



PE3 Action: HVAC Upgrades

1 Points

2 Points

3 Points

4 Points

5 Points

A. Why is this action important?

Heating, ventilation, and air conditioning (HVAC) equipment represents 30 to 40 percent of commercial building energy use. Upgrades provide opportunities to improve efficiency, enhance occupant comfort, save money, and reduce greenhouse gas (GHG) emissions.

B. How to implement this action

Recommendations for HVAC upgrades are often part of an energy audit (see [PE3 Action: Government Building Energy Audits](#)). Aside from those recommendations, a local government may already be aware of the need to replace certain pieces of equipment. Applicants can earn points for this Climate Smart Communities (CSC) action by ensuring that replacements are as energy-efficient as possible. Upgrades may include, but are not limited to, the following:

- Boilers
- Chillers
- Heat pumps
- Air handling units
- Compressors
- Fans
- Water heaters

Local governments should gather information on possible rebates, financing, or incentives provided through local utilities or through New York State Energy Research and Development Authority (NYSERDA) or the New York Power Authority (NYPA).

C. Time frame, project costs, and resource needs

HVAC upgrades should be implemented any time existing equipment is outdated or performing inefficiently. Most local governments will want to hire a contractor to evaluate the HVAC needs of a particular space or building to determine the most energy-efficient equipment option for that space. HVAC upgrades require facilities or operations and maintenance staff to identify opportunities for upgrades (or to glean that information from audit reports), draft product and contractor specifications, work with procurement staff, and ensure proper installation and training on maintenance requirements of new equipment. There might be opportunities to offset costs through rebates, financing, or incentives provided through local utilities or through NYSERDA or NYPA.

D. Which local governments implement this action? Which departments within the local government are most likely to have responsibility for this?

This action is applicable to any local government. Facilities managers or the building division within a public works department would likely be responsible for implementation and would coordinate with the procurement department for purchase of equipment or hiring of a contractor.

E. How to obtain points for this action

Local governments can earn points for this action by installing HVAC equipment that is energy-efficient, according to a

standard set by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE). The HVAC equipment must exceed the [ASHRAE Energy Standard for Buildings Except Low-Rise Residential Buildings, 90.1](#) by at least three percent. This standard is known as ASHRAE 90.1.

Points are awarded based on the percentage of total building portfolio square footage covered by the HVAC equipment. An increase in the percentage can be accomplished through upgrades of existing fixtures or through using efficient fixtures in new construction. Installation must have been performed within 10 years prior to the application date.

	<i>POSSIBLE POINTS</i>
New HVAC equipment for 5% of square footage	1
New HVAC equipment for 10% of square footage	2
New HVAC equipment for 30% of square footage	3
New HVAC equipment for 50% of square footage	4
New HVAC equipment for 70% of square footage	5

F. What to submit

Provide the following information:

- Total building square footage across the local government’s entire building portfolio
- Percentage of building square footage covered by HVAC equipment that was installed within 10 years prior to the application date and that exceed ASHRAE 90.1 by three percent when installed
- Location: building(s) in which the HVAC equipment was installed
- Installation date: month and year when the HVAC equipment was installed
- Efficiency: the brand and model number for the new and replaced HVAC equipment, or other documentation demonstrating that the equipment exceeded ASHRAE 90.1 by three percent when installed

All CSC action documentation is available for public viewing after an action is approved. Action submittals should not include any information or documents that are not intended to be viewed by the public.

G. Links to additional resources or best practices

- [ASHRAE Energy Standard for Buildings Except Low-Rise Residential Buildings, 90.1](#)
- [NYSERDA FlexTech Program](#)
- [NYPA Customer Energy Solutions](#)
- [Database of State Incentives for Renewables & Efficiency](#)
- [US EPA ENERGY STAR Building Upgrade Manual, Heating and Cooling Chapter \(2006\)](#)

H. Recertification requirements

The recertification requirements are the same as the initial certification requirements.