

How to reduce energy costs in facilities during Covid-19 and beyond

If the global pandemic of 2020 has shown us anything, it has been that work can be accomplished from just about anywhere, anytime. As a result, occupancy of office space for many companies during this time has been sparse, even non-existent, especially during the height of the shutdown, yet building expenses often remain constant.

As a business leader, you are well aware of your company's energy costs — but do you know just how much control you can potentially have over them? When your facility uses a lot of energy at once, you pay a demand charge: a fee that covers the cost of equipment necessary to provide uninterrupted power to a facility, no matter when or how much is used. It's recalculated on a monthly basis based on the peak energy used each month (called the rate of consumption). In essence, the more energy you use at any given time, the more money you'll pay for it.

The key to energy savings

Demand & Usage:
Your utility bill's two most expensive components.
<u>Demand</u> is the rate at which energy is consumed
<u>Usage</u> is the total amount of energy consumed over time



So, how can you better manage your utility costs?

The key to energy savings is being able to control demand and usage without compromising comfort.

Let's take a step back and review how energy control has progressed from the individual thermostats of yesterday to the much more efficient and highly advanced building control systems of today.

Thermostats vs. building energy management systems (BEMS):

Thermostats are familiar products that are not up to the needs of today's businesses and remote environments. If you are not managing your energy program effectively now, you should be looking into a BEMS. Once you look into one, you should make sure it has certain features. A BEMS can save you money by controlling the rate of consumption.

A thermostat is a device that exerts control of the room temperature by switching heating or cooling devices on or off. The user can program an electronic thermostat with multiple setpoints and time periods but, other than that, a thermostat has limited capabilities. Each thermostat acts independently, often with all of them calling for heat or AC simultaneously. Because a single thermostat does not know or care if other units are running and users can set an override to almost any temperature to defeat the scheduling feature, demand charges are driven up

The role of a BEMS is to simplify building control for energy related systems specifically and provide savings by automating and allowing the control of certain resources, such as HVAC and lights from any location. Managing energy is fast becoming one of the most important functions of a BEMS but the system needs to do something in response to the energy data it is gathering to be useful. Not all systems operate the same way with the same level of functionality so you'll want to do your own research.

How to determine the right BEMS for your organization

Ask these key questions to determine which BEMS will work best for your organization.

- Is it easy to use?
- Does it meet the needs of your facilities staff?
- Is it cost effective?
- Can you access the system from where you need it? For example, remotely via a smart device?
- Are you able to manage your energy program effectively with the features it offers?
- Does it provide analysis and automated control or just analysis, which requires human intervention?

The objective of a BEMS system should be to reduce energy consumption (and cost) while maintaining a comfortable environment. Look for a BEMS that makes decisions automatically and makes it easy to see, at a glance, how well the systems are performing and where attention is required.

When considering a BEMS, these basic features should be included.

- User security.
- Prevent manual setpoint changes.
 - Scheduling flexibility to allow different scheduling for each day of the week, set up holidays as unoccupied times and set up occupied/unoccupied times with different set points.
- Remote zone and supply temperature measurements.
- User activity log.
- Historical reports of functionality in detail and summary.
- Smart start – the ability to calculate when to start each day based on indoor and outdoor temperatures.

Advanced features should include the following.:

- Monitoring total energy consumption and making decisions based on energy being used.
- Setback for peak time of day rates.
- Managing multi-stage units based on temperature, not time.
- Manage humidity (requires the proper roof top unit [RTU]).
- Time limited defined temperature overrides.
- Economizer (fresh air) controls.

To learn more, contact Craig Yancich, national sales, at 508-514-1100 or cyancich@saveenergysystems.com.

As an energy efficiency company, [Save Energy Systems](#) is focused on providing small to mid-sized facilities with a level of HVAC control functionality that is equal to, or better than, what is available in large management systems – all for an affordable price and without reducing comfort.

[Paul Laskow](#) is president of Save Energy Systems, Inc. and architect of the patented Demand Limiting Controller (DLC), a BEMS that contains logic specifically designed to reduce a company's HVAC energy expense, resulting in increased profits and reduced CO2 emissions.

He founded the company after personally experiencing very high energy bills due to demand charges.