



## GREATER ENERGY EFFICIENCY: QUALITY INSTALLATION FOR AIR-CONDITIONERS

The Quality Installation for Air-Conditioners program is in the planning and development stages. Key milestones over the next 2 years include:

- ▶ EPA, working with leading organizations such as CEE and ACCA, develops proper installation and verification guidelines by end 2005
- ▶ Pilots of proper installation and verification programs to occur in key states and regions in 2006
- ▶ Announcement and roll-out of national program for quality installation of cooling equipment in 2007

The quality installation of central air-conditioners and heat pumps is a new energy efficiency service being developed as part of the Partnerships for Home Energy Efficiency. Air conditioning is a big expense in many households. When an air-conditioner is not sized or installed correctly, its performance can be reduced by as much as 30 percent. This can affect homes in various ways. For example,

- ▶ Air-conditioning systems and heat pumps suffering from improper refrigerant charge can cause problems that range from reduced operating efficiency to system freeze-up; and
- ▶ Oversized cooling equipment increases the on-off cycling of the equipment, resulting in poor dehumidification and increased costs.

Today, more than half of all air-conditioners in U.S. homes are believed to be adversely affected by one or more installation issues.

A new program from the U.S. Environmental Protection Agency (EPA) will establish guidelines for quality installation of cooling equipment and verification of proper installation. Using these guidelines, contractors will

- ▶ determine the right size equipment for homes,
- ▶ verify the correct refrigerant charge for the equipment once installed, and
- ▶ confirm that air is moving over the cooling coils at the proper rate.



Trained technicians will use advanced diagnostic tools and procedures to verify the installation requirements. In addition, they may check the air-conditioning ducts for leaks, which can be another reason for high home energy bills or home comfort issues. The technicians who agree to follow these new EPA guidelines and verification procedures will be able to link their services to the ENERGY STAR® label—the government-backed symbol

for energy efficiency. EPA is working with leading organizations, such as the Consortium for Energy Efficiency (CEE) and the Air Conditioning Contractors for America (ACCA) among others, to develop these quality installation guidelines for installing central air-conditioners and air source heat pumps. EPA will collaborate with the North American Technician Excellence (NATE) to promote technician certification and coordinate with DOE on its HVAC Best Practices guides for home remodelers.

## Benefits to Homeowners

Because of this new energy efficiency service, homeowners will know that their new air-conditioning systems have been installed correctly. A properly installed cooling system will run efficiently, saving households on average 20 percent on their cooling costs. Homeowners will also enjoy more comfort from a system that properly dehumidifies the air during hot summer months and delivers the right amount of air flow to each room.

This new service will provide homeowners access to heating, ventilation, and air-conditioning (HVAC) professionals who

- ▶ have the diagnostic tools that can verify proper installation of HVAC equipment;
- ▶ can identify whether the air distribution system is delivering sufficient conditioned air to all the rooms of the house; and
- ▶ understand how the other features of the house, such as insulation and windows, affect the right choice of heating and cooling equipment.

The new service will also be available for tune-ups of existing equipment, improving its efficiency and saving money for homeowners.

## Benefits to Contractors

Poor installation is one of the major reasons for technician call-backs to the home. This is an additional expense for the contractor as well as the equipment manufacturer if the equipment must be returned to the factory. And call-backs can harm a technician's business reputation. EPA's new program will provide HVAC professionals with

- ▶ clear guidelines for proper installation that have been developed by an expert team of HVAC professionals,
- ▶ a range of verification tools to choose from to help verify that they have properly installed air-conditioners, and
- ▶ information from ENERGY STAR to help educate homeowners about the value of this important service.

Contractors who promote and provide quality installations to homeowners will enhance their businesses.

## Benefits to Energy Efficiency Program Sponsors

Utilities, state and local governments, and others that implement energy efficiency programs are finding proper HVAC installation cost-effective. It can also benefit utilities that need to reduce peak loads during the summer. Quality HVAC installation will provide program sponsors with a turn-key solution to help minimize their program costs, building off lessons learned through an initial set of pilots, as well as from on-going utility programs.

## About ENERGY STAR

EPA introduced ENERGY STAR in 1992 as a voluntary, market-based partnership to reduce greenhouse gas emissions and air pollution through increased energy efficiency. Today, in partnership with the Department of Energy, the ENERGY STAR program offers consumers, businesses, and public organizations energy-efficient solutions that save energy and money while helping protect our environment for future generations. More than 7,000 organizations are ENERGY STAR partners, committed to improving the energy efficiency of the products we use, the homes we live in, and the buildings where we work, learn, and shop.

## For More Information

For more information, please see the *Partnerships for Home Energy Efficiency* summary document and visit [www.energystar.gov](http://www.energystar.gov) and click on Smart Ways to Save This Summer.