

# Step Away from The Spreadsheet: A Guide to Sustainability Data Management Tools in Higher Education



## Introduction

The management of sustainability data in higher education has experienced an exciting evolution over the last few years. Where spreadsheets used to dominate, a variety of software tools are now available to help institutions efficiently track, manage, and reduce their environmental impact while generating financial savings. Each of these tools fills an important niche. However, it can be challenging for higher education leaders to determine the best use of the software given their campus energy and sustainability goals.

This guide is intended to help colleges and universities understand the landscape of available software, compare features, and ultimately select the right set of tools. It also summarizes recent trends in sustainability data management and provides a simple framework for creating a data management roadmap at your institution.

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## Trends in Sustainability Data Management

Before diving into specific tools, it is important to understand the broader trends in higher education sustainability data management that are driving many institutions to adopt these tools:

- 1. Transition from spreadsheet to software:** Campus energy and sustainability data has historically been tracked in spreadsheets—a time-consuming and error-prone process that makes effective collaboration between departments difficult. Now, most sustainability data functions including collection, tracking, analysis, benchmarking, and reporting can be done using software tools. These tools have become cheaper, more streamlined, more integrated, and more user friendly for both technical and non-technical staff in recent years.
- 2. Greenhouse gas management and climate commitments:** Colleges and universities are widely preparing greenhouse gas (GHG) inventories and committing to emission reduction targets. As of September 2019, 445 institutions have joined [Second Nature's Climate Leadership Network](#) and thousands calculate their GHG emissions through [SIMAP®](#) or other tools. However, preparing a GHG inventory is a complex process that involves collecting a wide range of activity data and precisely applying emissions factors, making it an excellent fit for simplification by software.
- 3. Energy and sustainability as investment opportunities:** Institutions increasingly view on-campus energy and sustainability projects not just as the right thing to do, but as a source of significant return on investment (ROI) through avoided costs. The [Sustainable Endowments Institute](#) has found that schools investing in these projects via green revolving funds or other programs routinely achieve ROIs of 15% across thousands of projects, and [other reports](#) have identified a median ROI of 28%. As costs for [efficient and sustainable technologies continue to decline](#), institutions are turning to software to identify, prioritize, and track on-campus investments and to verify achieved savings.
- 4. Peer-to-peer benchmarking:** Colleges and universities have always wanted to know how they stack up against their peers, but many now benchmark their energy and sustainability performance specifically. Benchmarking helps institutions identify the greatest areas for improvement while attracting top students who care about sustainability. It also presents an opportunity to show leadership through sustainability scores and earn recognized certifications such as [STARS®](#), [ENERGY STAR® certification](#), and [LEED](#).

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## Sustainability Tools Snapshot

This section introduces six of the leading sustainability data management tools in higher education. They are organized by whether they operate primarily at the organization, property, or individual project level.

### ORGANIZATION-LEVEL:



Association for the Advancement of Sustainability in Higher Education (AASHE) Sustainability Tracking, Assessment & Rating System (STARS): Transparent, self-reporting platform for colleges and universities to

**measure and benchmark sustainability performance**, create a baseline for continuous improvement, and help inform future planning and development efforts in campus academic, operations, engagement, planning and administration, and innovation and leadership initiatives. Participants can achieve a STARS rating to evaluate performance over time, compare against peer institutions, and gain global recognition for their sustainability efforts.



University of New Hampshire (UNH) Sustainability Indicator Management & Analysis Platform (SIMAP): Tool

for **measuring, calculating, and reporting institutional carbon and nitrogen footprints** at the campus and/or portfolio level, as well as benchmarking performance data against sector averages and peer institutions. SIMAP can be used to track several sources of carbon and nitrogen emissions, including those associated with energy, waste, transportation, agriculture sources, and food purchases.



Second Nature Reporting Platform (SNRP):

Platform for institutions to

**annually report their institutional GHG inventories** at the campus and/or portfolio level to gauge climate action progress and inform future resilience plans. In order to gain access to the Reporting Platform, participants must join the Climate Leadership Network to publicly demonstrate their commitment to addressing climate change on campus.

### PROPERTY/PORTFOLIO-LEVEL:



ENERGY STAR®  
**PortfolioManager®**

ENERGY STAR®  
Portfolio Manager®  
(ESPM): Tool for

**tracking, analyzing, and reporting property energy use, water use, waste and materials, and energy-related GHG emissions** as well as assessing performance over time and comparing against peer buildings, similar buildings within your own portfolio, and reduction goals. ENERGY STAR's 1-100 scores and ENERGY STAR certification are available for several higher education building types and can help you demonstrate your sustainability achievements and industry leadership.



