

COMMERCIAL
BUILDING
OWNERS



GET CONTROL OF YOUR
ENERGY
EXPENSES

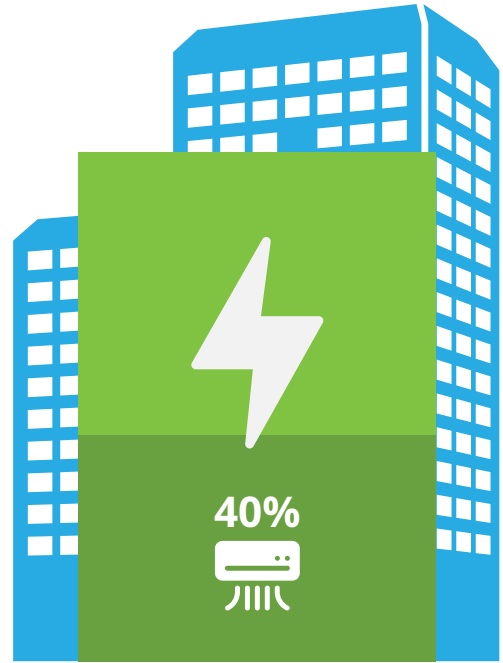
Commercial Building Owners: Get Control of Your Energy Expenses

Consider These Issues by Optimizing Your Commercial HVAC System

We don't need to tell you it's tough out there. Many industries are struggling right now, and many commercial building owners are on the hunt to cut costs. Saving money on operating expenses has never been more important. Commercial HVAC systems typically — *and voraciously* — inhale more than 40% of the overall monthly energy usage for a commercial space!

According to the Small Business Administration, that can translate into annual bills around \$16,000 just for utilities. And with electricity and gas rates through the roof, this amount can easily go higher.

We also know that aside from any obvious industrial purposes your commercial HVAC system may serve, indoor comfort has become a “must-have” for any tenant. Along with preserving product inventory, an effective heating and cooling system also keeps indoor air clean. We don't need to add much to the public firestorm about the connection between good ventilation and filtration systems and keeping people safe indoors. Obviously, installation, maintenance and even possible upgrades to commercial heating and cooling equipment are now important selling points that potential renters and even current employees make it their business to understand.



COMMERCIAL HVAC ENERGY USAGE



Indoor comfort has become a “must-have.” The number one reason tenants move out of a commercial space is because they're not comfortable inside.

So how is the average small-to-midsize business supposed to reconcile this expensive conflict?

How can you manage the gap between costly utilities and the needs of your employees, tenants or customers in your commercial building? Take heart, folks. Air-Tro to the rescue! We have some answers.

Some are as easy as a new air filter from your local hardware store. Others may cost more to implement but pay off relatively quickly in terms of ROI. Many come with tax benefits, too. Some suggestions may be no-brainers for you and your team. Others may require more planning. All are worth considering. So, if you're interested in cutting costs on your day-to-day commercial HVAC operation, read on!

Let's talk ductless HVAC

Many commercial setups utilize a cooling and heating system that runs ductwork throughout the building, usually controlled by a single thermostat. This central heating and air conditioning system is responsible for keeping everyone in the building comfortable, from the CEO who insists on glacial indoor temps to the chilled intern who prefers heating in the reception area. This thermostat may also control the underused conference room, numerous supply closets and perhaps even a lounge area where a few folks prefer to work on their laptops.



As you may already surmise, this is not the most energy efficient setup you can choose. In turn, it may also be costing you unnecessarily in terms of wasted energy and equipment usage.

Enter ductless technology.

Ductless HVAC can be single zone or utilize multiple zones. Typically, these systems consist of one outdoor unit and up to five indoor units used to heat and cool individual parts of your building (or "zones") independently. That means no ducts, no single thermostat for everybody in the building. Easily installed, they also work well for historic or older commercial



properties where ducts might not be practical or advisable. You'll also bypass the consequences of dusty, dirty, or otherwise contaminated ductwork. Air is cleaner and indoor air quality is more manageable.

