

PASSED: UNANIMOUSLY



SENATE RESOLUTION #2868

TITLE: ASUW’s Support for the Campus Heartbeat Initiative & Improving Energy Efficiency of Buildings On Campus

DATE INTRODUCED: April 11, 2023

AUTHORS: Director of Sustainability Macy and Chief of Legislative Affairs Smith

SPONSORS: Senators Bouma, Castronovo, Engelby, Ewalt, McLean, Meiklejohn, and Stadler; ASUW President Brown, Director of Governmental & Community Affairs Heddins, Director of Student Outreach Murfitt; First-Year Senators Chaudhari, Keasling, Knopp, Lake, Mahoney, Medina, and Worcester; Sustainability Coalition

1. WHEREAS, the purpose of the Associated Students of the University of Wyoming
2. (ASUW) is to serve our fellow students in the best manner possible; and,
3. WHEREAS, the ASUW Director of Sustainability, Luke Macy, created the Campus
4. Heartbeat web application for educational purposes and to enable a method for the public
5. to access energy consumption and emissions data (i.e., electricity, domestic water,
6. chilled water, hot water, and greenhouse gas emissions) of the University of Wyoming’s
7. (UW) campus buildings; and,
8. WHEREAS, the purpose of the application is to increase the collective understanding of
9. energy management and accountability for more effective use of state appropriated funds
10. while enabling students and faculty to conduct their own research on improving energy
11. efficiency of buildings on campus; and,
12. WHEREAS, the UW’s yearly total utility costs have steadily increased from \$6,116,834
13. U.S. dollars in 2006 to reach \$10,092,050 in 2022, as reflected in Addendum A; and,
14. WHEREAS, the UW Operations Department has achieved lower Energy Use Intensity
15. (EUI) to support energy efficiency efforts while the amount of energy served has

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16. increased since new buildings have been added to campus as seen in Addendum B; and,
17. WHEREAS, live commodity consumption (i.e., electricity, domestic water, chilled
18. water, hot water) at the UW currently has inconsistent real-time tracking due to several
19. buildings' consumption data not being backloaded into their building automation system
20. reflected in Addendum C, while consistent tracking by the UW is seen in Addendum D;
21. and,
22. WHEREAS, the inability to afford smart energy meters to measure live consumption
23. contributes to inconsistent real-time energy tracking as seen in Addendum E; and,
24. WHEREAS, peer institutions reflected in Addendum F and Addendum G have
25. developed reliable energy tracking systems that update consumption data in 15
26. minute intervals for real-time monitoring capabilities that are publicly accessible to
27. support education, research, operations, and sustainability outreach; and,
28. WHEREAS, the UW School of Computing and the Director of Sustainability, Luke
29. Macy, will be conducting research through a faculty grant to investigate how UW can
30. improve energy efficiency of buildings on campus to improve cost-savings of energy and
31. to promote sustainable practices through real-time energy transparency; and,
32. THEREFORE, be it resolved that upon passage of this resolution, this legislation
33. will be sent to relevant stakeholders: UW President Seidel, the Board of Trustees, and
34. the UW Operations Department; and,
35. THEREFORE, be it further resolved that the Associated Students at University of
36. Wyoming (ASUW) Student Government supports efforts to promote energy efficient
37. buildings and real-time transparency of energy management on campus; and,
38. THEREFORE, be it further resolved that the ASUW Student Government supports an

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39. increase of the UW Operations Department's budget to utilize funds towards purchasing
40. more smart energy meters for buildings that are not currently tracked in real-time, in
41. order for UW Operations to have the capacity to be more fiscally savvy with energy
42. management in the long-term through real-time data and predictive analytics; and,
43. THEREFORE, be it further resolved that the 111th Administration should heavily
44. consider funding an ASUW Special Project for installing digital boards on campus to
45. showcase energy use data for students in-person; and,
46. THEREFORE, be it further resolved that ASUW strongly urges UW President Seidel,
47. the Board of Trustees, and the UW Operations Department to pursue presenting live
48. energy use data online through the student created web application Campus Heartbeat
49. project to allow for increased accessibility, education, research, operations, and
50. sustainability outreach; and,
51. THEREFORE, be it further resolved that it is also urged that the UW Operations
52. Department build a reliable energy use data pipeline with a relevant ASUW Executive,
53. Luke Macy, and the School of Computing that will provide daily energy use data (i.e.
54. electricity, domestic water, chilled water) of buildings currently tracked by UW's
55. building automation system listed in Addendum H before the official fall 2023 UW
56. start date on August 28, 2023 which will also allow for the integration of
57. additional buildings to be tracked in the future; and,
58. THEREFORE, be it further resolved that cost-savings generated by energy measures
59. originating from research and sustainability outreach through the Campus Heartbeat web
60. application for the UW ought to be reallocated into the near-reach and far-reach
61. sustainability goals on campus to integrate sustainability practices in Academics,

