

Tips for Lowering Your Energy Costs with EMS Air Conditioning

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Introduction

It's a challenging time for energy costs and everyone is paying the price.

Multiple Complicating Factors

A host of global dynamics—including geopolitics, supply uncertainty, rising interest rates, and intensifying regulations—have propelled energy prices on a seemingly irresistible upward trajectory. This poses a thorny challenge for facility managers striving to rein in soaring utility bills even as business reliance on energy persists.

Compounding matters is the fact that the clean energy solutions that many are pushing for as part of their strategic initiatives **could also face a slowdown** due to these increasing costs. Mounting operating expenses are colliding with sustainability commitments, requiring deft leadership to chart an optimal course.

In response, forward-thinking facilities managers have an opportunity to implement **energy management systems (EMS)** as a linchpin strategy. Purpose-built EMS technology grants measurable control over energy utilization and spend across an entire building portfolio. For multi-site enterprises managing hundreds of locations, the emergent visibility and governance EMS provides is indispensable.

The Cloud is Within Reach

Just a few years ago, if you were told that, for the price of a programmable commercial thermostat, you could buy and install a cloud-based EMS for an HVAC unit, and save big-time on repair and energy costs by doing so, you probably wouldn't believe it.

You'd be right, too, because then a cloud-based EMS for HVAC was too expensive for most retailers with stores under 20,000 square feet to consider. But as technology has evolved, HVAC cloud-based EMS has evolved as well, and costs have dropped significantly. Now, it's well within reach for nearly any location.

Let's examine how a cloud-based EMS works with HVAC management and how it can benefit your organization in the long run.

HVAC Cloud EMS — Affordable, Practical, Invaluable

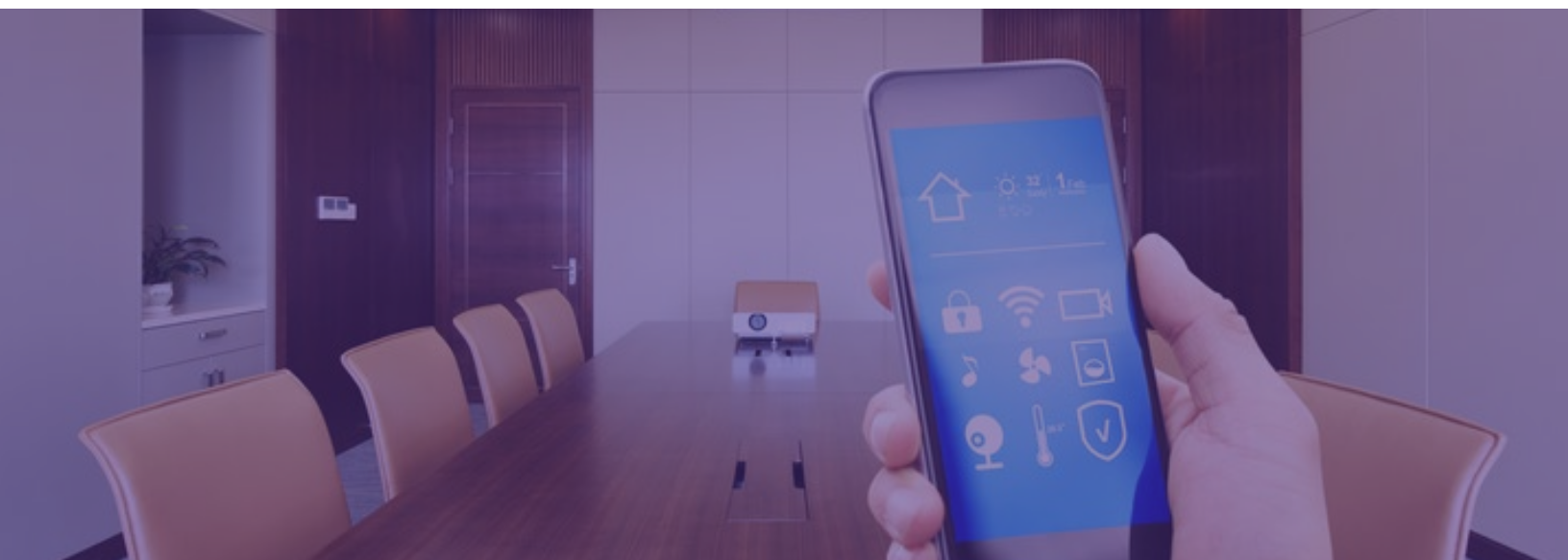
A lower cost isn't the only reason to invest in a Cloud EMS.

