

Sealing in Energy Savings

Key Points

- Leaks and poor insulation in your building envelope can waste energy and reduce comfort.
- Save energy by weatherizing, sealing leaks, adding insulation and upgrading windows.
- Hire a qualified professional to perform an energy assessment of your facility.

Space conditioning is critical for occupant comfort and productivity, and it's the highest energy user in most commercial buildings. Your building envelope (doors, windows, walls and roof) separates the conditioned space within your facility from the outdoors. Even the most efficient heating or cooling system can be rendered less effective through building leaks or inadequate insulation.



Improving building envelope performance

Take steps to minimize energy loss, increase comfort and save money throughout your facility:

- Weatherize doors and windows. Inspect windows for cracked caulk or gaps around the edges; replace damaged and missing caulk. Make sure exterior doors seal tightly and replace old or loose weatherstripping.
- Seal air leaks. Check for gaps between the foundation and walls, as well as around plumbing or wiring access to the outside. Seal with caulk or expanding foam.
- Check building insulation. Adequate wall and ceiling insulation is critical for optimizing energy efficiency and ensuring comfort. The right level of insulation for your facility depends on facility type, local climate and other factors. Hire a qualified contractor to ensure your building insulation levels meet or exceed those recommended in *ASHRAE 90.1 Energy Standard for Buildings Except Low-Rise Residential Buildings* and add insulation if needed.
- Upgrade windows. Energy-efficient windows can save on energy costs by reducing thermal loss and solar heat gain. Window efficiency is measured by solar heat gain coefficient (SHGC) and U-Factor (window insulation value).

Start with an energy assessment

A facility energy assessment or audit is a great way to find the right energy-saving opportunities. Your auditor will test for air leaks and evaluate your insulation levels. Assessments are performed by energy consultants and engineering firms. Certification helps to ensure your service provider is trained and experienced in auditing procedures.

See [ASHRAE](#) and the [Association of Energy Engineers](#) (AEE) to find certified professionals.

Optimizing savings and comfort

Once you've sealed the building envelope, you can save even more by taking the following measures to improve heating and cooling system performance:

- Tune up. Have your heating and cooling system cleaned and inspected once a year by a qualified professional.
- Take control. Install programmable thermostats to reduce energy use by adjusting building temperatures based on your operating schedule.
- Change filters. Change heating and cooling system filters regularly and according to manufacturer's recommendations.
- Seal leaky ducts. Leaky ducts can have a serious impact on system efficiency, costing your facility energy dollars. Inspect accessible ductwork for leaks and seal with mastic tape.

Looking for more ways to save? See [Save Energy in Commercial Buildings](#) from ENERGY STAR®.

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