

**Strategic Energy
Management
2021 Impact Report
Oregon Institute of
Technology**

OREGON INSTITUTE OF TECHNOLOGY

December 31, 2021

1. Executive Summary



*Oregon Institute of Technology
3201 Campus Drive, Klamath Falls, OR 97601
Number of years in the SEM program: 2 (2020-2021)*

The Oregon Institute of Technology (OIT) is a natural fit to develop a culture of energy management because energy is a top focus at the institution. For example, OIT houses the Oregon Renewable Energy Center (OREC), has an effective geothermal combined heat and power plant, and offers bachelor's and master's degrees in Renewable Energy Engineering. OIT started its second year in Strategic Energy Management (SEM) by holding meetings with energy coaches and key energy team members, which included faculty and members of the Facilities Department. They discussed opportunities and challenges from 2020 and ways to potentially overcome those challenges in their 2021 engagement. With this strong start, OIT worked to build on the groundwork created in 2020. They added a data champion, hosted an on-site Treasure Hunt, and developed a consistent habit of attending monthly coaching calls, learning to update their energy model, and tracking projects using the new online tracking tool in Smartsheet. Even while facing continued challenges due to the COVID-19 global pandemic (such as staff shortages, a teachers strike, and competing priorities when students returned to in-person classes), Backup Energy champion Jim Lake and data champion Jessica Barnett consistently attended coaching calls and workshops and tracked SEM projects. OIT made great progress in their project tracking and implementation in 2021 and is working to round-out their energy team and deepen their SEM engagement across the campus in 2022.

SEM Program Incentives

	Milestone Incentive Amount	Intern Incentive Amount	Energy Savings Incentive Amount	Total
Year 1 (2020)	\$2,000	\$0	\$18,500	\$20,500
Year 2 (2021)	\$1,500	\$0	\$4,156	\$5,656
Total	\$3,500	\$0	\$22,656	\$26,156

2. Energy Savings Summary



This methodology uses engagement and program historical savings rates to determine savings for each site, which is the current basis for paying incentives. Engagement is assessed through Performance Tracking Tool (PTT) updates, workshop attendance, monthly call attendance, and the number of projects completed. To calculate energy savings, historical savings rates are determined by building type, model age, and fuel type which is applied to each enrolled site.

Normally savings are calculated with meter-level energy models in participant PTTs. The extraordinary circumstances of 2020 and 2021 have required that Energy Trust adapt commercial SEM savings methodologies and program offerings. Energy Trust is only permitted to account for savings and pay incentives for efforts that are directly attributed to participation in Energy Trust programs and will result in savings over future years. As a result, a new way to calculate savings and incentives for the full year has been developed. In 2021, SEM Savings were recognized and incentivized if you:

- Implemented at least five opportunities that were identified on your Annual Energy Plan
- **And** you completed at least two of the following:
 - Attended 50% of operations calls
 - Attended 50% of core SEM workshops
 - Updated all PTTs at least four times

Following are tables showing Program Year 2021 engagement criteria and savings, and below the tables are notes describing what each column represents.

Engagement Metrics for Program Savings Based Incentives	
Number of Workshops Attended	5/7
Number of Operations Calls Attended	8/11
Number of times Performance Tracking Tools Were Updated	2
Number of Completed Qualifying SEM Projects for Incentive	6

	Electric Baseline (kWh)	SEM Incremental Electric Savings (kWh)	Gas Baseline (therms)	SEM Incremental Gas Savings (therms)	Total Incentive
Campus Wide	6,166,800	201,528	16,395	628	\$4,156
Grand Total	6,166,800	201,528	16,395	628	\$4,156

Electric/Gas Baseline is the annual energy use during the period prior to the program/model start date.

SEM Incremental Savings includes savings specific to SEM activities that occurred in the current engagement year (does not include capital savings). For continuation participants, this is your incremental incentivized savings that exceed SEM savings from previous years.

Total Incentive is the SEM Incremental Savings (kWh) x \$0.02 plus SEM Incremental Savings (therms) x \$0.20.

3. Program Highlights



OIT built on the groundwork created in 2020 by adding a Data Champion, hosting an on-site Treasure Hunt, developing a consistent habit of attending monthly coaching calls, learning to update their energy model, and tracking projects using the new online tracking tool in Smartsheet. Even while facing continued challenges due to the COVID-19 global pandemic, including staff shortages, a teachers strike, and competing priorities when students returned to in-person classes, OIT consistently attended coaching calls and workshops and tracked SEM projects.

