



AESTM

DESIGN BUILD
CONTROLS & **LIGHTING**

Practical Energy Solutions



Practical Energy Solutions is a comprehensive engineering, design and installation firm specializing in lighting control and lighting projects that provide sustainable energy savings. Founded at the turn of this century, our company is the preferred sensor and lighting partner to the nation's major Energy Services Companies. With staff nationwide, we're able to support customers throughout the country. Fully licensed, bondable and insured, PES is committed to providing the best financial return for your project, while guaranteeing outstanding customer satisfaction.

As an Application Specialist, PES focuses on developing and implementing cost-effective solutions for energy conservation projects. By combining both lighting upgrades and sensor controls, we create innovative designs custom to our clients' needs, that save energy and generate a strong return on investment. Upon consultation of a project, our staff performs an in-depth analysis of the property using advanced monitoring techniques. With our detailed efficiency reports, PES professionals design an energy solution unique to the project. Using our knowledgeable installers, we are able to execute the design in the field to ensure that the proper equipment is applied.

QUALIFICATIONS

Our team is mobile and substantial. From Kodiak, Alaska to Key West, Florida, we have completed a wide range of projects including commercial offices and retail shops to federal, state and municipal buildings. The PES staff is comprised of industry leaders with years of combined experience and qualifications. We believe the best way to

get it done right is to do it yourself, which is why we use our own expertly trained employees to manage and build the project. In addition to their technical expertise, PES personnel meet the strictest government and military security clearances from middle schools to multi-million square foot federal military bases.

This is why PES is looked to as the industry leader in sensor and lighting energy conservation projects.

- ✓ LEED Accredited
- ✓ Licensed P.E.
- ✓ Design & Application Engineers
- ✓ Licensed Electricians
- ✓ OSHA Trained
- ✓ Certified Lighting & Lighting Energy Managers
- ✓ Experienced Auditors

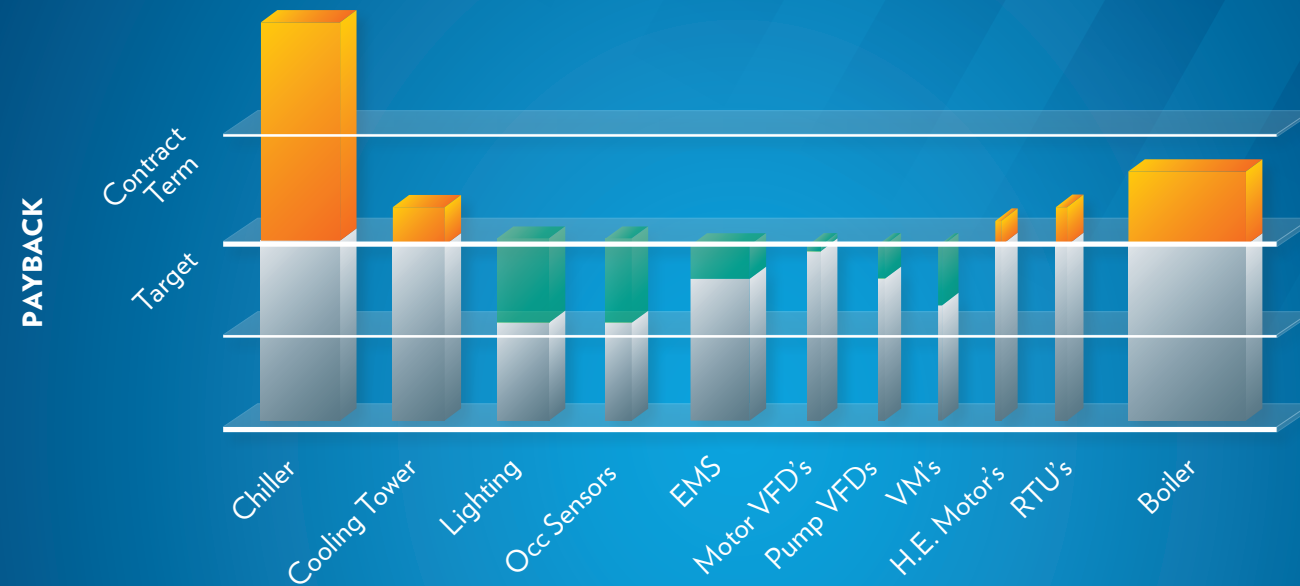
PES is a highly qualified design build contractor.

