

UNIVERSITY OF NEW ORLEANS

Energy Smart Case Study



The University of New Orleans has a proud history of assertive leadership. In 1958, the University opened as the first fully integrated public university in the South and, for over 60 years since, has forged its path to preeminence as contributor to the industry, culture and economy of the New Orleans region and beyond.

While the UNO community shines brightly, its buildings and systems have aged and needed upgrades to make them energy efficient. Even though the delivery of effective facility management services across campuses critically impacts the quality of life for students, essential facility improvements can linger on university wish-lists for years. Not true for UNO. Campus leaders, along with their FM partner Sodexo, utilized financial incentives from the Energy Smart program to improve the quality of campus life and save millions in their utility costs by identifying and implementing energy-efficient upgrades to their HVAC and lighting systems.

Together they identified and prioritized six significant lighting upgrades and two building analytics projects that focused on HVAC optimization. The next step was to utilize the cash incentives available from the Energy Smart program. The results are impressive.

Leading by example and demonstrating that implementing energy-efficient measures is the right thing to do for the community and the planet.

John Nicklow, President, University of New Orleans



CONNECTING PEOPLE & COHESIVE TEAMWORK

UNO recognizes the value of safe, efficient and comfortable facilities as well as stewardship and sustainability. Aligning facility upgrades to sustainability goals is an embedded priority. The University's Sustainability Circle is composed of faculty, staff and students. In addition to initiatives they have proposed and implemented, such as a bicycle maintenance station and an expanded recycling program, they embraced the energy-saving lighting and HVAC systems improvements.

The UNO campus community recognizes the impact of energy-saving initiatives as momentum builders that may propel a cascade of green initiatives that also deliver sustainable budget stewardship. Increasingly, colleges and universities need robust sustainability commitments to attract and retain students. Worldwide, UNESCO reports that 91% of today's students seek out higher education that actively incorporates and promotes sustainability, and the Sierra Club now ranks colleges and universities on a "Greenest" scale. While some criteria, such as bike racks and vegan catering are easier to achieve, the real differentiators in these sorts of rankings are carbon emissions and energy consumption, which is another reason why lighting and HVAC automation projects like those undertaken by UNO are so impactful.

STUDENT ENGAGEMENT

Many of the ideas for energy-efficient upgrades at UNO came from the student community. Ray Wang, the Dean of Library and Information Services reported that students struggled with eye fatigue and dimness from the old fluorescent fixtures in the Earl K. Long Library. Students couldn't even wait for the lighting replacement to be complete; during the construction, many tried to find seats just inside the work area so they could bask in the new light.

Student and community perceptions also impacted the selection of the Lakefront Arena for lighting improvements. Marco Perez, the GM of the Lakefront Arena, reported that students and community members generally felt that the lot was not adequately illuminated. The tennis courts were also poorly lit, and despite lights and open access, students couldn't play tennis at night. In addition to these and other outside locations, older, dim fixtures across academic buildings, such as the Engineering and Geology & Psychology buildings, impacted student engagement and learning.

UNO PROJECT HIGHLIGHTS	
kWh Savings	2,836,638
Total Incentives	\$218,484.02
Total Project Cost	\$1,409,543
Net Total Cost After Incentives	\$1,191,058.98
Payback Period	4.2 years
Total Estimated Energy Cost Savings/Year	\$238,663.80
% Project Cost Covered by Incentive	16%



LIGHTING UPGRADES

Earl K. Long Library

- All existing lights were replaced with high efficiency LED - over 30,000 bulbs in 5,000 fixtures.
- The lighting upgrade for this facility alone generates 633,638 in annual kWh savings and will generate an estimated \$63,363 in annual energy cost savings.
- Energy Smart provided a \$50,000 incentive for the library lighting upgrade.

Geology & Psychology Building

- This project entailed replacing existing lights in over 1,286 fixtures with over 3,000 LED bulbs. This portion of the project generates over 188,365 in annual kWh savings with an estimated annual energy cost savings of \$18,837.
- Energy Smart incentives reduced the cost of the lighting upgrade by 28%, covering \$18,836.51 of the total cost.

Exterior Campus Areas and Walkways Across Campus

- This portion of the project created well-lit pathways across campus, creating a safer, more welcoming and more accessible community for everyone.
- Annual kWh savings exceed 574,740 and generate more than \$57,474.23 in annual energy cost savings.
- Energy Smart incentives covered 18% of this project's estimated costs with a \$50,000 rebate.

Lakefront Arena Parking Lots, Exterior Ramps and Tennis Courts

- Safety concerns have greatly diminished now that the parking lots are well illuminated with all-new LED bulbs. UNO no longer has to fund police escorts and patrols in that area, and students can enjoy playing tennis at night.
- Lighting improvements outside the Lakefront Arena, tennis courts and exterior ramps generate an annual savings of 1,064,824 kWh and an estimated annual energy cost savings of \$106,482.
- Energy Smart incentives covered about 11% of this portion of the entire campus project, providing an incentive of \$57,324.

Engineering Building

- This portion of the project illuminated the learning spaces for future engineers and their professors and instructors through installation of 4,888 new LED bulbs in over 1,766 sq. ft.
- This project generates over 278,726 in annual kWh savings with an estimated annual energy cost savings of \$27,872.67.
- Energy Smart incentives reduced the cost of the Engineering Building's lighting upgrade by 27%, covering approximately \$28,000 of the total cost.

HVAC-ENERGY MANAGEMENT & BUILDING AUTOMATION SYSTEM UPGRADES

Pontchartrain North and South Halls

New Orleans is indisputably one of the most culturally rich and exciting places to choose for higher education, but the climate is not only just hot - the city experiences humidity averages far higher than many other parts of the country. Late summer rates often hover above 90%, with percentages often between 50% and 75% the remainder of the year.

Humidity is not the only year-round challenge for UNO's HVAC systems. Like any large plant, efficiency and comfort are also key considerations. Students in both residence halls complained of being hot, and each HVAC unit had no individual controls, so facility managers and housing leaders lacked the ability to create zones depending on student population and needs - controls were all or nothing. Facility managers invested countless hours in individually maintaining and manually controlling each unit.

The introduction of a new Building Automation System to coincide with the HVAC upgrades was a tremendous step for both budget and environmental sustainability. Comfort is essential for today's college students. Not only are the rooms in their residence hall less humid, they can use their own smart thermostats to adjust the temperature within their rooms, within a set range. Housing leaders are calling in fewer maintenance requests, and facility managers have more time for other campus priorities. Incorporating building automation in prioritized segments is an exciting step for UNO.

“As an institute of higher learning, we should be at the forefront of demonstrating the value of programs like Energy Smart. We should be one of the first and best customers to show the community that implementing energy efficiency programs is the right thing to do for our community and planet.”

Gregg Lassen,
Vice President of Business Affairs,
University of New Orleans

CONCLUSION - PARTNERSHIPS FOR SUCCESS

Campus leaders represented a variety of perspectives and provided critical data and helped gather student input. Dr. Lassen, UNO vice president for business affairs, recognized the opportunity to be fiscally responsible and requested Sodexo's support in implementing these initiatives. And lastly, the Energy Smart program provided the needed incentives to make these energy-saving upgrades possible.

For information about this and other Energy Smart offerings, visit energysmartnola.com, email info@energysmartnola.com or call **504-229-6868**.