Key Performance Indicators	
Milestones Achieved:	
<input checked="" type="checkbox"/> Annual Energy Plan	<input checked="" type="checkbox"/> Energy O&M Projects <i>5 /10 complete</i>
<input type="checkbox"/> Standard Operating Procedure	<input type="checkbox"/> Executive Sponsor Engagement
<input type="checkbox"/> Energy Team	
Treasure Hunts Conducted	1
EMA Total Score / Previous Score	8% (2020)

- **Organizational Activities**
 - **Successes:**
 - *OIT attended all required workshops, plus one additional optional workshop, demonstrating their commitment to SEM and willingness to take action towards their energy goals.*
 - *OIT created their first Annual Energy Plan and regularly tracked projects using Smartsheet. Although Smartsheet project tracking was new to the team, they persisted in learning how to use it and were able to collaborate with their coaches effectively.*
 - **Challenges:**
 - *The teachers strike, staffing issues, and eventual loss of their executive sponsor made it nearly impossible for faculty members of the team to be able to engage. This is unlike 2020 when they had strong participation in the program.*

The OIT energy team is led by energy champion and OREC Lab Manager Jennifer Berdyugin and backup champion and Head of Facilities Maintenance Jim Lake. Although the team experienced challenges in 2020 due to the pandemic and limited availability of facilities staff until late in the year, 2021 saw a huge jump in engagement and forward momentum by facilities staff. New data champion and facilities services superstar, Jessica Barnett, came onboard to support SEM with project tracking, model updates, and coordinating a successful Treasure Hunt in July 2021. Unfortunately, as the facilities part of the energy team began to hit their stride, executive sponsor, Mason Terry, who is both a faculty member and the Director of OREC, went on leave. The loss of guidance from their executive sponsor, combined with many competing demands of re-opening the campus to in-person classes, caused the administrative/faculty engagement on the team to suffer in 2021 due to the decrease in support and available resources. Faculty was unable to participate at the same level as they did in 2020, however, Jennifer and others on the team have already made plans to meet before 2022 kickoff. They will look for ways to engage both facilities and faculty/administration in unison in 2022 to create a more integrated and effective team. With the addition of a new executive Sponsor, renewed administration support, and the combined talents and experience of OIT facilities staff and faculty members, OIT could create a truly exceptional energy team in 2022.

The energy coaches consider this energy team to still be in the “Forming” phase of Bruce Tuckman’s Forming-Storming-Norming-Performing model. This theory of group development proposes that each phase is necessary and inevitable for the team to grow, face challenges, tackle problems, find solutions, plan work, and deliver results. In the Forming phase, team members begin to formulate the purpose of the team, its goals, and objectives, and understand the roles and responsibilities needed to achieve their desired results. The energy team should develop a purpose statement and team charter to define the needs they intend to fulfill next year, the tasks required to fulfill these needs, and to understand the roles each team member can bring to complete these tasks. In addition, the team should remain aware of the second, predictable “Storming” phase that follows the initial “Norming” phase of team development. In this second stage, it’s vital to remember that conflict is both necessary and expected when forming a new team or embarking on a new project. Normalizing conflict can help the OIT team, and its leaders respectfully and effectively solve any disagreements and move forward.

Energy Team Phase

<input checked="" type="checkbox"/> Forming	<input type="checkbox"/> Storming	<input type="checkbox"/> Norming	<input type="checkbox"/> Performing	<input type="checkbox"/> Reforming
--	--	---	--	---

5. Plans for Future Success



OIT has a wealth of skills, experience, and ability to create a world-class energy management program. By continuing to invest in low-cost/no-cost energy projects and building a cohesive, cross-departmental energy team to drive technical and organizational success, they can make 2022 their best year yet and create long-lasting change. With all energy team pistons firing, OIT can increase their ability to identify, implement, and track additional SEM measures across campus while connecting their progress to broader organizational strategy and the overall mission of the Oregon Renewable Energy Center (OREC). The energy coaches

look forward to working with the entire team in 2022 and supporting their success in SEM.

- *In clearly defining roles and responsibilities on the energy team, OIT has an opportunity to engage college leadership, staff, faculty, and students to clearly define and communicate the broader goals of SEM for the organization.*
- *OIT is a leader in engineering education in the state. As such, they have access to many talented students that can be recruited as SEM interns at OIT or for other SEM participants in need. Creating a robust SEM intern recruitment program at OIT would serve the dual purpose of adding needed resources to their own energy team, as well as bringing awareness and engagement about SEM to the student population. This opportunity, unique to OIT, should be a high priority in 2022.*
- *The process of developing an energy policy that is championed by the energy team and supported by the college's senior leadership will help OIT understand how the energy team's purpose can align to the college's broader strategic goals and therefore drive support from a broader base of stakeholders.*
- *OIT will be maintaining their focus on current buildings in the program. The team may look at including student dormitories in a future year when campus-wide engagement is more developed and student participation can be increased.*

This report was prepared by:

Lura Griffiths
(971) 678-3921
lgriffiths@aesc-inc.com