FROM KODIAK TO KEY WEST

CHALLENGE

Our challenge is to maximize the cash flow savings from sensors and lighting upgrades. In every comprehensive project, the faster payback measures support capital expenditures that would not otherwise justify themselves. The graphic below illustrates the effect that each measure has on the Contract Term cash flow.

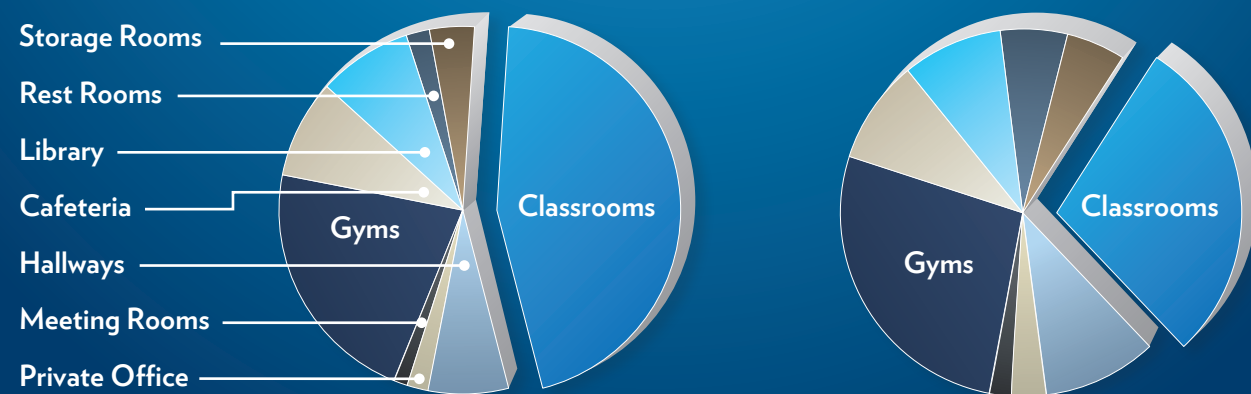
The Target payback period drives the financial analysis making the comprehensive project viable.



Schools for example...

Not all Loads are created equal. When usage is compared with the Loads savings potential can vary significantly. Classrooms for example, typically represent 45-50% of the school's lighting Load. However, their savings potential is historically 30-35% of the project. Gyms on the other hand are frequently not retrofitted with Occupancy Sensors, however provide one of the best paybacks and significant overall savings.

LOAD (kW) ≠ SAVINGS (kWhr)



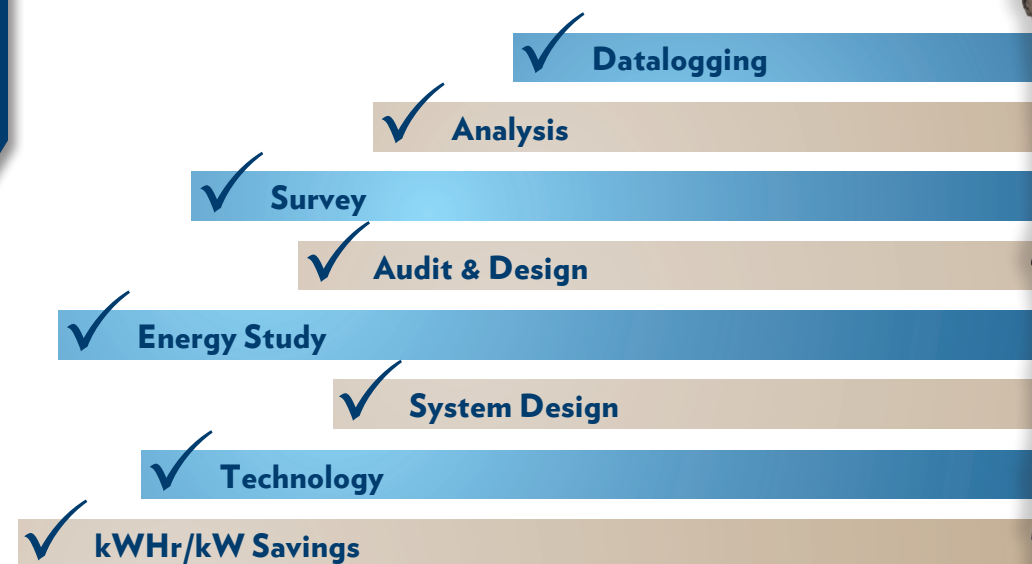
SOLUTION

Why only pick the low hanging fruit, when we can provide you with the whole tree?