United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED): The most recent version of the rating system (v4.1)

provides a **certification program for the operation of green buildings** based on building energy, water, waste, human experience, and transportation performance data and scores. Building performance scores and analytics to help you better understand and quantify environmental impact are displayed in the Arc data management platform.

### PROJECT-LEVEL:



Sustainable Endowments Institute (SEI) GRITS platform:

Platform to **track, analyze, and**

**share a project's financial and carbon-saving impacts** for energy, waste, and water consumption, as well as benchmark and share project performance data with peer institutions. GRITS users can generate project reports, public dashboards, and explore a wide range of completed efficiency projects through the GRITS Library to gain insight into other institutions' project-specific data such as cost, payback, and annual ROI.

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## Tool Comparison

Each of the six sustainability data management tools discussed above fills a unique niche, though they have some overlapping features. Many institutions find it beneficial to use several of tools in conjunction as part of a broader data management system. This has led many of the tools to develop integrations to easily share data and insights.

Figure 1 summarizes the features of each tool. The tools can be distinguished based on the level at which they operate as well as the functionality they provide across energy and sustainability performance management, GHG emissions, and certification and recognition. Note that this comparison is not exhaustive and is intended to capture the primary functions of each tool only.

Figure 1: Sustainability Tool Feature Comparison

Feature	GRITS	ESPM	LEED	SIMAP	SNRP	STARS
<b>Energy + Sustainability Performance Tracking &amp; Benchmarking</b>						
Project Level	✓		✓			
Property/ Portfolio-Level		✓	✓			
Organization Level				✓	✓	✓
<b>GHG Emissions Calculations &amp; Reporting</b>						
Project Level Calculation	✓		✓			
Property/ Portfolio-Level Calculation		✓	✓	✓		
Organization-Level Calculation				✓		
GHG Inventory Reporting					✓	✓
<b>Certification &amp; Recognition</b>						
Scoring (for Peer Comparison)		✓	✓	✓		✓
Building Certification		✓	✓			
Public Dashboard	✓		✓		✓	✓
Reports	✓	✓		✓	✓	✓

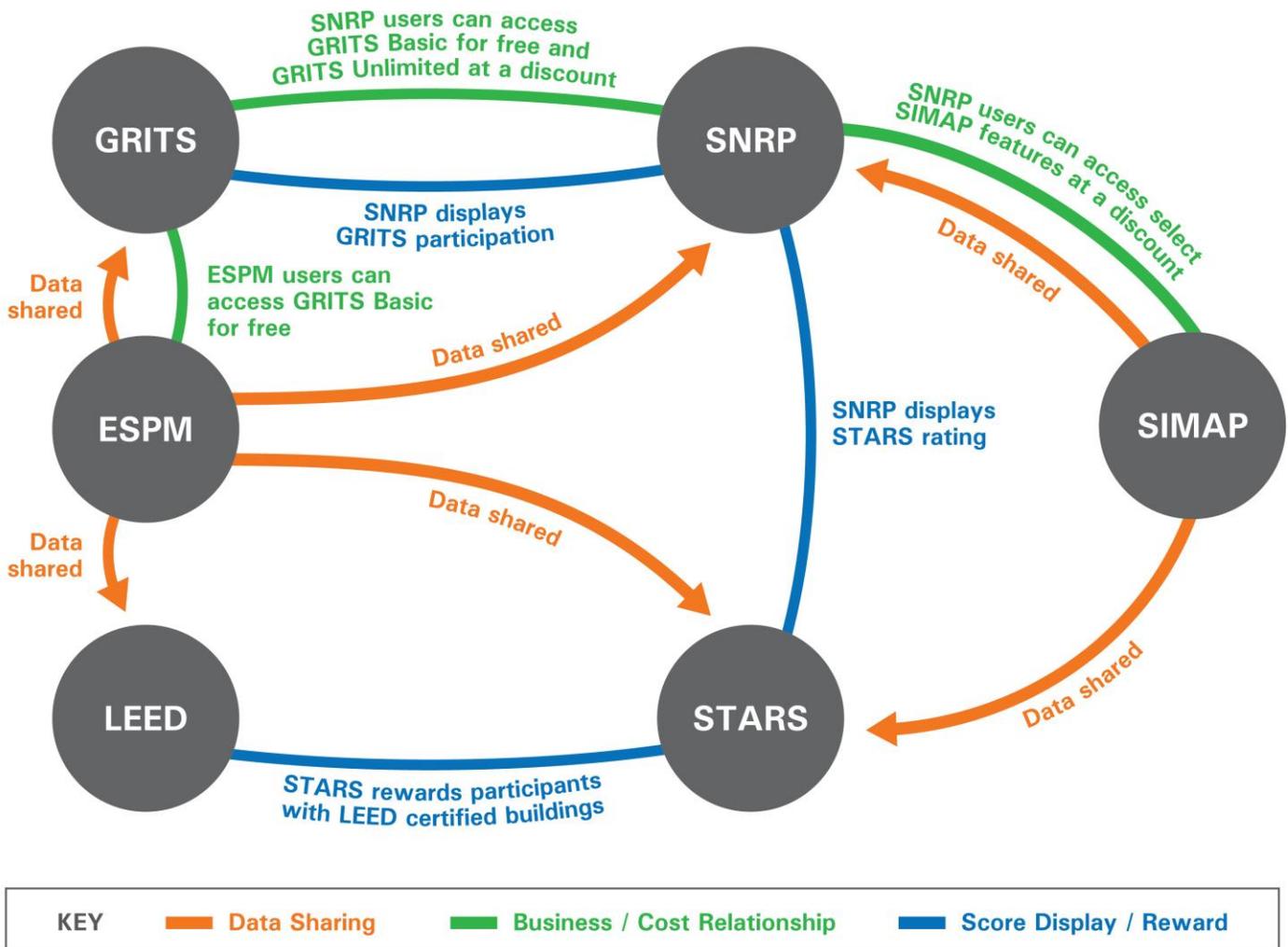
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Figure 2 displays the current integrations between the six tools discussed in this guide. Integrations can be grouped into three categories: 1) sharing raw data, 2) displaying or recognizing scores or outcomes from other tools, or 3) providing discounts or other business/cost benefits to users of other tools.

