

# Integrated Services



## Why Reflective Energy Solutions?

Reflective Energy Solutions (RES) is an independent consultancy that works for you—not the energy supplier. We are independent customer advocates who are vendor neutral, allowing us to consistently help our customers make the right energy decisions for *their* businesses.

There are three ways that we help our customers with their energy needs:

- Pay Less
- Use Less
- Make your own onsite, cheaper than the utility

## Helping Our Customers Pay Less

The easiest way to reduce energy costs is to help our customers pay a lower rate for the energy that they use. This can be achieved through two programs—Energy Procurement and Curtailment Programs:

### Energy Procurement

If a customer is located in a deregulated market for either electricity or natural gas, switching supplier(s) may be beneficial.

Switching suppliers simply means that a different bulk-energy buyer is contracting for electricity or gas on the customers behalf. The only difference is a line item on the energy bill—and better contract terms.

There is a dizzying array of complex options, beyond just price, available in the marketplace. RES helps our customers navigate this maze and helps identify the best choices that meet our customer's needs.

### Curtailment Programs/Demand Response

Demand Response programs help utilities improve system reliability and prevent blackouts during periods of excess demand / disruption. Large users are paid to “dial down,” adding tens of thousands of dollars back to your bottom line.

## Helping Our Customers Use Less

Beyond lowering energy costs, a longer term solution is to help our customers become more energy efficient and reduce their energy needs. This can be achieved through a number of initiatives.

### **Lighting Retrofit or Replacement**

One of the simplest ways to begin lowering energy utilization is by modifying the lighting that a facility is using. Lighting systems have 3 major components, each of which can be addressed individually in a retrofit program:

- Bulbs
- Ballasts
- Fixtures

Changing bulbs used in existing fixtures (i.e. from incandescent to CFL or LED) is an easy initiative to implement and cost-justify. Larger-scale projects, such as replacing ballasts and fixtures, cost more but provide greater long-term savings.

### **Weatherization/Conservation**

One of the largest contributors to energy usage is the need for heating and cooling facilities. Weatherization projects involve an audit of the customer's facility and recommendations of remedial actions to make the facility more weather resistant, retain its heat, or cooling and to reduce waste.

### **Monitors, Modulators and Management Systems**

An economical approach to managing energy consumption is to install any of a number of monitors and energy management systems that can give greater insight into energy usage patterns and have the ability to throttle that usage as needed.

Among the key solutions are:

- Boiler Monitors
- Motion Sensors
- Schedulers and Timers
- Energy Management / Building Management Systems
- Variable Frequency Devices (VFDs)

### **HVAC and Boiler Retrofit/Conversions**

Replacing HVAC systems and boilers is relatively expensive with a lower ROI and a longer payback period than most other efficiency initiatives.

If an HVAC system or boiler needs replacement due to age or in response to government regulation, the energy profile of the replacement should be considered as part of the project.

RES partners can help customers understand their options regarding HVAC or boiler retrofit and help them to make the best decision possible.

### **Local Law Compliance**

RES can help obtain proposals through our partners and supply you with a line by line comparison of the proposals and make the right recommendation so that your facility is compliant with these Local Laws.

## **Helping Our Customers Make Their Own**

As a long term strategy, the ideal solution for many customers is to reduce their reliance on external energy suppliers and to generate their own power to meet all or a large portion of their load. This can be achieved through economically feasible approaches like Solar PV and Co-Generation.

### **Solar PV**

Solar photovoltaic (PV) electricity generation is the most cost-effective and environmentally beneficial solution for on-site electricity generation. Federal, State and local rebates/incentives make the installation of solar arrays especially attractive.

A number of new financing alternatives allow customers to install solar facilities with no capital outlay. Ideal candidates for Solar PV include commercial and industrial facilities with large, flat, unencumbered roofs or parking lots.

### **Cogeneration (CHP)**

Cogeneration, or Combined Heat and Power (CHP), is the on-site production of two kinds of energy—electricity and heat—from a single source of fuel—usually natural gas.

While the traditional method of purchasing power from the grid's power plants is convenient—it is very inefficient. More than  $\frac{2}{3}$  of the energy produced is wasted due to heat and transportation losses. Utility customers, of course, pay for these losses in their electric rates—and always have.

Depending on the application, the integration of power and heat production into one on-site CHP system can often produce savings of up to 40% on total energy expenditures.

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