The Price is Right; So are the Benefits

Just because a cloud EMS is now more affordable doesn't mean you should necessarily buy it. However, a cloud-based building energy management system brings data about all of your assets into a centralized online system for easy control, changes, and management. These systems consist of sensors that are applied to specific assets (HVAC/R, lighting, etc.) and in facility spaces. Using tools like these enables a number of benefits:

- Prevents wasted energy due to unchanged interior temperatures
- Enables more consistent energy use across all locations
- Reduces energy utilization during periods of peak energy demand
- Prevents energy being used in spaces not currently occupied
- Measures individual asset performance and identifies underperforming assets
- Clarifies environmental impact and facility management ROI

These benefits blossom exponentially when you have hundreds or even thousands of locations. How? Let's examine the two major areas of savings: repair and replacement and energy.



Repair & Replacement

An HVAC cloud EMS is designed primarily to signal you when a unit is not performing as it should. This is critical because HVAC problems can stay hidden for days, even weeks, until breakdowns finally occur. By knowing about issues early on, you can proactively address those issues upstream before they become all-out catastrophes. By being proactive, you can schedule service ahead of time and pay normal service rates, rather than emergency rates.

For example, a typical 3,000-square-foot mall store has two HVAC units that collectively keep the store's ambient temperature at 70 degrees Fahrenheit. Since there are two units, you can't really tell if one unit starts to fail, so long as the other unit picks up the slack. As long as the store stays at 70 degrees, everyone's happy.

Let's say this goes on for two weeks. The malfunctioning unit—we'll call it Unit 1— isn't blowing cold air at all and is running non-stop. Unit 2 picks up the slack. Finally, Unit 1 fails—it's simply not meant to run that long and hard, so perhaps the compressor blows, or the belt breaks. Now, the store starts heating up, customers leave, the manager calls for emergency service, a technician arrives, and you end up with an invoice for emergency service and several thousand dollars in repair costs.

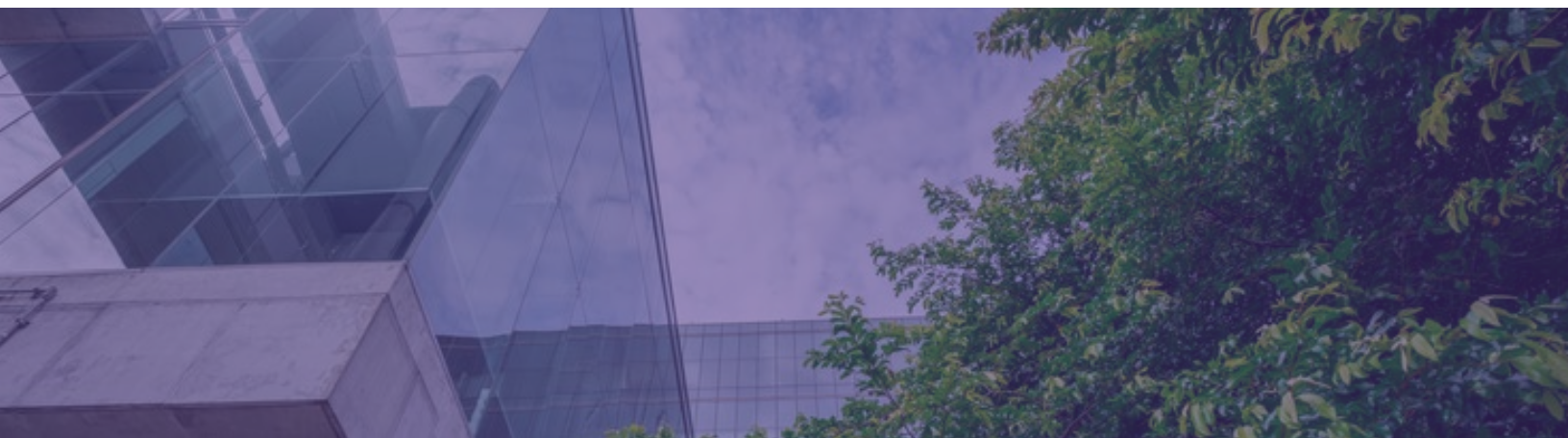
Many situations like this can be prevented with a cloud-based EMS for HVAC. As soon as the system on Unit 1 detects a deviation from standard performance, it sends an alert to you. Now, instead of being reactive, you can be proactive by calling your service technician and scheduling a regular appointment for sometime later that week.

There's no panic, because the store remains comfortable, and the unit hasn't broken down yet. As a result, the regular service call is less expensive than an emergency visit and addresses the problem proactively—before it turns into a very expensive one.

Energy Savings

These affordable systems allow you to create profiles, and customize temperatures and timings for each profile. As an example, you can make all of your Florida locations one group and set temperatures and timing accordingly—and use a different profile for locations in a different climate.