PES provides a customized and comprehensive project, using all the data collected rather than cherry picking certain areas. Our approach is thorough and holistic, we won't leave any opportunity for savings uncovered. We optimize every part of the project, servicing the client's full needs instead of choosing the quickest and most obvious solution.

Our solution is simple: we guarantee performance throughout the entire project. PES provides reliable implementation by working together with our customers to develop sensor and lighting designs that meet the facility's needs. Our focus is on improving the overall quality of the building, while reducing energy costs and enhancing the facility's atmosphere. We deliver user convenience, flexibility, and satisfaction.

“ We guarantee kWhr/kW savings per the dollars invested based on monitored and approved data. System performance is guaranteed. ”



MONITORING & ANALYSIS

At PES, we concentrate on gathering extensive data by closely monitoring the facility. Instead of relying on customer interviews for approximate run times and occupancy schedules, we obtain actual hours of use and time of day occupancy, showing how much energy can be saved and when. Our analysts distinguish between specific area types and the total building data to provide a statistically relevant diagnosis.

Our audit team installs the monitoring system in the facility. Each room is assigned an area type; rooms of the same area

type are blended together to simulate actual usages of that type of room. Additionally, the lighting loads are considered to establish an overall usage of the entire facility. Upon completion of the monitoring, our professionals collect, analyze, and produce a comprehensive savings report that includes real time hours of operation, peak billing hours and a summary of the project.

Our analysts take everything into consideration, including a time of day connected load before and after the project, load by area type, energy consumption by area type and electrical demand by area type. In doing so we can evaluate energy savings, simple payback, return on investment, cash flow, and environmental impact.