Figure 2: Sustainability Tool Integrations



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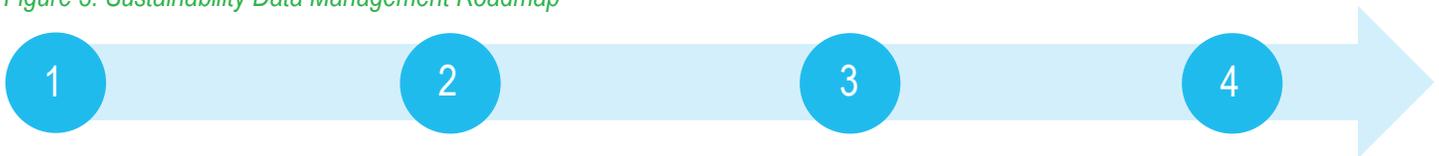


## Sustainability Data Roadmap

If your institution is considering adopting one or more sustainability data management tools, there are a few key steps you can take to select the right solutions and build a successful data management plan. Figure 3 lays out these steps into a roadmap.

1. **Consider your goals** for collecting and tracking sustainability data. This might include identifying opportunities to improve performance, highlighting your institution's successes, or supporting a GHG reduction target. The data you collect should flow from the specific outcomes you want to achieve.
2. **Take inventory** of the data that is already being collected. There may be spreadsheets or software used by the facilities, operations, energy, sustainability, or finance teams that can be directly tapped into. In addition, consider if and where your campus has building-level submetering in place, as this will determine what energy data can feasibly be collected for performance tracking and benchmarking, calculating and reporting GHG emissions, and certification and recognition.
3. **Engage key stakeholders** to ensure that all relevant parties are at the table. Getting buy-in from the facilities team is critical, and students can be a useful source of both labor and support as you make your pitch to the administration.
4. **Create a centralized data management plan** to ensure that all parties are in alignment on goals, responsibilities, and desired outcomes. Select the set of data management tools you plan to use and identify opportunities to integrate these tools to minimize cost and effort.

Figure 3: Sustainability Data Management Roadmap



## Additional Resources

The EPA ENERGY STAR program hosted a webinar in partnership with AASHE featuring speakers from each of the six tools discussed in this guide.

Most of the tools offer free consultation if you want to learn more about how they might work on your campus. Visit their websites linked below to learn more.

[AASHE STARS](#)

[ENERGY STAR Portfolio Manager](#)

[UNH SIMAP](#)

[USGBC LEED V4.1](#)

[Second Nature Reporting Platform](#)

[SEI GRITS](#)

### Additional questions? Contacts us!

[Brendan Hall, EPA ENERGY STAR](#)

- [Hall.Brendan@epa.gov](mailto:Hall.Brendan@epa.gov)

[Sarah Dieck, RE Tech Advisors](#)

- [SDieck@retechadvisors.com](mailto:SDieck@retechadvisors.com)

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