



Project Snapshot

BUILDING TYPE:

Warehouse with adjacent office space

MEASURES:

Lighting Retrofit

APS INCENTIVES:

\$4,882

BUSINESS ROI:

Less than 3 years

**ANNUAL PROJECTED
ELECTRICITY SAVINGS:**

62,000 kWh

LIFETIME PROJECTED SAVINGS:

1,126,00 kWh

Phoenix Small Business Sees Big Savings with Lighting Retrofit

When you have a warehouse packed with everything from refurbished air compressors to X-Ray machines, plus a classic Jaguar just for fun, getting a clear look at your inventory is critical. RGL Enterprises needed a more effective lighting system for its Phoenix warehouse and office—one that improved lighting quality and energy efficiency. “We wanted better lighting, less maintenance and lower energy bills,” says RGL President Robert Loeb.

“I would absolutely recommend this program to any business owner. Participation is easy and the payoff is significant.”

Robert Loeb, President
RGL Enterprises



RGL replaced 54 metal halide lamps (above) with T5 high output fluorescent lamps and fixtures (below).



Project Description

Before the retrofit, the 27,000 sq. ft. warehouse was unevenly lit by 400-watt metal halide lamps, which projected narrow beams of light and cast shadows everywhere else. Even with the sun streaming in through skylights, the lighting was inadequate. The situation in the adjacent office space was no better. Overhead strip lighting and old fluorescent fixtures left much room for improvement in the working environment.

Not only was RGL stuck with poor light quality, the inefficient lamps and fixtures drove up monthly electricity bills and required regular maintenance. “We were always losing bulbs or ballasts. There was always a corner of the warehouse that was dark. We’d wait for a section to go before replacing the bulbs or ballasts because we had to move our equipment out of the way and bring in lifts to reach the fixtures. Plus, when some of the ballasts would go bad, they would draw too much electricity and throw a breaker. It was a real pain,” says Loeb.

RGL worked with its longtime lighting contractor to develop an optimal solution and applied for incentives from APS’ Solutions for Business program to help fund the retrofit measures. “The structure of the APS program made it easy for us to participate,” says Loeb.

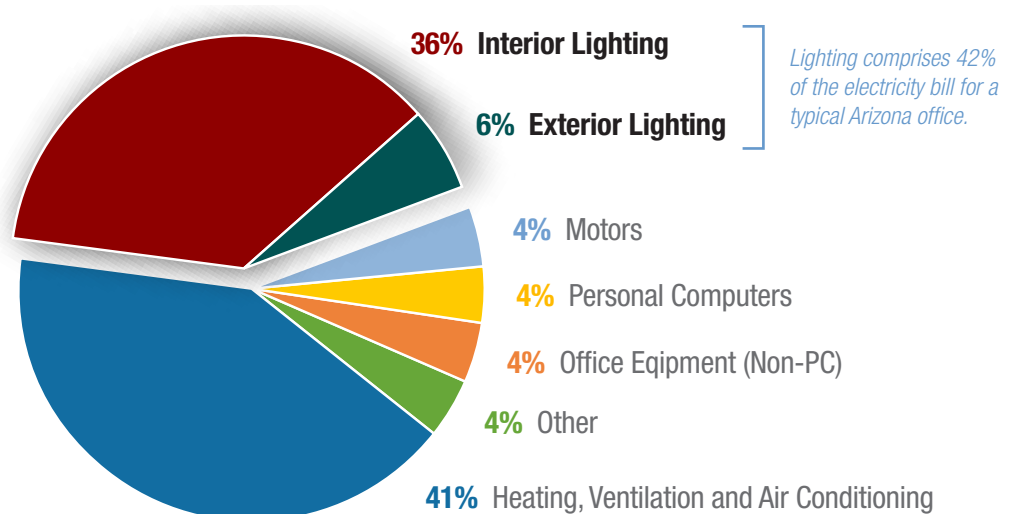
In the warehouse, 54 metal halide lamps were replaced with T5 high output fluorescent lamps and fixtures. Loeb notes that new lighting is noticeably improved. “It’s much brighter and more even.”

In the adjacent 2,000 sq. ft. office, 104 T12 lamps with magnetic ballasts were replaced with T8 lamps with electronic ballasts. They used retrofit kits for some of the strip fixtures and simply replaced lamps and ballasts in others. The entire project took about four days to complete.

What’s the Bottom Line?

The average office expends \$1.40 per square foot for electricity. These costs typically account for 30% of total operating expenses. Reducing energy use can directly benefit your bottom line.

