members of the campus community to engage in recycling. Irvine has maintained a spot in the top 10 of institutions for diversion rate and has earned first place in zero waste facility and food waste program.

UC-Irvine utilizes wase characterization studies and waste audits on campus and in student housing buildings to collect information for the University recycling program. The information is used to determine which items in the waste stream can be diverted and educates students and staff on waste diversion methods.

Lastly, UCI maintains an exchange for areas of campus and the community to extend the life of products and collect e-waste for bulk recycling. This exchange is in addition to several facebook pages which promote peer-to-peer exchange and reuse of goods.

Cornell University (5.76 / 8.00)

Cornell University employs residual conversion in its waste diversion methods, using a digester to treat animal remains and prepare them for conversion into biogas at a local water treatment plant.

Similar to UC-Irvine, Cornell participates in the Campus Race to Zero Waste while also conducting outreach to various groups on campus and organizing a “Think Big Live Green” outreach campaign.

Cornell operates a program called CATS (Cornell Assets Transfer System) which connects campus groups with available assets to groups in need of assets. The off-campus community is also able to participate in the program which is organized by the Office of Community Relations.

R5 operations manages the STACS (System for Trade and Auction of Cornell Surplus) program and the Facilities Services Reuse Program. Office supplies and furniture intended for disposal are sorted for use by University Departments, sale to the general public, or sale in the annual Dump and Run program.

Cornell utilizes the Sedgwick Business Interiors Asset Inventory Management (AIM) program to make use of stored furniture items not in use in other areas. Cornell uses AIM in various departments and buildings on campus.

For students on campus, Cornell charges for printing at all libraries and computer labs, as well as providing a digital course catalog and directory. A Dump and Run program similar to the one organized at the University of Illinois also takes place at Cornell University.

Lastly, Cornell’s Department of Community and Government Relations coordinates the donation of Cornell-owned items to the community, and Cornell operates a Human Servces Coalition Listserv that identifies information and service needs to provide planning and coordination and enhance the delivery of health and human services in Tompkins county.

University of California at Merced (6.33 / 8.00)

UC-Merced operates a waste sorting line comprised of eighteen students who collect recycle, compost, and landfill waste from campus buildings and sort the materials for recycling, compost, and landfill.

Education on waste management and diversion at UC-Merced is provided by the campus EcoRep program, which organizes informational sessions and presentations on waste diversion.

UC-Merced provides live monthly waste tracking for community members to view as well as an annual waste audit to assess materials management efforts.

Other unique programs organized by Merced is a $75 minimum purchase for orders with the Universities strategic office supplies partner and a monthly drop-off event where different departments can drop off unneeded items and pick up needed items.

Recommendations for Implementation

The University of Illinois received 4.37 / 8.00 points for the Waste Management & Diversion credit, slightly below the platinum institution average of 4.95 / 8.00 points. While total waste generated has decreased greatly since the FY07 baseline, recycling has decreased by over 1,500 tons. Improving Waste Diversion is possible and the platinum institutions listed above provide several lessons on practiced that can be implemented to do so. Recommendations may be organized by the Zero Waste iCAP team in collaboration with Facilities & Services.

Operations > Waste > Construction Demolition & Waste Diversion

Background

Similar to the Waste Management and Diversion credit, the Construction Demolition & Waste Diversion credit recognizes institutions that divert waste from construction and demolition projects from landfill or incineration. The University of Illinois achieved 0.23 / 1.00 for the credit, and no institution earned full points. The average score for this credit was 0.70 / 1.00.

AASHE Manual Background

Criteria

Only non-hazardous construction and demolition waste diverted from the landfill and incinerator count for this credit; however soil and organic debris from site excavation or clearing do not count.

Scoring

The point totals awarded for construction and demolition waste diversion are equal to the percentage of waste that is diverted, with an institution needing to divert 100% of construction and demolition waste to achieve full points for the credit.