How many managers or store employees actually set the thermostat back every night when they lock up? You can decide when to roll back the thermostat by group, and insure the energy savings for your company. Of course, you can monitor and change settings anywhere, anytime using a mobile device.



HVAC Cloud EMS — How It Works, Why It Matters

Examining how the EMS works offers insight into its value.

Pieces to the Puzzle

In a brand-new HVAC system, the air that passes across the cold coil and moves down the ductwork should be between 55 and 58 degrees Fahrenheit. Typically, residential and commercial thermostats are set between 70 and 72 degrees. By the time this air emerges from the ductwork, it might have warmed up to 62 or 64 degrees. Once the thermostat indicates an ambient temperature of 72 degrees, the unit shuts off.

At CLS Facility Services, our **HVAC cloud-based EMS** consists of a thermostat, a probe/sensor, and a control box. The probe is placed within the ductwork close to the coil, the thermostat in the proper location within the building, and everything is connected to the controller. Reporting via the internet is constant, and can be viewed by anyone approved from your office.

Discovering the Delta

From there, what's measured is the difference (or delta) between the temperature of the air through the HVAC system, and the ambient temperature in the space being cooled. A plus-or-minus 15 degree delta is normal. So, if the temperature coming in says 58 degrees, and the temperature in the store says 70 degrees, then everything is running correctly.

When that delta starts shrinking, that signals that something may be wrong with the unit. The unit may be blowing 65-degree air, and your store is still comfortable at 70 degrees, but the unit is working longer and harder.

Why is that? At this point, it's still unknown. It could be that something is clogging the filter, so it's not getting enough air. It could be that the coil is dirty. It could be a refrigerant leak. But something is interfering with the proper operation of the unit, because the air coming over the coil should not be 65 degrees.

Empowering a Proactive Approach

Thanks to the cloud-based EMS, you now know this up front and can take action. With HVAC cloud EMS, you can set your system to email trigger alerts at specified levels— for example, anytime the delta gets below 10 degrees.

Instead of waiting for a catastrophe to happen, you can dispatch your HVAC provider to investigate the problem. And, you can schedule that as a regular—not emergency—service call.

HVAC Cloud EMS Monitoring and Reporting Capabilities

With more data comes deeper insight and greater clarity.

The Right Partner is Key

As previously mentioned, the primary function of an HVAC cloud EMS is measuring temperature deltas and sending alerts about potential issues. But it also measures run and cycle times which, in the end, actually creates a profile of the health of your unit.

What does that mean? Say your store manager in Tuscaloosa, Alabama calls and says it's really hot in his store. With a cloud-based EMS, you can go online, zero in on that store and see how many times that unit cycled, the health of the unit, its age, and the delta of the air temperature and the temperature in that store. If it turns out that the delta falls within the acceptable range, a service call won't be needed, but you'll still have to find out why the manager is hot!

At CLS Facility Services, our cloud-based EMS allows users to review all reports, and access all equipment online, 24/7/365, free of charge. Unlike some other providers, we don't charge a monthly fee to access this data.

Our HVAC cloud-based EMS indicates when units are not working properly, which is valuable information for organizations with hundreds or thousands of locations. You'll be aware of the status and performance of every piece of air conditioning equipment in real time. Additionally, it's the lowest-cost solution on the market that is PCI compliant, so data is outgoing only, which offers absolute security.



Is a Cloud-based Energy Management System Right for You?

Answering a few questions will set you on the right track.

Automated building systems are gaining in popularity across the commercial real estate landscape; whether they're basic systems or highly complex, they save building owners and managers time, money and frustration. They also help to keep tenants and customers comfortable and happy. Even low-cost automated building systems can deliver high-quality performance, and many pay for themselves over a short time period on energy savings alone. Cloud EMS is no exception.

If you're like most facility management professionals, there's a good chance you've been asked (or soon will be asked) to cut your operating budget by a certain percentage. It's a real estate management reality, and it's not likely to change anytime soon. How you accomplish that may not be management's concern. But with a low-cost EMS, you have a tool in your toolbox to help achieve the cost reduction challenge you will likely confront.

Before deciding whether a cloud-based EMS makes sense for you, ask yourself five questions:

1. Are your utility bills going up?

Rising energy costs strain everyone's budgets. One obvious remedy is simply to consume less energy. But how can you do that? You could cut store cooling in the summer and heating in the winter during business hours. But making those same reductions during times when your stores aren't occupied—like Christmas Day and New Year's Day—saves money without making customers and employees uncomfortable. The greater number of stores, the greater the savings. In fact, we've seen cases where large national retailers installed EMS in all their stores based on these expected savings alone.

