



# Generate Comprehensive Energy Savings for Higher Ed

Expertise and resources to support colleges and universities in building an efficient and modern infrastructure.

## Infrastructure in Need of Upgrades

At many colleges and universities, systems that power, heat, and cool campus facilities are operating well below optimal efficiency. This infrastructure has fallen out of date because of competing priorities and required capital to fund improvements. Adding debt to the school's balance sheet becomes a non-starter.

However, a neglected infrastructure is both unreliable and far more expensive to operate and maintain. Aging systems tend to be less efficient than their modern counterparts, and unplanned repairs can be costly and time-consuming for operations staff.

OPTERRA Energy Services (OPTERRA) has the expertise to help your college or university modernize its campus infrastructure.

Your facilities may be a good candidate for our support if you face any of the following challenges:

- The need to reduce spending on energy, both on an ongoing basis and in unexpected repairs.
- A backlog of deferred maintenance, resulting in critical systems breaking down frequently.
- Impending state or local regulations requiring improvements in energy efficiency and/or movement toward a zero-carbon footprint.
- Lack of staff time to effectively navigate the landscape of available grants and incentives.
- Difficulty finding financing for infrastructure improvement projects.
- Lack of clarity on where to start – inaction can be the path of least resistance.

## Making Sustainability Easy

For colleges and universities on the break-fix treadmill, partnering with OPTERRA can provide:



### Infrastructure Improvements

After an energy audit that reveals the most-needed upgrades, OPTERRA will modernize existing assets or design and install new systems. The process will reveal, and help you prioritize, opportunities to improve efficiency and reliability, even if low-hanging fruit such as lighting upgrades are already complete.



### Operations & Performance

Working with an experienced partner like OPTERRA simplifies the process of planning and completing upgrades, making it easier for internal staff to move forward with utility improvement initiatives. OPTERRA will also share knowledge and timelines for any upcoming regulatory requirements to update energy systems, and contracts guarantee energy savings performance for the long term.



### Financing

OPTERRA understands timing and qualification specifications for a wide array of grant and incentive programs, including the Inflation Reduction Act (IRA), and can guide colleges and universities through the application process. In addition, OPTERRA can connect institutions with financial partners so that improvements are funded through routine operational payments rather than one-off capital expenditures.

Partnering with OPTERRA on a sustainable energy infrastructure initiative ensures that the project meets expectations, while finishing on time and on budget. In many cases, the energy savings are large enough that reductions in energy expenditures more than offset the routine OpEx payments.

### For college and university campuses, we offer:



#### Efficiency upgrades

Support energy conservation measures; deploy new monitoring and control systems; and update lighting, HVAC systems, and building envelopes.



#### Plant modernization

Management of large-scale infrastructure improvement projects, including upgrading or replacing steam, chilled water, or co-generation plants, or design and deploy a geothermal energy infrastructure.



#### Onsite solar & storage

Turnkey installation of solar PV systems on rooftops, parking garages, and other locations. Design and implementation of battery energy storage to reduce demand charges and provide backup power.



#### Resilient microgrids

Minimize the impact of power outages on student learning by building a microgrid that consists of onsite solar arrays, battery energy storage, generators, and/or fuel cells for backup power. Such a microgrid ensures that crucial systems remain operational, and campuses retain power, regardless of grid reliability.



#### Vehicle electrification

Zero-emissions vehicles are the future of transportation. In addition to reducing noise and air pollution, they minimize cost per mile traveled. OPTERRA works with institutions to fund, design, and build a fleet of electric or hydrogen vehicles, along with the requisite charging infrastructure.



#### Academic collaborations

Leverage energy initiatives in the classroom, via curricula that incorporate our expertise, and in the real world through internships that involve students in infrastructure design, financing, construction, and ongoing maintenance.

### A Long-term Partner

OPTERRA has served hundreds of colleges and universities around the world, using a comprehensive approach that makes it easier to optimize the onsite energy infrastructure.



#### HARTNELL COLLEGE

Hartnell College partnered with OPTERRA to design and install a **2.6 MW solar PV system with battery energy storage**, and to **upgrade lighting and HVAC across two campuses**. An interest-free loan from the California Energy Commission (CEC) financed the project. The college expects to **save \$26 million on energy** by reducing electricity purchases by 93% at one campus and 63% at the other. The partnership integrated the solar PV projects into the college's **career training programs and STEM** curriculum.



#### THE UNIVERSITY OF UTAH

Starting in 1998, the University of Utah worked with OPTERRA to roll out energy-efficiency upgrades and improvements across 81 buildings. OPTERRA then designed and installed a **natural gas-fired turbine generator, a hot water plant, two chilled water plants, and a waste-heat recovery cogeneration system** to further save energy and improve operations. The program reduced the university's carbon footprint in alignment with its Climate Action Plan and **captured annual savings of \$1.75 million for 16 years**.



Georgetown University is working closely with OPTERRA on campuswide energy-efficiency upgrades and a sustainability road map. Improvements include a wide range of energy-saving projects, from **replacing aging HVAC units and installing LED lighting to developing a humidity control system for a massive pipe organ**. OPTERRA's work at the university is also creating unique opportunities for **academic collaboration and internship programs**.

Contact OPTERRA to learn how we can help you take a step back from the maintenance treadmill and focus on a comprehensive picture of your campus's overall energy efficiency needs: [info@opterraenergy.com](mailto:info@opterraenergy.com)