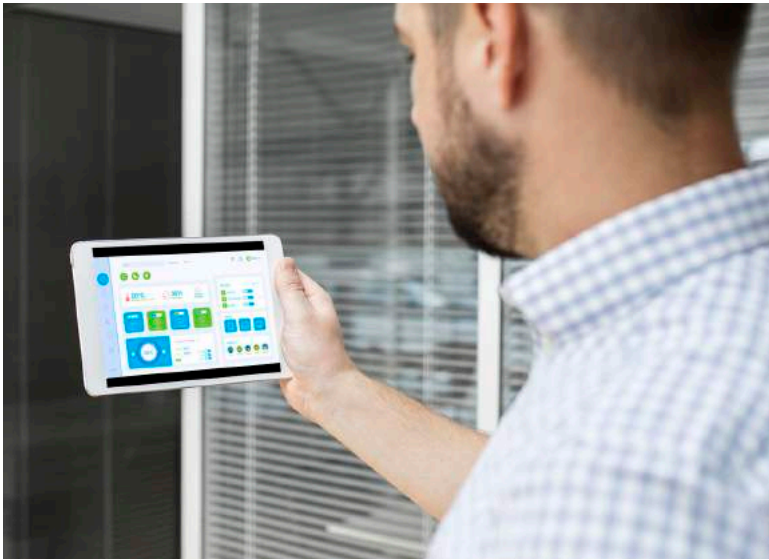
The beautiful thing about ductless HVAC is that it also allows for customization. You don't have an entire office building jockeying for control over indoor temperature, nor do you have to worry about heating or cooling spaces that go unused.

Ductless mini split systems also work as heat pumps, keeping their zones warm and cozy in the winter, while cool and comfortable in the summer. Make no mistake. Indoor temperature has been proven to affect productivity. People work better when they are comfortable.

Let's talk thermostats

Setting aside a discussion of what kind of commercial HVAC you're using, let's talk about something inexpensive, easy to install and that will put you back in control of your energy costs right away. It's one word: thermostats. Just as you can now enjoy a smart toaster oven, washer and dryer, telephone and coffeemaker, a smart thermostat is the new frontier in HVAC technology.





And unlike a toaster that talks back, a smart thermostat is just about the easiest, least expensive upgrade you can make to your commercial system that will yield immediate results.

Typically, you'll find non-programmable thermostats, some digital, some mechanical, in older commercial buildings. Both kinds mean you manually control the temperature.

Obviously, this exposes you to human error (air conditioning left on over

the weekend when the business is closed), but you may not realize that mechanical thermostats are also pretty inefficient at providing accurate temperature readings. Who wants that?

But the solution we're proposing doesn't stop at simply getting a programmable thermostat. Those are a little more useful, allowing you to put your heating and cooling on a 24/7 schedule, but they still don't let you get information, change the settings, or adjust them in any way when you're not right in front of them. In other words, think of them as a "toaster oven" instead of a two-slot conventional model.

A commercial smart thermostat is the way to go. Low cost and available everywhere, this technology is the game changer every commercial building owner needs to have. Along with real data on how you use energy, you can adjust the temperatures from your smartphone or laptop, anywhere in the world.

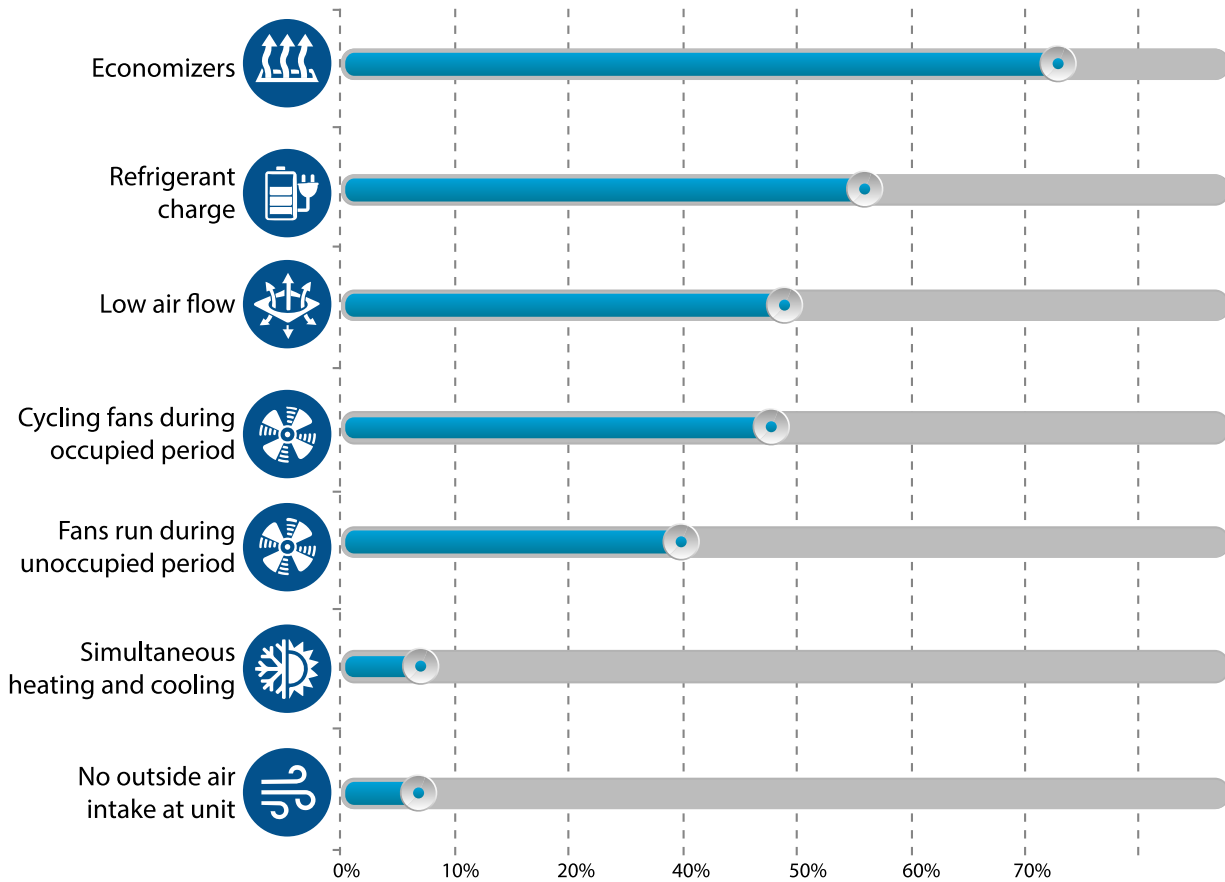
Your Wi-Fi thermostat can provide comparative energy reports letting you know how your energy usage stacks up against similar size commercial buildings, and it can automatically sense and react when someone walks into a room or walks out. In other words, it does everything except actually make toast!