2. Approximately what percentage of your HVAC equipment is in fair to poor condition?

As you probably know, older and poorly performing HVAC equipment takes more time, attention and money to keep up and running than new or newer equipment. Cloud EMS is designed to allow you to focus on equipment that may be problematic over time.

3. Are your stores making too many emergency calls?

A typical HVAC emergency call costs roughly double a normal service call, and the problem at hand may or may not be fixed during that call. When that same problem is preventable, one emergency call is too many— it's money not well spent.

Cloud EMS is essentially management by exception. Before an HVAC unit breaks down (or fails completely), you'll receive an alert two, three or even four weeks in advance. You'll likely still need to place a service call, but that will cost less than a typical emergency call. And, you can schedule that call so it doesn't disrupt normal store operations.

4. Do you have the capital to replace units that need replacement?

If not, a cloud EMS can help you monitor those units and address problems before they cause breakdowns. In this respect, the expense of a cloud EMS — roughly equivalent to a programmable thermostat — may be, dollar for dollar, one of the best investments you can make.

5. Do you think it's difficult to monitor dozens or even hundreds of stores?

This is a bit of a trick question because, in reality, you're already monitoring all your stores, whether you realize it or not. You're just doing so reactively, fielding calls whenever things go wrong. Cloud-based EMS enables you to proactively get ahead of the curve, before problems get worse. Again, cloud EMS is management by exception; you decide which stores or units you want to monitor, and how you want to monitor them. If there's no problem, you won't receive a notification. Additionally, companies like CLS Facility Services can monitor units through cloud EMS and provide customized reporting as customers see fit.



The Benefits of a Cloud-Based Energy Management System Add Up

Tap into an EMS for lower operating costs, greater energy savings, and better unit performance.

Consider the light bulb

In recent years, the federal government has tried to convince Americans that a modern \$3.50 compact fluorescent bulb is actually more economical in the long run than a four-pack of 99¢ incandescent bulbs. One bulb fits in one socket, and 99¢ is less than \$3.50, so this argument seems counterintuitive. Yet the \$3.50 bulb will burn much longer, and consume much less energy over a longer lifespan than four of its 99¢ counterparts combined. The overall cost savings outweighs the higher first cost.

The same argument holds true for cloud-based EMS. It's now well within reach for nearly any commercial location — for about the cost of a programmable thermostat. And like the compact fluorescent bulb, cloud EMS is an investment that will yield significant cost and operational benefits down the road.



Cloud EMS saves you money through strategic energy reduction.

Cloud EMS offers facility management pros like you need absolute control of every thermostat in every store. You can control whether a thermostat gets dialed down in a store within a cold region of the country, or whether a thermostat gets dialed up in a store within a hot region—and that control extends to every day and night of the year.

Cloud EMS saves you money by slashing the high cost of emergency calls.

If you have lots of stores, you don't need to manage each store's HVAC unit constantly with cloud EMS. Rather, EMS will signal you when a particular unit is not performing according to predetermined benchmarks. By being aware of equipment issues early on, you can schedule a normal service call and pay your technician normal service rates for that call, rather than emergency rates.

Cloud EMS helps you monitor your Preventive Maintenance (PM) success.

With PM, you're paying an outside service provider like CLS Facility Services to perform PM, usually quarterly. As an example, let's suppose one of your HVAC units in Dallas is slated for service this month. You'd think that after the technician arrives on site, cleans the coil and possibly replaces the filter, this unit would perform measurably better.

By programming your cloud EMS to specifically monitor this unit, you'll know whether it in fact performs measurably better—or, whether it experiences any issues after the PM was performed. This helps you verify that your PM is delivering as it should deliver, and that you're getting what you're paying for.

If you're interested in learning more, we'll work with you to evaluate your HVAC needs and determine a sensible strategy for integrating **cloud-based EMS** throughout your stores.



About CLS Facility Services

CLS Facility Services is a nationwide facility management organization that partners with service providers across multiple disciplines and industries.

Founded more than 50 years ago in Northeast Ohio, we have become a leading partner for HVAC/R, turnkey LED retrofits, lighting maintenance, signage maintenance, plumbing, fire/life safety, and more. Every day, our customers rely on us and our vendor partners to execute preventive maintenance programs and asset replacements that keep their facilities running smoothly, reduce unexpected downtime, and minimize maintenance costs.

As a leader within the facility services industry, we offer in-depth help to facility managers for the most significant and costly areas of concern. Choosing a facilities solutions partner is a crucial choice for your organization. You want someone who understands your equipment and its needs, someone you can trust and customer service that exceeds your expectations.

You can learn much more about our [industry-leading maintenance solutions here](#).

[Contact us today to start realizing the benefits of a cloud-based EMS for HVAC.](#)

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