Lessons from Platinum Institutions

University of California at Berkeley (0.98 / 1.00)

UC-Berkeley has achieved 97.89% diversion of construction and demolition waste largely as a result of language included in project contracts which proclaims a goal of achieving a 90% waste diversion rate by 2020 and requires a minimum of 65% diversion with projects attempting to achieve 90% diversion.

Recommendations for Implementation

The University of Illinois has only achieved 22.97% diversion of construction and demolition waste, and may benefit from contract language similar to that used by UC-Berkeley. Implementation of this recommendation may be developed in collaboration between the Zero-Waste iCAP team and Facilities & Services.

Planning & Administration > Coordination & Planning > Sustainability Planning

Background

The Sustainability Planning credit is intended to reward institutions that have established comprehensive plans to achieve sustainability goals. The University of Illinois scored 3.00 / 4.00 points for this credit, as sustainability was only listed as a "Minor theme" in the University's highest guiding document.

AASHE Manual Background

Criteria

The Sustainability Planning credit is divided into two parts: Measurable sustainability objectives and Sustainability in institution's highest guiding document.

Measurable sustainability objectives must address one or more of the following:

- Academics
- Engagement
- Operations
- Administration

The criteria can be met by one or more plans, including:

- Sustainability plan
- Campus master plan or physical campus plan
- Climate action plan
- Diversity and inclusion plan
- Human resources strategic plan
- Strategic plan or equivalent guiding document

Sustainability in an institution's highest guiding document requires the institution to incorporate sustainability as either a major or minor theme in the document. Sustainability is declared a "major theme" if there is a section of the document on sustainability, sustainability is presented as a major institutional goal, or through multiple sustainability-focused objectives; on the other hand. Sustainability is considered a minor theme if it is only mentioned in passing, as part of a vision or values statement, or in objectives that are related to sustainability rather than focus on it directly.

Scoring

A maximum of 2 points are earned for part one of the sustainability planning credit when an institution has a published plan or plans that include measurable sustainability objectives related to the topics listed above. Partial points are awarded based on the number of topics included.

A maximum of two points are earned for part 2 of the credit when sustainability is regarded as a major theme of an institution's highest guiding document, with partial points being awarded if sustainability is only regarded as a minor theme.

Lessons from Platinum Institutions / Recommendations for Implementation

The only loss of points for the University of Illinois in the Sustainability Planning Credit is the inclusion of sustainability as only a minor theme in the University's highest guiding document. Institutions that list sustainability as a major theme tend to have formal statements in support of sustainability along with a definition and formal commitments. The presence of the Illinois Climate Action Plan and a Chancellor's Office of Sustainability on campus highlight that sustainability is a core part of the University's mission; however, steps must be changed to reflect Illinois' commitment to sustainability in the University's strategic plan.

Planning & Administration > Coordination & Planning > Reporting Assurance

Background

The Reporting Assurance credit rewards institutions who undertake a comprehensive data quality and assurance process prior to submitting their STARS report. The University of Illinois did not undertake an assurance process prior to submitting the STARS report, resulting in the University earning no points for this credit. All but one of the platinum institutions underwent an assurance process, providing several lessons the University of Illinois may consider for data assurance prior to submitting the next STARS report.

AASHE Manual Background

Criteria

Institutions will only earn points for the Reporting Assurance credit if they undertake an assurance process that provides independent affirmation of the data included in the STARS report. The assurance process may include either an internal review conducted by one or more individuals affiliated with the institution who are not directly involved in the data collection process for the credits the review and/or, an external audit by one or more individuals affiliated with other organizations such as a third-party institution, third party contractor, or AASHE. While not included in the Reporting Assurance credit, an institution can earn extra points in the Innovation and Leadership category if its assurance process includes an external audit.