Let's talk economizers

Blame it on Title 24 . Created by California lawmakers in the 1970s, economizers are required as of 2022 in all commercial buildings utilizing a single zone HVAC unit or above. As mechanical vents that connect to your outdoor rooftop components, the idea behind economizers is a good one. Theoretically, they're supposed to draw in air from the outside to cool the inside of a building when



TYPICAL PROBLEMS WITH COMMERCIAL HVAC UNITS



Source: New Buildings institute - PIER

appropriate. Other times (usually if it's extremely cold out), an economizer's vents might mix exhaust air with outside air to keep temperatures warm inside.

"Theoretically" is the keyword here.

Like so much of life's greatest challenges, the best intentions here did not yield the best results. In fact, up to half of economizers, including the one in your commercial building, may not work correctly, nor work at all. Their sensors may be off, their dampers may open at the wrong time, and their vents may be stuck in a closed position.

The worst thing about these darn things is that much of this occurs silently.

Unlike a broken air conditioner or a problematic furnace, a faulty economizer just quietly costs you money, day after day, year after year, by fostering energy inefficiency and working counter to your system's capabilities most of the time.

Money saving solution?

Get it inspected by a professional. Maintain it properly. Too often we encounter an economizer that's been misaligned or allowed to go without lubrication for too long by untrained building staff. This is a complicated piece of equipment and could very well be affecting your utility bills.

Take a look, stat.



Let's talk tax breaks

Few commercial property owners are aware of the very real tax savings available to them through upgrading their HVAC to a more energy efficient system.

Along with providing lower cost heating and cooling and greater indoor comfort, much of this equipment also allows for major rebates and deductions. According to Section 179D of the IRS code, there are significant allowances of up to \$1.88 a square foot (for the 2022 tax year alone) for those who qualify.

While the Department of Energy doesn't make this necessarily easy to understand, your tax professional will be able to provide all the necessary information before you buy. Give it a look.



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The money you'll save is definitely worth the research.

At the end of the day, there are solutions for the cost-cutting commercial building owner. From following energy-saving best practices to analyzing your current usage and making smart choices accordingly, you can reduce your month-to-month energy expenses without sacrificing indoor comfort.

Talk to your Air-Tro professionals. We're always here to help you optimize your HVAC strategy. In recent years, Air-Tro has helped thousands of our commercial customers not only endure unprecedented challenges, but thrive.

Let's get your HVAC strategy on track for success, too.



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Robert Helbing, PE, is President of Air-Tro Heating and Air Conditioning Company. He is a Caltech-degreed aeronautical engineer (yes – a rocket scientist!), as well as a 4th generation contractor and 3rd generation engineer. He is a past-president of the Institute of Heating and Air Conditioning Industries (IHACI); Air Conditioning Contractors of America (ACCA) Contractor of the Year, 2011; and a 15-year member of Excellence Alliance Industries, a membership organization committed to the development and improvement of HVACR companies nationwide. Bob is also a founding member and past committee chair for the Western HVAC Performance Alliance, a council of stakeholders in the Energy industry which includes utilities, regulators, manufacturers and contractors. He currently serves on two committees for the WHPA: Commercial Quality Installation and the Existing Buildings Energy Efficiency. He can be reached at 626.357.3535 and bobhelbing@airtro.com.

For more information, visit our commercial section on the web at airtro.com/commercial

