

Strengthening Sustainability Data Infrastructure - Progress Report

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Project Manager Name

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Requested Metrics

- Hired one full-time staff member and two student employees
- Developed two dashboards – one for internal use and one for public education
- Acquired access to important sustainability data warehouses across campus (i.e. CarbonHub, UAccess Analytics, flight data)
- Built connections to different units to support their projects with data
- Facilitated STARS reporting transition from version 2.2 to 3.0

Project Accomplishments

This project truly got underway with the hiring of the Sustainability Data Analyst, Rocky Baier, who brought her experience in the same role at the University of Texas at Austin's Office of Sustainability and was able to hit the ground running with minimal training required.

Licenses for important data analysis tools were purchased. The first was unlocking Carbon Hub, the emissions tracking side of EnergyCAP, where university utilities can be tracked and are now being transferred over to create a full database for greenhouse gas emission reporting. From this, the Office of Sustainability is on track to take over the Phoenix campus' GHG inventory next year, and will then move to take responsibility for the full campus reporting, including outlying properties, which are currently not included anywhere in emissions reporting. The second was Tableau, which allows for the creation of interactive dashboards.

Data gaps continued to be identified, and plans are being developed to address these gaps. One gap that was addressed was getting accurate water meter data for dorms on campus, and an internal dashboard was created to look at future water scenarios with new buildings and new student on-campus living requirements.

We began our AASHE STARS reporting, and are on track to submit our next report by November. Rocky completed an analysis of the shift from reporting version 2.2 to the new required version 3.0. She laid out the changes that were coming, the opportunities for improvement, and the gaps in points that we are likely to face. From that, she built a plan to get the U of A to a Gold rating by 2028. From the analysis, we anticipate we will gain 21.5 points on our report over last year.

In order to expand our capabilities, we hired two new data students and commandeered an interested and dedicated student from a different OS team to help with reporting. Because of the

skills of these students, not only are we on track to finish all credits marked for the student workers to complete over the summer, but we have sent all data requests for other credits, sped up the reporting process by at least three months for four other credits, and opened ourselves up to supporting other units with data projects.

Our first data support project is an internal one, and we are now building a dashboard that can be used to easily calculate and display the report cards for FoodCycle participants. The second data project is with Housing & Residential Life. We are supporting their Fall semester campaign, Bin It To Win It, with dashboards both online and on the TV screens in the dorm lobbies. This campaign will teach freshmen living on campus the proper way to recycle while on campus, and our support adds another layer of engagement by displaying weekly updates to the competition in an interactive way.

The campus' first sustainability culture and literacy survey is in development and on schedule to be administered to the campus community in the Fall 2026 semester. This satisfies reporting requirements for two main STARS credits and helps gather information for four additional credits. However, the impact of this survey will go far beyond STARS, and will give us important insights into our programming that we will use to improve the Office of Sustainability's programs.

Finally, data folders on SharePoint were organized, consolidated, and streamlined as part of the process to build a continuous data collection process that gives us yearly or bi-yearly updates that we can analyze and turn into actionable insights for our office and beyond.

Next Steps

This work is just getting started and will absolutely continue after the grant closes. We've had incredible success so far, and we have secured funding to keep our Sustainability Data Analyst on the team full-time. Data reporting processes will continue to be streamlined, and gaps that were identified during the initial process of applying for this grant will continue to be addressed. This includes collecting accurate and usable data, finding data gaps, and addressing areas where data is unreliable and replacing those data collection processes with more reliable methods.

The AASHE reporting process will continue every other year, with plans to use the STARS report as a gap analysis to see where campus improvements will be made. The path to a Gold rating will be followed, which includes potentially starting new programs and working with other units to improve their sustainability performance.

Partnerships with other campus units will continue to be built, both in collecting data and for boosting their capabilities to complete sustainability projects by providing data support. In the Spring semester, we will support Housing & Residential Life again with their Less Is More campaign, which will track the usage of utilities in the dorms. Eventually, relevant data projects will be published on the website, allowing the campus community to view progress. With this transparency, units on campus will be able to track their own improvements, celebrate wins, and plan for future successes. Additionally, students will be able to track the university's progress, use the information for research, and see areas where they can get involved to help make improvements themselves!

Student work will continue to be supported, which will provide opportunities for students specializing in data to be employed and work on real projects with real impact. Published projects

will provide excellent portfolio pieces for students to use in finding their first job after graduation.

Challenges Faced

One reason why this grant was so necessary is because we recognize that data activities on this campus can be very siloed and disconnected. Bringing together these various systems through the lens of sustainability was one of the primary drivers for this project, but it continues to be a challenge. We have made substantial progress towards collecting data that we have not had access to before, and with building relationships with the various data related units on campus, but this work takes time to do correctly and meaningfully. It helped that the Office of Sustainability already had good relationships and connections with many of the primary data partners, but even these established working relationships required additional meetings to establish new protocols and new processes for modifying data requests, deliverables, etc.

Sometimes, data has been collected in a manner that is unreliable. For example, the transportation data that we get comes from a required statewide survey, and that requirement, plus a lack of survey takers, means the data we get is inconsistent and likely incorrect. Sometimes, data doesn't exist at all. For example, meters on buildings don't track by floor or by unit, which doesn't help us to understand which units are actually using the most energy or water. Identifying these gaps is the first step to collecting reliable data that can be used for decision making in the future.

Media/Links

Recommendations

The first recommendation is to continue to develop relationships with partner units. These include units that give us data for STARS, who need to get used to running the reports we need to make good decisions and have a complete report, as well as units that we can support with data projects. This will make reporting smoother and more expected, as well as get our name out there as an office that units can turn to for data integration with sustainability projects.

Second, dashboards for main areas of reduction, including waste, energy, emissions, and water, must be made and maintained. This process will also inform streamlining data collection, as there are reports we can create that go beyond the requirements for STARS. Storytelling and dashboard engagement should be central to the development of these dashboards to make them as useful as possible.

In the future, we recommend hiring at least one student worker who has coding experience with data languages such as Python, R, and/or SQL, because it significantly increases our bandwidth. We did not know much about these languages at first and did not think our data was complex enough to warrant it. However, we got lucky with the student we took from another team, because he knew Python and was able to take a process that took four months to only take a week.

Additionally, the Sustainability Data Analyst must be capable of continuing to develop competencies for new systems and programs within the university's data architecture. Programs such as GIS and Concur were not originally identified as key apps that the Data Analyst would be working with, but

they have become critical tools to be competent in as we push for greater data integration across the university.