Fig.1 Typical Electricity End Use by Small Office Buildings in Arizona



Project Costs & Benefits

The warehouse retrofit cost approximately \$13,000 and RGL qualified for \$4,050 in incentives from APS' Solutions for Business program. The new lighting is projected to save 62,000 kWh annually and more than 1,000,000 kWh over the lifetime. Loeb expects to save \$4,400 per year on his warehouse electricity bills. The warehouse project will pay for itself with energy savings within two years.

The office retrofit cost approximately \$3,300 to complete and RGL qualified for \$832 in incentives from APS. RGL is estimated to save \$500 annually on its office electricity costs. "This includes lower cooling costs due to the reduced heat load from the lighting," says Loeb.

Added Savings

In addition to the annual energy savings, RGL will reap the rewards of reduced maintenance. Loeb estimates the company will save \$2,000 per year in service costs. "The nicest thing is we don't have to worry about maintenance."

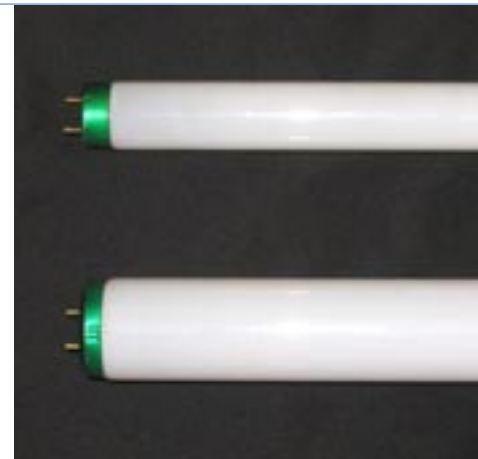
Loeb was so impressed by the results that he decided to repeat his success at another Phoenix-area RGL facility. The company qualified for \$8,300 in incentives for the additional projects and expects to save another 76,000 kWh each year.

Payment Option Benefits Owners, Contractors

RGL used a feature unique to the APS program which allows the incentive check to be sent directly to a third-party, in this case, the contractor. This reduces upfront costs to the owner.

"The APS incentives have opened up the market and made business owners much more interested in these measures," notes Steve Dykeman of Inline Electrical Resources, RGL's contractor. "They are good for everybody. The incentives help business owners avoid out-of-pocket expenses and they help us to install more energy efficient lighting. And that helps the entire community by reducing energy use."

Robert Loeb concurs. "This is a great program. The measures pay back quickly and they've made a real difference in our daily operations."



RGL replaced T12 fluorescent lamps (bottom) with T8 lamps (top) in the office and expects to reduce electricity costs by \$500 per year.

What's In Your Fixture?

Still common in many commercial buildings, the linear fluorescent T12 lamp is an outdated and inefficient technology. Replacing T12s with T8 lamps can reduce electricity use by 15-25%, while providing better lighting quality and longer life. T8 lamps also operate on more efficient electronic ballasts rather than the older magnetic ballasts typical among fixtures using T12 lamps.

Inspired to save energy in your business?

Visit aps.com and click on "Save Energy" for ideas and information to get started today.

Additional Lighting Efficiency Strategies

- ➔ Lighting controls can cut usage by **20-75%**. Install occupancy sensors, timers and photocells to provide light only when it's needed.
- ➔ Install ENERGY STAR® qualified exit signs, which can last 10 times longer and use **80% less energy** than incandescent signs.
- ➔ Reduce lighting maintenance costs by **25% or more** by replacing all lamps when they reach 70% of their calendar life.

APS Solutions for Business

APS' Solutions for Business Program offers incentives to business customers to reduce energy consumption. Business customers can use the incentives to install energy-efficient equipment in an existing building or in new construction projects. These measures produce real energy savings, which translate to a better bottom line. They can also reduce maintenance demands, improve comfort and boost productivity.

A broad menu of energy efficiency incentives is available to meet the diverse needs of business customers:

Lighting

T8 and T5 fluorescent lamps, T5 high output fixtures, delamping, exit signs, occupancy sensors and compact fluorescent lamps (CFLs).

Cooling Equipment

High-efficiency air conditioning units and programmable thermostats.

HVAC Testing and Repair

Test air conditioners for refrigerant charge, air flow, duct leakage and economizer function. Based on test findings, adjust refrigerant level, seal ducts and correct economizer operation.

Motors and Variable Speed Drives

Premium efficiency motors and energy-saving variable speed drives.

Refrigeration Equipment

Strip curtains on walk-ins, night covers, high-efficiency refrigerators, vending machine controls and anti-sweat heater controls.

For a complete list of qualifying equipment and specifications or for more information call (866) 277-5605 or visit aps.com



The APS Solutions for Business program is funded by APS customers is approved by the Arizona Corporation Commission.