

To learn more about Focus on Energy<sup>SM</sup> call 800.762.7077 or visit [focusonenergy.com](http://focusonenergy.com)

Occupants of commercial buildings often believe—mistakenly—that most of a building’s energy is consumed by equipment they can see. Lights, electronic equipment and computers represent obvious energy users. However, the equipment that consumes 39 percent of the energy in a commercial building in the United States cannot be seen at all—the HVAC equipment.

However, HVAC systems are not always designed, operated or maintained properly, so they are excellent candidates for energy efficiency improvements.

**AIM FOR HIGH PERFORMANCE**

A High Performance HVAC design approach considers five steps:

1. Size the HVAC system correctly (“right size”). Oversized equipment costs more to operate and maintain and it will not run as efficiently as a properly sized system. Do not specify larger HVAC equipment than needed in anticipation of a future building expansion. Instead, incorporate space to add HVAC capacity, if needed.
2. When selecting equipment, evaluate how it performs when operating at part load, not fully loaded. HVAC equipment is designed to operate at peak-rated efficiency only when it is operating fully loaded. However, most HVAC equipment operates fully loaded only 1 percent to 2.5 percent of the time. In fact, most systems operate at 50 percent or less of their capacity.
3. Design distribution systems (ductwork or piping) that reduce pressure losses. This choice results in smaller pumps and fans and lower operating costs.
4. Use integrated control systems to operate the HVAC system. These control systems will help meet fluctuating HVAC loads efficiently by coordinating system operations. A DDC system also offers more information feedback for control decisions and more precise control.

5. Commission the HVAC system. This step tests the system under all aspects of operation before the building opens for business. It identifies problems and ensures the system is operating as intended.

**MAXIMIZING HVAC ENERGY EFFICIENCY: KEY STEPS**

Building owners/operators can take several steps to ensure an existing HVAC system is operating as energy efficiently as possible.

- Maintain the system regularly and have it tuned by HVAC contractors or engineers to maximize operations.
- Ensure the control systems are operating properly and use them.
- Control equipment so that: 1) it operates at minimum required capacity using resets and setpoints and variable speed technology for fans and motors; 2) peak demand is minimized through demand limiting or load shedding; 3) equipment is started up sequentially.

**PRESCRIPTIVE INCENTIVES**

Eligible customers that purchase and install qualifying HVAC equipment and/or controls can participate in Focus on Energy's Efficient Heating and Cooling Initiative (EHCI) and receive energy efficiency incentives up to \$40,000 per project.

- 90 plus AFUE Forced Air System with an Efficient Fan Motor (ECM)
- Central Air Conditioner SEER 14 < 65 MBH
- Central Air Conditioner SEER 15 < 65 MBH
- Central Air Conditioner SEER 16+ < 65 MBH
- 65-135 MBh Air Conditioner, EER 11 or Greater
- 135-240 MBh Air Conditioner, EER 10.8 or Greater
- 240-300 (20-25 tons) MBh Air Conditioner, EER 10.0 or Greater
- Packaged Terminal Air Conditioner, SEER 13 or Greater OR EER 11.3

- High-efficiency Modulating Water Boiler, 90%+AFUE <300
- Boiler Reset/Cutout Controls
- Steam Trap Repair or Replacement
- Infrared Heaters

### CUSTOM INCENTIVES

Focus on Energy offers incentives for custom projects. You must work with a Focus on Energy Advisor prior to project initiation to obtain custom incentives.

**A Comprehensive Bonus Incentive** of an additional 30 percent may be available when a customer implements multiple energy saving projects that increase the energy efficiency of the whole building system.

**Requirements:** Custom incentives are limited to \$20,000 per lighting project and \$100,000 per project. Incentives are available for new retrofit projects only and they expire on June 30, 2007. Projects with less than a two-year payback are not eligible. You must work with an Energy Advisor, complete all required paperwork, and provide all necessary receipts to receive payment.

For more information on custom incentives, please contact the sector of your interest listed below.

### Agriculture and Rural Business Program

The Agriculture team works with agricultural businesses, including dairy, livestock, grain farmers and commercial greenhouses. For more information, please contact Kelly Hermsdorf at 608.273.0182 or visit [www.focusonenergy.com/agriculture](http://www.focusonenergy.com/agriculture).

### Commercial Program

The Commercial team provides energy efficiency information, education and training opportunities and financial incentives. For more information, please contact Therese Schowalter at 800.598.4376 or visit [www.focusonenergy.com/commercial](http://www.focusonenergy.com/commercial).

### Industrial Program

The Industrial team serves manufacturing customers of all sizes. Energy Advisors help customers identify and implement energy saving opportunities. For more information, please contact Craig Schepp at 608.277.2948 or visit [www.focusonenergy.com/industrial](http://www.focusonenergy.com/industrial).

### Schools and Government Program

The Schools and Government team works with K-12 public and private schools, private colleges, Wisconsin Technical Colleges and local government agencies. For more information, please contact Sandy Hahn at 715.720.2130 or visit [www.focusonenergy.com/schools](http://www.focusonenergy.com/schools).

### TARGETED MEASURES

We offer standard prescriptive incentives for additional, specialized technology measures. Some examples include: 1) ENERGY STAR® qualified commercial kitchen equipment for food service operations; 2) anti-sweat heater controls for refrigeration units; 3) guest room energy management systems for the lodging industry; and 4) compressed air systems.

For additional information, contact Focus on Energy at 800.762.7077, visit [www.focusonenergy.com](http://www.focusonenergy.com).