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62. Engagement, Operations, Planning & Administration, and Innovation & Leadership

63. which could elevate sustainability at the UW and increase our AASHE-STARs rating as

64. seen in Addendum I; and,

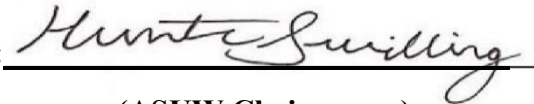
65. THEREFORE, be it further resolved that reducing carbon emissions by the UW on

66. campus ought to be prioritized concurrently with energy management.

Referred to: ___ Steering; Program and Institutional Development; Advocacy, Diversity, and Policy___

Date of Passage: April 18th, 2023

Signed:



(ASUW Chairperson)

“Being enacted on April 18th, 2023, I do hereby sign my name hereto and

approve this Senate action.”

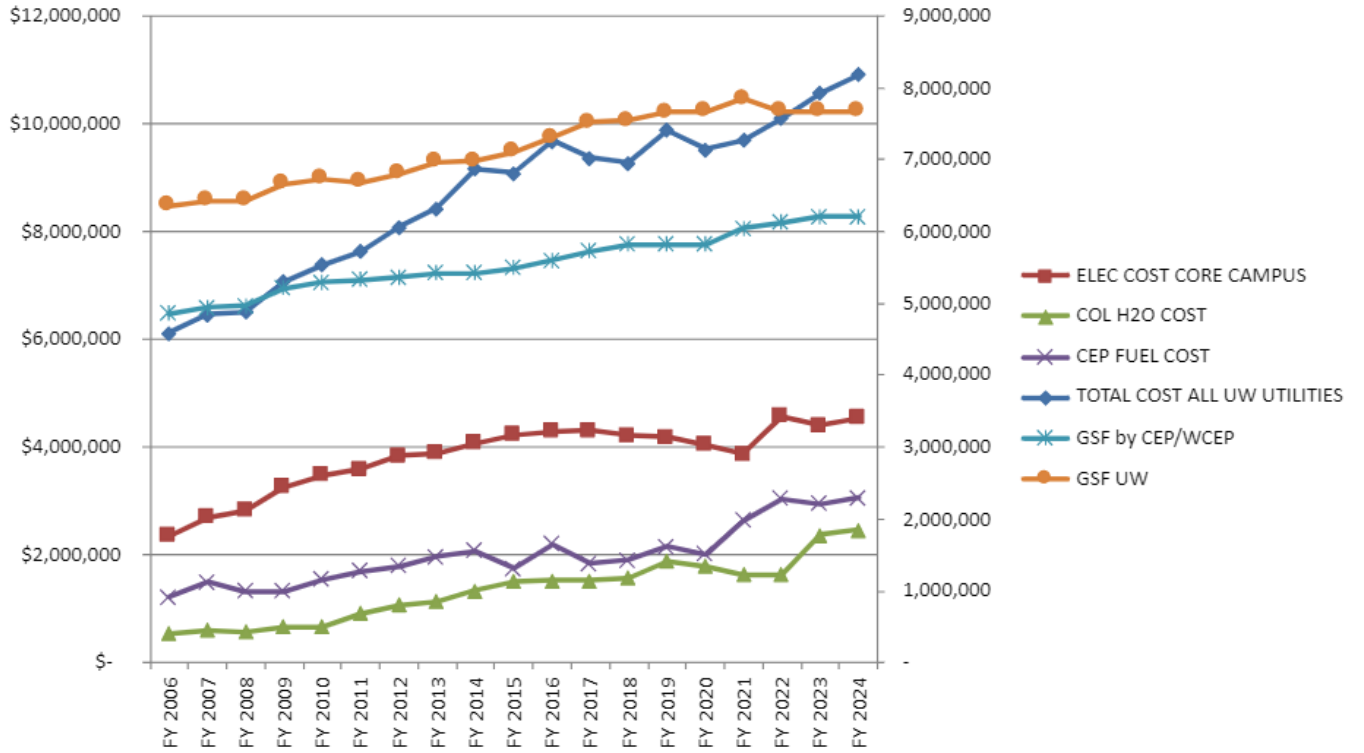


ASUW President

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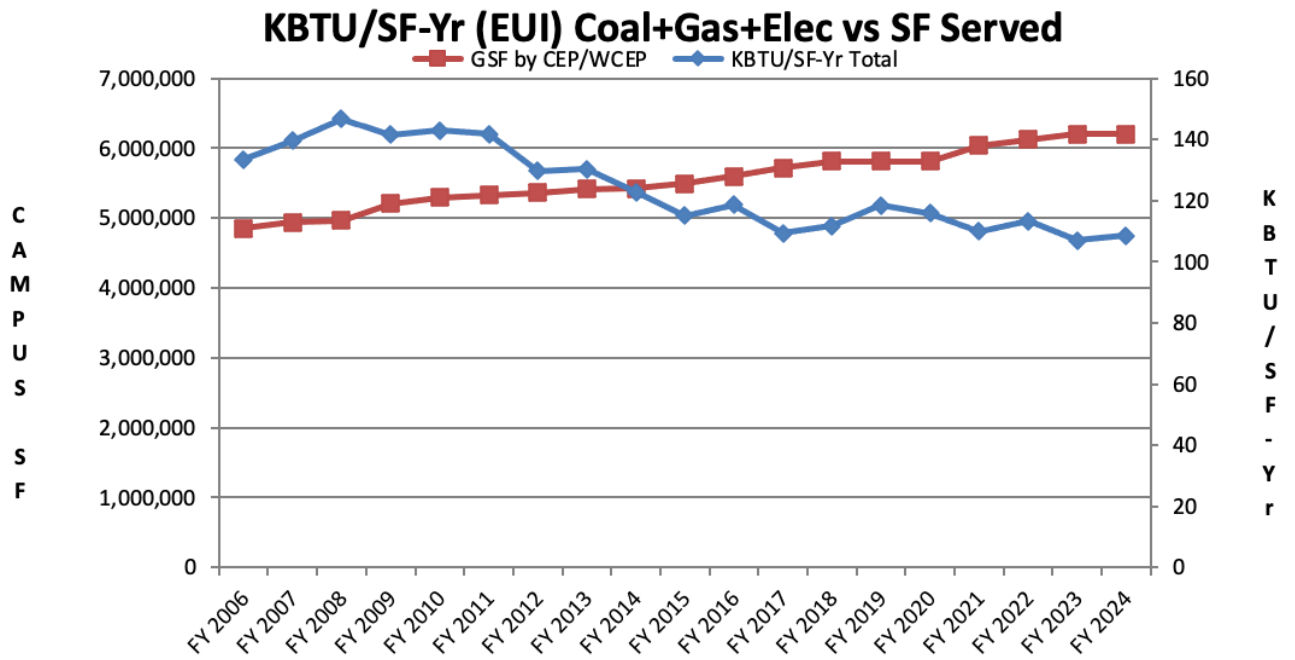
Addendum A