The assurance review must be guided by and documented in the STARS Review Template and include the following four steps:

- Independent reviewer(s) review all credits that the institution is pursuing and document in the template the issues that are identified. Reviewers must ensure the following:
    - All required fields, attachments, inventories, and URLs are included.
    - Reported information meets credit criteria and is consistent with required timeframes.
    - Reported figures are consistent across credits and any inconsistencies are explained.
- The STARS Liaison addresses the inconsistencies or errors identified during the review by updating information in the Reporting Tool and documenting in the template that the issues have been addressed.
- Reviewers provide affirmation that the submission has been reviewed in full and all identified inconsistencies and errors have been successfully addressed.
- The Liaison or other primary contact uploads a statement of affirmation from each reviewer and the completed STARS Review Template.

Scoring

An institution will only earn the one point associated with the credit when an assurance process has been successfully identified and resolved inconsistencies and errors in the finalized STARS report prior to submitting it to AASHE. Partial points are not available for this credit.

Lessons from Platinum Institutions

Cornell University (1.00 / 1.00)

Cornell University conducted its reporting assurance process through an external audit in partnership with the State University of New York School of Environmental Science and Forestry. The report was reviewed by SUNYESF's sustainable facilities manager, research and sustainability programs manager, and sustainability research and engagement manager.

University of California at Berkeley (1.00 / 1.00)

UC-Berkeley conducted its reporting assurance process through an internal audit conducted by a PhD Candidate in the University's Energy and Resources Group. Prior to review by the PhD, all reported data was reviewed by the Chief sustainability & carbon solutions officer at UC Berkeley.

Arizona State University (1.00 / 1.00)

ASU conducted its reporting assurance process through an external and internal audit process in partnership with the University of California at Los Angeles and the University of Arizona. Prior to the formal review process, all reported data was reviewed by a student worker in the University Sustainability Practices office using the Review Template. The reporting assurance process than entailed internal quality control/pre-review from an employee in the Office of University Sustainability Practices and external review from the University of Arizona's Director of Sustainability and several UCLA employees.

Recommendations for Implementation

The Reporting Assurance provides the University of Illinois with an easy opportunity to increase its STARS score with various options for compliance. Internally, iSEE could partner with a graduate student studying sustainability or a related field and ask for reporting assurance or partner with Facilities & Services to provide a review of the data provided in the report. Externally, the University could partner with the University of Illinois at Chicago and/or the University of Illinois at Springfield to facilitate intrasystem cooperation. An external review process is preferable as it results in additional point in the Innovation and Leadership category. Development of this recommendation may be undertaken by the engagement or education iCAP teams in collaboration with iSEE.

Planning & Administration > Diversity & Affordability > Affordability & Access

Background

The Affordability & Access credit is intended to reward institutions that are affordable to low-income students, with the idea that improving access to higher education is a useful tool in achieving greater societal equity. The University of Illinois received (3.03 / 4.00) points for the credit, falling just short of the 3.08 / 4.00 average score among platinum institutions. No platinum institution earned full points for the credit, so lessons are taken from the most successful institution.

AASHE Manual Background

Criteria

The STARS report uses four measures reported by an institution to develop an index of affordability and accessibility that is relevant to institutions.

- Average percentage of need met for students who were awarded any need-based aid.
- Percentage of students graduating without student loan debt.
- Percentage of entering students that are low-income.
- Graduation/success rate for low-income students.

Scoring

4 points are available for the Affordability & Access credit that are earned based on the combined performance on the listed indicators. The points earned for each indicator is calculated with the following formula:

(% of indicator met) X 0.0133

All of the resulting numbers are added up to determine points earned for the credit.

Lessons from Platinum Institutions

Stanford University (3.98 / 4.00)

Stanford University received the highest points of any platinum institution for the Affordability & Access credit. Students who were awarded need-based aid received 100% of their need in financial aid, 84% of students graduated without student loan debt, 20% of entering students were low-income, and 95.2% of low-income students graduated/succeeded in their program.

Recommendations for Implementation

The University of Illinois received 3.03 points for affordability and access. Illinois students who received need-based aid received 69% of their total need, 55% of students graduated without student loan debt, 22% of entering students are low-income, and the graduation/success rate for low-income students is 82%. Notably, the new Illinois commitment program does not seem to be reflected in the Affordability & Access credit, which may improve the University's score in this category. Currently, The University and State government both operate significant programs to

provide need-based aid; however, it is apparent that these programs may need to be expanded to satisfy the need of low-income students. Development of a new financial aid recommendation may be best undertaken by the Education iCAP Team.