DESIGN

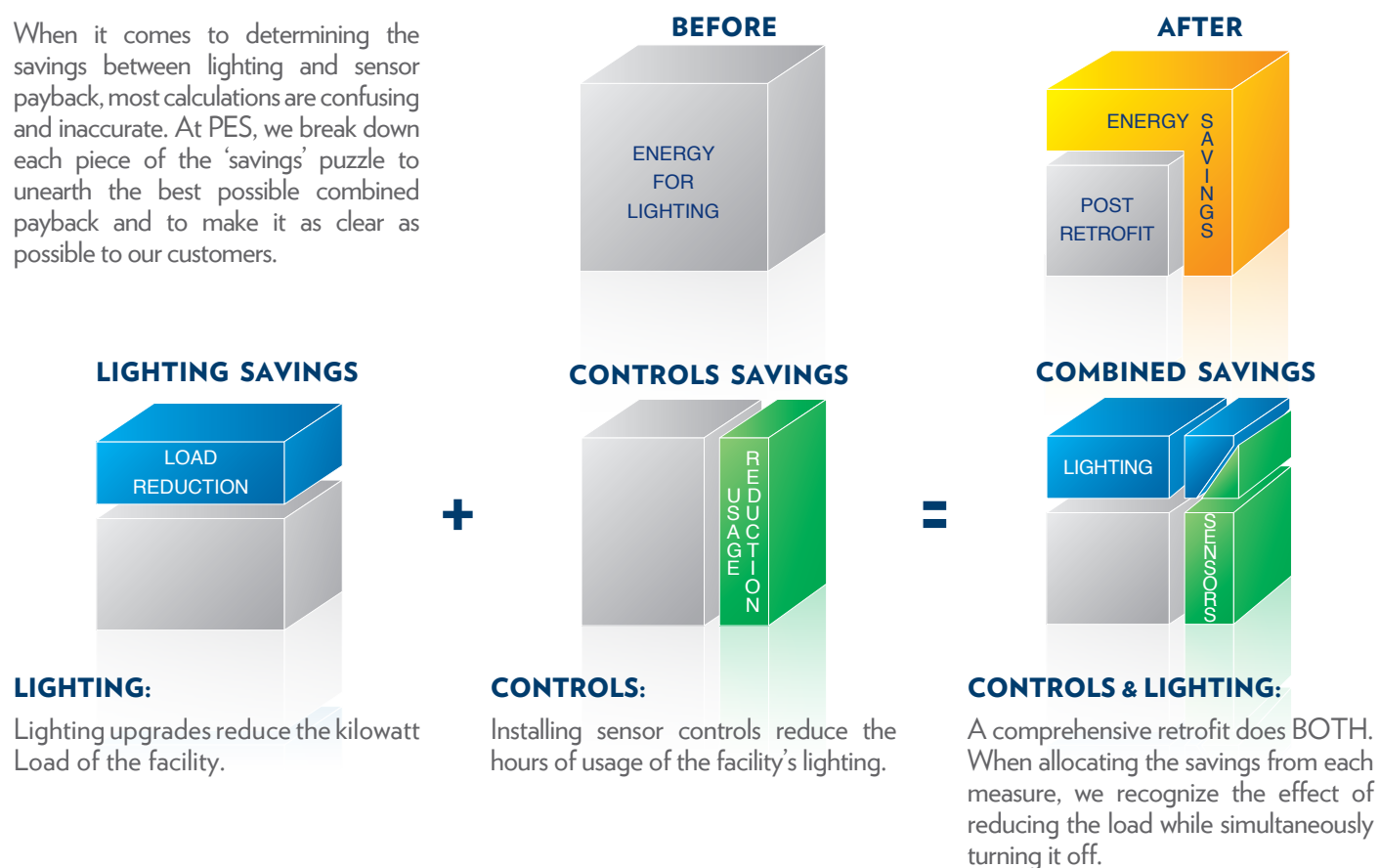
We offer detailed, convenient and personalized design aimed at conserving energy and reducing operational costs. Years of experience with occupancy sensors and lighting control installations throughout the country have lead to our superior level of expertise in sensor selection, design and installation. At PES, we understand that not all sensors are created equal. Therefore, our designs contain many different types of sensors, as we carefully determine the best combination for each and every application in the facility. Additionally, we build our designs based on the product and labor required to deliver the stated energy savings.

Not only do we specialize in controls, we also work to provide comprehensive lighting upgrades. Instead of taking a 'cookie cutter' approach to design that is common in our industry, our retrofits combine state of the art lighting technologies along with attractive financial returns. Our staff is expertly trained in both energy measures; we have dedicated crews for each project dependent on the design to ensure the best service. We pride ourselves on being a sensor contractor that does lighting as well.

MATH

$$\left[\left(\text{Lighting Savings} + \% \text{ of Combined} \right) + \left(\text{Sensor Savings} + \% \text{ of Combined} \right) = \text{Total Savings} \right]$$

When it comes to determining the savings between lighting and sensor payback, most calculations are confusing and inaccurate. At PES, we break down each piece of the 'savings' puzzle to unearth the best possible combined payback and to make it as clear as possible to our customers.



Contract Term Cash Flow vs. Payback

- LIGHTING:**
Lighting typically has a longer payback then Occupancy Sensors, historically providing greater Contract Term Cash Flow.
- CONTROLS:**
Occupancy Sensors which typically provide the best payback, historically provide less Contract Term Cash Flow.
- COMBINED:**
Combining both measures increases the payback, historically providing the maximum Contract Term Cash Flow.



INSTALLATION

Experienced Professionals
working for you

PES is dedicated to delivering the highest quality installation and project management to our clients. The cornerstone of our success in large scale implementation of lighting control systems resides with our team of skilled professionals. When it comes time to install the lighting control project our staff of trained electricians and project managers provide prompt, efficient attention to our customers.

We have a level of unmatched product knowledge combined with meticulous workmanship which is demonstrated with our two comprehensive installation crews; one created for occupancy sensors and the other for lighting upgrades, as each requires two separate skill sets. We understand the importance of execution and that delivering your project on time, on budget and with superior quality are the factors that will deliver us full customer satisfaction on all installations.



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