UTILITY COSTS TOTAL & CORE CAMPUS W/SF SERVED



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Addendum B



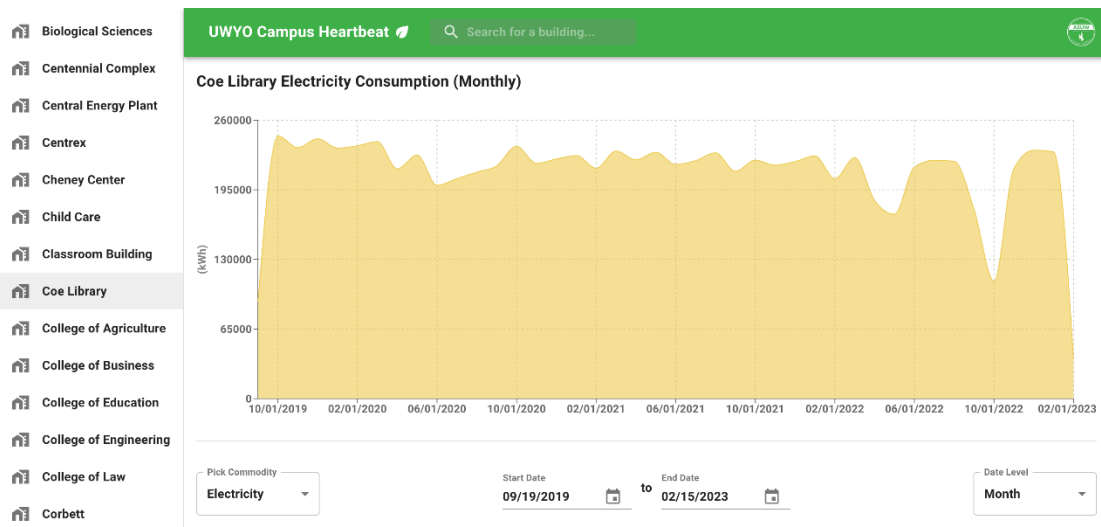
Note: Energy Use Intensity (EUI) refers to the amount of energy used per square foot annually.

Addendum C



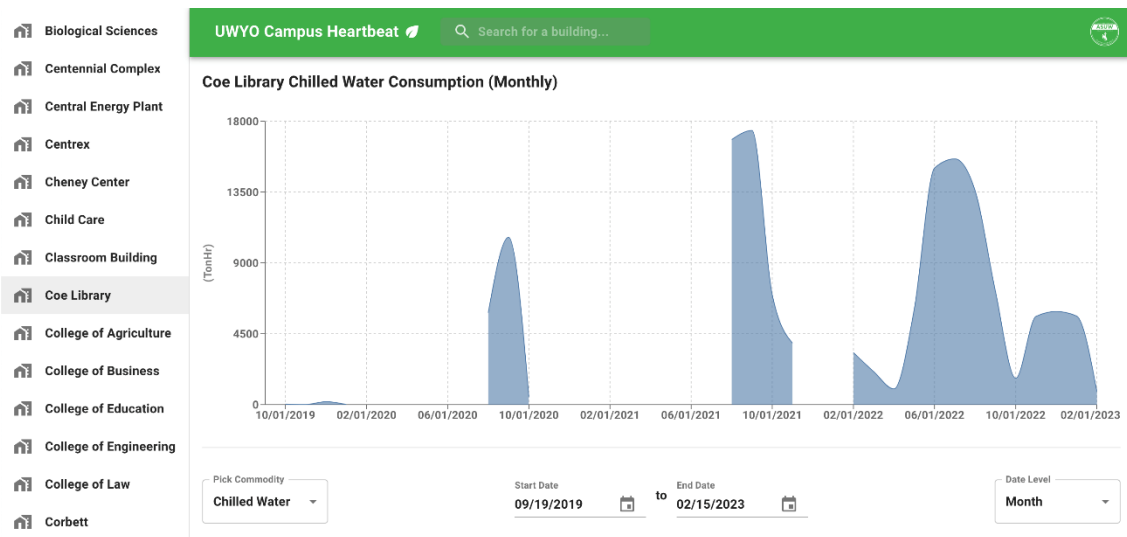
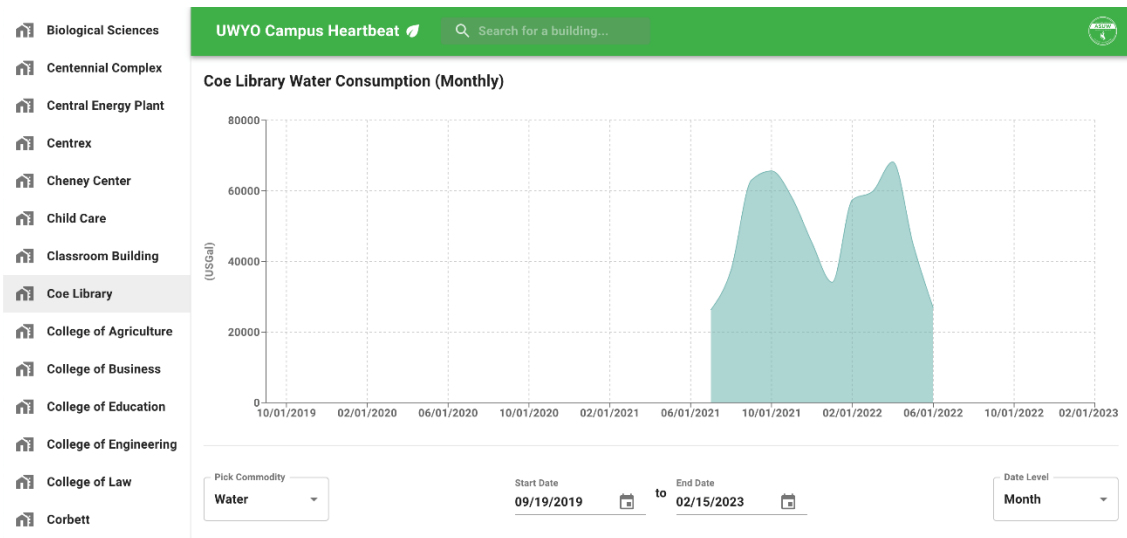
Note: Arena Auditorium’s electricity consumption measured in kilowatt-hours at a monthly level from 9/19/2019-2/15/2023.