Planning & Administration > Investment & Finance > Sustainable Investment

Background

The Sustainable Investment credit rewards institutions who utilize their investment power to promote sustainability. The STARS report allows institutions multiple ways to foster sustainable investment which are discussed in the AASHE manual background. The University of Illinois received 0.93 / 5.00 points for the credit, which scales the total points available based on an institution's investment pool value. One platinum institution received full points for the Sustainable Investment credit, and the average point total was 2.80 points.

AASHE Manual Background

Criteria

The Sustainable Investment credit is divided into two parts: Positive sustainability investment and Investor engagement.

Positive sustainability investment means that an institution invests in one or more of the following:

- Sustainable industries
- Business selected for exemplary sustainability performance
- Sustainability investment funds
- Community development financial institutions
- Socially responsible mutual funds
- Community development financial institutions
- Socially responsible mutual funds with positive screens
- Green revolving loan funds funded from the endowment.

Investor engagement means that an institution has policies and/or practices that meet one or more of the following criteria:

- Has a publicly available sustainable investment policy.
- Uses its sustainable investment policy to select and guide investment managers.
- Has engaged in proxy voting to promote sustainability during the previous three years either by its committee on investor responsibility, by another committee, or through the use of guidelines.
- Has filed or co-filed one or more shareholder resolutions that address sustainability or submitted one or more letters about social or environmental responsibility to a company in which it holds investments during the previous three years.
- Participates in a public divestment effort and/or has a publicly available investment policy with negative screens.
- Engages in policy advocacy by participating in investor networks and/or engages in inter-organizational collaborations to share best practices.

Scoring

The amount of points that the Sustainable Investment credit is worth depends on the size of an institution's investment pool:

- Investment pool >/= $1,000,000,000: 5 Points
- Investment pool $500,000,000-999,000,000: 4 Points
- Investment Pool <$500,000,000: 3 Points

Maximum points are earned for the credit by investing 60% or more of an institution's investment pool in one or more of the methods listed in Part 1 of the criteria or investing at least 30% of the investment pool sustainably and meeting all of the investor engagement criteria listed in Part 2. Partial points are available for both parts depending on the amount of an institution's investment pool invested sustainably and the amount of investor engagement criteria practiced.

Lessons from Platinum Institutions

Arizona State University (4.00 / 4.00)

ASU has invested 45.18% ($449,836,546) in businesses selected for their exemplary sustainability performance paired with several investor engagement strategies including

- Publicly available sustainable investment policy
- Use of a sustainable investment policy to select and guide investment managers
- Engagement in Proxy Voting
- Engagement in policy advocacy

ASU's endowment is managed by the ASU Foundation which uses a BlackRock developed framework to determine the level of ESG integration into security selection and portfolio construction. ASU also uses Blackrock as CIO to engage in proxy voting on several themes including environmental and social issues. Finally, ASU is a founding member of the Intentional Endowment Network, which has an advisory board on ESG investing.

Recommendations for Implementation

The University of Illinois received 0.93 / 5.00 points for the Sustainable Investment credit, with 1.15% of the University's investment pool invested in socially responsible mutual funds with positive screens, and the publication and use of a sustainable investment policy that selects and guides investment managers. Increasing the point total for this credit requires the University of Illinois to improve the sustainability of its investment pool, which may be done by utilizing an ESG framework similar to that of ASU, and participating in more investor engagement. Development and implementation of these measures is best undertaken by the University of Illinois Foundation which manages the University's investment pool.

Planning & Administration > Wellbeing & Work > Assessing Employee Satisfaction

Background

The Assessing Employee Satisfaction credit rewards institutions who regularly survey their employees on job satisfaction and engagement. The University of Illinois received 0.15 / 1.00 points for this credit, and the average point total was 0.79 / 1.00. Numerous platinum institutions achieved full points for this credit.

