

Ideas for Commercial Energy Savings

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Commercial Energy Saving Tips for Small and Medium Businesses

Is your company doing enough to make better energy choices and save on business electricity costs? A few simple changes could improve your bottom line substantially. The EPA states in its data from the ENERGY STAR® program that [an average commercial building can reduce its energy bills by 30%](#) through no-cost actions, smart investing, and innovative operations and maintenance.

What will you do with those savings? Whether you reinvest into research and development or keep product prices down for your customers, every business can benefit from energy savings. Here are some ideas to put to work to lower your energy costs and reduce your carbon footprint.

Benefits of saving energy – and how to get started

Energy savings has more than just an intrinsic value, such as helping the planet. It can reduce costs, help your brand image, and lead to leaner overall operations. Some of the most energy-efficient tips, such as the use of clean energy for business, also make the most fiscal sense.

Rick Freeman, Director at [3Degrees Group Inc, in San Francisco, Calif.](#), explains that the best way for companies to save on energy, one which he says is often overlooked, is a simple program with these five steps:

1. **Measure the current baseload energy** use in each building or on each major building circuit. This is your baseline against which you'll gauge success.
2. **Perform a detailed energy audit** on each building to identify energy-saving measures that can be implemented. You'll want to include detailed calculations for each measure identifying three things:
 - Annual energy savings
 - Cost to implement
 - Cost recovery payback period
3. **Raise internal support** and budget to do some (or all) of the measures.
4. **Implement the measures**, either in stages or en masse depending on budget and buy-in.
5. **Measure again.**

The new baseline energy use can be compared to the initial baseline to gauge results. You also need to know and account for any operational changes that happened in the facility, or on that particular circuit during this period.

“For this program to succeed, you need a lot of attention and focus, as well as a good amount of patience,” Rick says.

Meet the challenges of energy-saving changes

Consultants can help get you started



It's possible for commercial entities to significantly move the needle on energy use, but it may be difficult to get the initial budget for the energy baseline measurement and energy audit. This is often conducted by a consultant trained in these measurements, since most businesses do not have an in-house team that can handle this process.

“Once you have the consultant’s final report, with data-based cost-saving numbers,” Rick says, “it usually becomes easier to get the budget to implement many of those recommended energy-saving measures.”

Easy wins can build momentum

Rick insists that there are rewards for those who can persevere. “Many energy-saving measures will have short payback periods of just a few months to a year or two. These are slam dunks to implement. Others may be more capital intensive and may interrupt operations – so those need to be considered and planned for.”

Reduce costs, not just usage

Companies should also consider the possibilities for reducing energy costs, not just usage. Ideas include:

- Onsite solar thermal heat generation (hot water or process heat).
- If you are in a deregulated electricity market, you can shop around for lower-cost energy.
- In regulated markets you can only shop around for lower-cost electricity if you get your facilities into a Direct Access program.

Evaluate demand charges

In addition to Rick’s advice, businesses can consider the demand charge and its role in your plan to cut costs. Businesses may be charged at a higher rate when more people use electricity at once. Demand charge can occur, for example, when you run your air conditioner during a heat wave. Shifting energy use to “off” times when possible is one way to address demand charge.

Energy-saving tips for small businesses

If you don't have the time or initial budget to measure your energy baseline and conduct an energy audit, Rick suggests you consider doing some easy-to-implement, energy-saving measures. Almost every building can benefit from these actions.

There are dozens of ways to save electricity, some with an immediate effect. Here are some of [the more common ways](#) companies are changing up their energy usage.

1. HVAC adjustments for comfort and economizing

- Perform [recommissioning and maintenance checks for HVAC and air handlers](#)
- Install variable frequency drives (VFD) on fan/pump motors
- [Reset supply air on air handlers](#)
- Reset supply air temperature variable air volume with reheat (VAV-RH) systems
- Reset duct static pressure in VAV-RH systems
- [Increase the heating and cooling automatic deadband set points](#)

2. Shake up your schedules

Improve scheduling for lighting, air handlers, and chilled water systems to avoid high-usage times.

Do you normally do janitorial services at night? It may be common, but it might not be the best use of your energy resources. Consider how daytime cleaning and maintenance may boost your bottom line by shutting the lights off at night.

If you need to have employees in the building at night, look into how you can use energy efficient devices for industry cleaning, including HVAC filters.

3. Upgrade lighting to include more modern bulbs

LED lighting is more efficient than other forms such as traditional incandescent, halogen, HID, and T12 fluorescent bulbs. [These can cut down on your energy bills each month.](#)

LED bulbs use 90% less energy but can still offer an appealing look and brightness. They also last 15 times longer than a traditional bulb, so they need to be replaced less often, offering you savings on materials and labor costs.

They put off less heat than CFLs and incandescents, too, which reduces your air conditioning costs in hotter months. Consider how natural light can supplement this plan.

4. Upgrade your structure

Building codes may dictate the minimum requirements for roofing or windows, but for those buildings that aren't highly regulated, there is an opportunity to improve. These improvements are best handled in stages, so you don't spend too much at one time. The [EPA has more information](#) on retro-commissioning and dealing with outdated infrastructure.

The EPA also provides [additional checklists](#) that are specific to your building and energy type. They may provide you with some inspiration to upgrade your building, tools, or energy-use schedules. Most of these are very affordable, and a few of the checklist items are free.

5. Don't forget the outdoors

The outside of your building, landscape, and parking lot are all opportunities to save money while helping the environment.

Partner with landscaping pros to identify ways to both beautify and reduce heat to your building while keeping moisture in the earth.

Green spaces aren't just ecologically sound, they can improve the mood of employees and boost your brand reputation in the community. You may end up using less water, too.

6. Visit your offices at night

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Even if your lights and HVAC systems are set to run at optimal efficiency, there could be holes in your system. Stay on top of it by visiting your facilities at night. From the occasional forgetful employee who doesn't turn off office equipment to the water heater that won't stop running, you may find new ways to save.

7. Innovate, then educate

Any changes you make are important, but do your employees know why they need to use that power strip? Or why they should use cold water for laundry?

For any projects that require buy-in as well as your team's involvement, educate them on the importance of the changes and why they matter. Whether you appeal to their passion for improving the planet or discuss the cost savings and potential for pay increases, make sure they feel invested in your sustainable energy plans.

The future of energy savings

As technology advances, there will be more hands-free opportunities to save money, including opportunities for energy conservation in manufacturing industries. However, much of that depends on accurate data and understanding your teams' workflow and needs.

Rick explains, "New trends include more comprehensive measurement systems with automatic controls, feedback, connectivity – in other words:

- Data and analytics
- Controls and automation

"With new construction, we've seen more attention given to the life-cycle cost-benefit approach when managing costs for installing higher energy-efficient systems and materials at construction, even if there's an initial cost premium for them.

"And we're also seeing more seamless demand-response interaction with electricity utilities. This can create cost savings for the building user and better grid management for the utility. Hopefully, that results in a lowered carbon emission intensity for the utility, which helps mitigate climate change."

Summary

Are you considering ways to implement renewable energy tactics into your business operation? Or are you concerned about your commercial electricity bill? Get started by auditing your current energy plan for any inefficiencies to see how you can best move forward.

From better lighting systems to changes in janitorial service timing, there are plenty of ways you can cut your energy costs while you do the right thing for the environment.

About the Author: *Linsey Knerl is a contributing writer for [HP Tech@Work](#). Linsey is a Midwest-based author, public speaker, and member of the ASJA. She has a passion for helping consumers and small business owners do more with their resources via the latest tech solutions*