Addendum D



Note: Coe Library’s consistent tracking of electricity consumption measured in kilowatt-hours at a monthly level from 9/19/2019-2/15/2023.

Addendum E



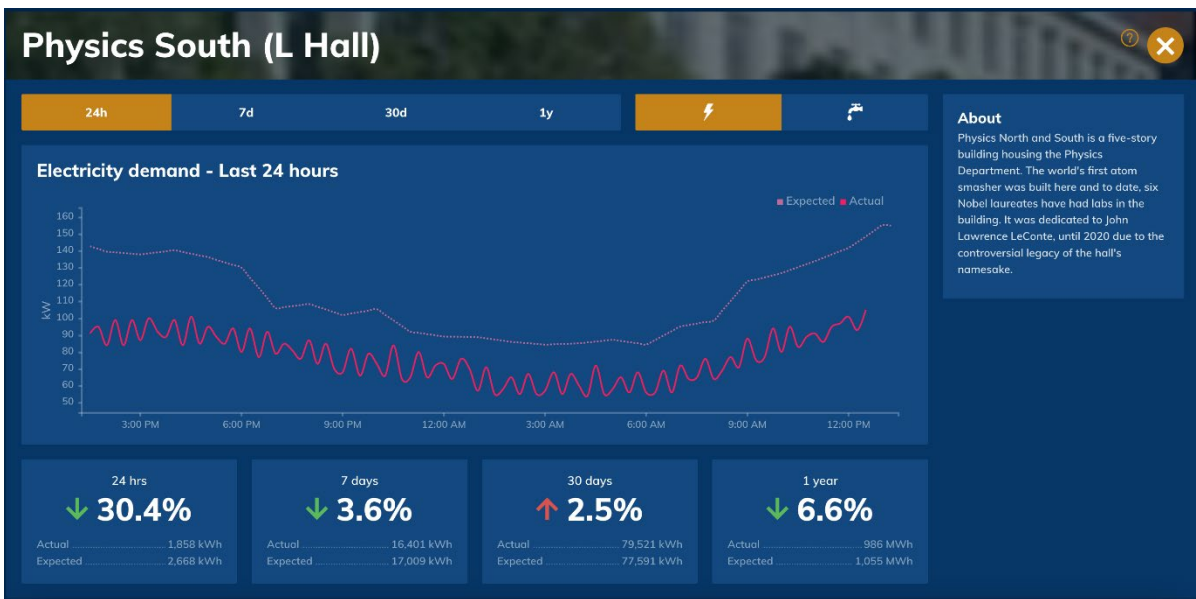
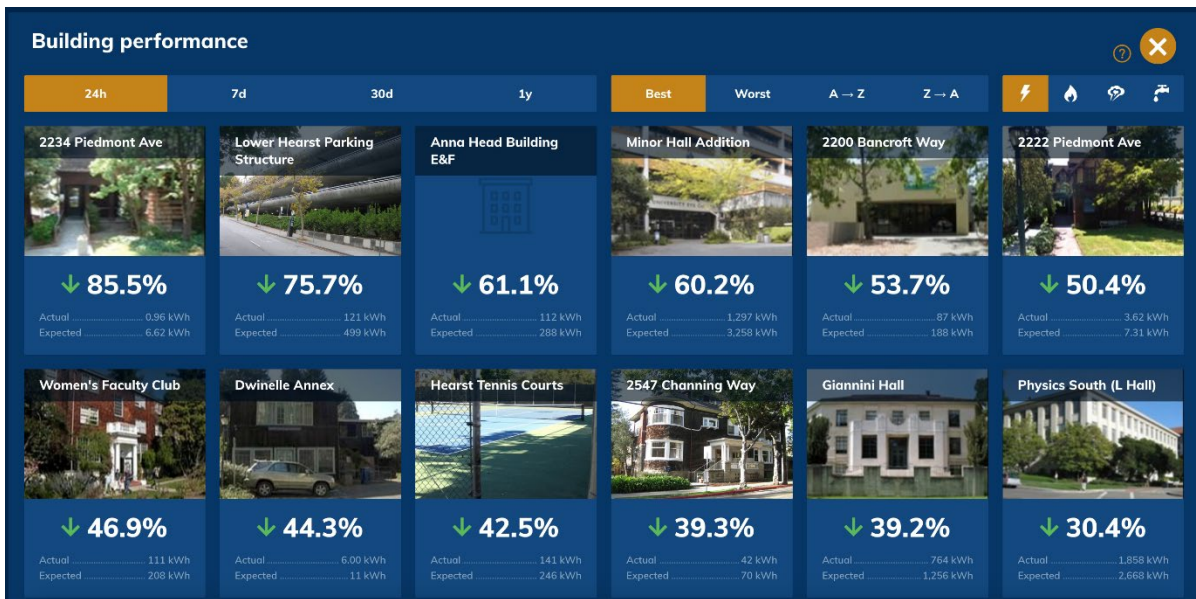
Note: Coe Library’s inconsistent tracking of domestic water measured in U.S. gallons and chilled water measured in tons per hour consumption at a monthly level from 9/19/2019-2/15/2023.

Addendum F



Note: Arizona State University’s Campus Metabolism monitors electricity, cooling, heating, and renewables by capturing consumption data every 15 minutes

Addendum G



Note: University of California Berkeley's Energy Dashboard project monitors electricity, natural gas, steam, and water by capturing consumption data every 15 minutes

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Addendum H

Animal Science, Anthropology, Arena Auditorium, Arts and Sciences, Aven Nelson, Berry Center, Beta House, Biological Sciences, Centennial Complex, Central Energy Plant, Centrex, Cheney Center, Child Care, Classroom Building, College of Engineering, Coe Library, College of Agriculture, College of Business, College of Education, College of Law, Corbett, EERB, Earth Sciences, Education Annex, Energy Innovation Center, Enzi-STEM, Fieldhouse, Fieldhouse North, Fine Arts, *Gateway Center, General Storage, Geological Survey, Geology, HAPC and RAC, Half Acre Gym, Health Science and Pharmacy, High Bay, Hoyt Hall, Indoor Practice Facility, Information Technology, Knight Hall, McWhinnie Hall, Merica Hall, Old Main, Physical Science, RMMC, Ross Hall, Science Initiative Building, Service Building, Stadium, Student Union, Vet Lab, Visual Arts, WRI and Bureau of Mines, WTBC, Williams Conservatory, Wyoming Hall.

Note: List of buildings currently tracked by the University of Wyoming.