AASHE Manual Background

Criteria

The Assessing Employee Satisfaction requires either an institution-wide or department/division level survey that addresses the following areas:

- Job satisfaction
- Learning and advancement opportunities
- Work culture and work/life balance

The institution must also take action to address the issues raised in the evaluation.

Scoring

An institution will earn the full one point available for the credit if all employees are assessed with a survey that addresses each of the criteria listed above. Partial points are available for the percentage of employees who are assessed.

Lessons from Platinum Institutions

Stanford University (1.00 / 1.00)

Stanford University invited all employees to participate in a university-wide staff engagement survey that was deployed online and in paper and in English and Spanish. Each school identified a primary contact for the survey that was trained to generate reports based on survey data. The survey generated almost 9,000 responses and the results were shared with the University President and Provost to identify key priorities for the University. Responses from the survey have helped shape Stanford's strategic planning.

Cornell University (1.00 / 1.00)

Cornell administers a satisfaction survey for faculty every five years. In 2020, Cornell developed an interactive dashboard and tool kit to help colleges/units better understand their survey results and provide concrete action steps for improvement.

University of California at Irvine (1.00 / 1.00)

UC-Irvine conducts three different surveys related to employee satisfaction: Staff Engagement Survey, UC Council of UC Staff Assembly, and Inclusive Excellence School Level Review. The Staff Engagement Survey results are shared with leaders who are provided with training that assists in better understanding, analyzing, and applying their results. Town halls are also held on the survey, and the town hall feedback and survey results are combined into a campaign to raise employee engagement and satisfaction. The UC Council of UC Staff Assembly survey responses are used to inform campus leadership and human resources about providing critical job tools and resources to improve employee outcomes.

Recommendations for Implementation

The University of Illinois administers campuswide pulse surveys that assess roughly 15% of university employees. Practices from platinum institutions highlight the need of the University of Illinois to develop a consistent, university-wide employee survey that generates actionable results. The University may consider implementing any or all of the practices used by the previously listed platinum institutions. Development and implementation of new surveys may be undertaken as a collaboration between the Engagement iCAP team and the University Human Resources Department.

Planning & Administration > Wellbeing & Work > Workplace Health & Safety

Background

The Workplace Health & Safety credit rewards institutions that ensure the health and safety of their employees by taking action to minimize workplace injuries and occupational disease cases. The University of Illinois received 0.87 / 2.00 points for this credit, and no platinum institution earned full points. The average score among platinum institutions was 1.31 / 2.00.

AASHE Manual Background

Criteria

The Workplace Health & Safety credit is scored in two parts: Health and Safety Management System, and Incidents per FTE employee,

The health and safety management system requires an institution to have an occupational health and safety management system that uses a nationally or internationally recognized standard or guideline or a custom management system.

The incidents per FTE employee criteria requires an institution to have less than four annual recordable incidents of work-related injury or ill health per 100 full-time equivalent employees.

Scoring

Part one is worth 0.5 points which is achieved when an institution uses a nationally or internationally recognized occupational health and safety management system. An institution that does not use recognized standards or guidelines may earn 0.25 points for this part.

Part 2 is worth 1.5 points which are earned when an institution has zero recordable incidents of work-related injury or ill health per 100 full-time equivalent employees. Partial points are awarded based on an institutions progress towards the zero-recordable incidents goal.

Lessons from Platinum Institutions

Arizona State University (1.86 / 2.00)

ASU utilizes the Campus Safety, Health, and Environmental Management Association (CSHEMA) Safety Advancement Program. Regarding recordable incidents, ASU has achieved 0.36 incidents per 100 FTE employees.

Recommendations for Implementation

The University of Illinois received 0.87 / 2.00 points for the Workplace Health & Safety credit. This point total is the result of the University not having an occupational health and safety management system (OHSMS) and having a recordable incident rate of 1.69 per 100 FTE employees. The University can quickly improve workplace health and safety by implementing an OHSMS, which may be implemented by the University’s Department of Human Resources.