* Marked buildings may not be currently tracked by UW Operations.

Addendum I

AASHE-STARs:

STARs, a program of the Association for the Advancement of Sustainability in Higher Education (AASHE), is a sustainability tracking, assessment and rating system used as a metric to identify and offer long-term sustainability goals for colleges and universities. Each institution's score is based on a comprehensive understanding of each institution's sustainability practices, consisting of a cumulative score over five broad categories: Academics, Engagement, Operations, Planning & Administration, and Innovation & Leadership. In total, an institution can achieve a score from bronze to platinum status. Today, 944 institutions worldwide have registered to use the STARs reporting tool, 655 which are AASHE members. Based on this metric, 203 total points are possible; 85 are needed to become platinum, 65 for gold, 45 for silver, and 25 for bronze. Currently, only 5 institutions are recognized as platinum, 108 are recognized as gold, 139 are recognized as silver, and 42 as bronze.

Future Sustainability Goals:

Near-Reach:

OP19: Waste Minimization and Diversion à Score 2.73/8

Full Points: Compared to a baseline, implement source reduction strategies to reduce waste. As an institution, total annual waste generation is less than .5 tons per weighted campus user. Also, must divert materials from landfills and incinerators by recycling, composting, donating, and reselling.

UW Efforts: UW reported that it diverts ~20% of its waste from landfills and incinerators.

Future Strategies: This could be increased by collecting data on composted, donated, and resold items.

OP20: Construction and Demolition Waste Diversion à Score 0/1

Full Points: Divert non-hazardous construction and demolition waste from the landfill and/or incinerator. Soil and organic debris clearing do not count toward this credit.

UW Efforts: Action has already been taken to reduce non-hazardous construction material from entering the landfill or incinerator.

Future Strategies: By implementing data collection strategies, points could be attained.

EN2: Student Orientation à Score 0/2

Full Points: Institution includes sustainability topics and activities that teach students about sustainability.

UW Efforts: None so far.

Future Strategies: Including sustainability within new student orientation presentations and activities would build an informed campus community that could continue future sustainable efforts.

AC6: Sustainability Literacy Assessment à Score 0/4

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Full points: Performing a pre and post assessment of sustainability knowledge to either entire student body, or a subset of students that represent the institutions predominant student body.

UW Efforts: None so far.

Future Strategies: Assessing the sustainability knowledge students have on sustainable topics and challenges could inform future decisions on how to best allocate efforts in educating the student body about sustainability.

Far-Reach:

EN1: Student Educators Program à Score 0/4

Full Points: Institution coordinates an ongoing peer-to-peer sustainability outreach and education program for students.

UW Efforts: None so far.

Future Strategies: To form a sponsored campus program that formally appoints and trains students to provide peer-peer sustainability outreach to inform the campus community of our efforts and spread sustainability.

AC3: Undergrad Program à Score 1.5/3

Full Points: Institution offers at least one sustainability major and minor (or a program equivalent).

UW Efforts: UW currently provides a sustainability minor to students.

Future Strategies: Building a sustainability undergraduate degree path would academically diversify, add opportunity, and attract new students to the university.

PA5: Assessing Diversity and Equity à Score 0.75/1

Full Points: Institution has a structured assessment during the previous three years to improve diversity, equity, and inclusion on campus. Assessment must address, campus climate by engaged stakeholders to assess faculty, staff, administration, and students. Also, student and staff outcomes related to diversity, equity and success.

Engaging and improving our structured assessment process to improve diversity, equity, and inclusion on campus remains a priority.

PA7: Affordability and Access à Score 2.26/4

Full Points: Institution has policies and programs in place to make low income, and/or non-traditional students able to attend. Policies and programs can include attendance cost reductions, scholarships, targeted outreach programs, on-site child care facilities, guidance programs, ect.

Ensuring the institution remains affordable to low-income students, and accessible to non-traditional students is protected through programs and councils such as the Student Educational Opportunity, numerous scholarships, and the Non-traditional Council.

Note: The University of Wyoming received a bronze rating, scoring 26 points in April of 2019.

Source: <http://www.uwyo.edu/sustainability/accomplishments/stars/summary.html>