NEW YORK STATE OF OPPORTUNITY. | Climate Smart Communities

PE3 Action: Government Building Energy Audits

8 Points | 10 Points | 12 Points | 16 Points | BRONZE PRIORITY | SILVER PRIORITY

A. Why is this action important?

Energy use in buildings is often the largest source of energy consumption and greenhouse gas (GHG) emissions within government operations. Buildings contain heating, ventilation and air conditioning (HVAC) equipment, lighting, information technology equipment, appliances, motors, and pumping equipment. All of these consume energy and provide many opportunities for improved energy efficiency and cost savings. Especially for local governments that own older buildings, energy audits are an important step in identifying inefficiencies and developing plans for improvement. Reducing GHG emissions and using taxpayer money efficiently are key goals of the Climate Smart Communities (CSC) program.

B. How to implement this action

The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) has developed a phased approach to auditing a building's energy use that consists of three auditing levels: A Level-1 audit is a preliminary assessment involving a walk-through and review of the facility's utility bills for the previous two or three years and other operating data. A Level-2 audit is an energy survey and analysis. A Level-3 audit (sometimes referred to as an investment-grade audit) provides detailed project cost and savings calculations for identified improvement projects.

To obtain points under this CSC action, local governments must conduct ASHRAE Level-2 or Level-3 audits of their buildings. The Level-2 audit includes the same preliminary assessment of a Level-1 audit, but then evaluates the building energy systems in detail to define a variety of potential energy-efficiency improvements. This evaluation should include the building envelope, lighting, HVAC equipment, domestic hot water, plug loads, and compressed air and process uses (for manufacturing, service, or processing facilities). Level-2 audits summarize existing conditions, recommend energy conservation measures (ECMs), and provide estimated cost and payback information for those measures. When implemented, these ECMs can help a local government realize significant energy and cost savings while also reducing its GHG emissions.

A local government may choose to audit one building at a time or conduct an audit of several buildings. This action is focused on the critical first step of completing audits. Other CSC actions award credit for implementation of specific measures. To implement this action, the local government should take the following steps:

1. Research options for technical and financial assistance. Local utility companies might have an audit program. Consider the FlexTech Program available through the New York State Energy Research and Development Authority (NYSERDA). The New York Power Authority (NYPA) Customer Energy Solutions team also offers support for building assessments.
2. Determine the scope of the audits. Consider focusing on the buildings that consume the most energy.
3. Identify a certified energy auditor.
4. Carry out the building energy audits.
5. Obtain a summary audit report, complete with ECM recommendations from the auditor for each building or set of buildings audited.

An energy audit may also be conducted as the first phase of an energy performance contract. An energy performance contract is a financing mechanism that uses the savings from energy efficiency upgrades to finance the cost of the improvements. If a local government is considering pursuing a performance contract, credit for this CSC action could be achieved through the energy audits completed under that contract, provided the audits are the Level-2 or Level-3 type.

C. Time frame, project costs, and resource needs

Building energy audits are often low-cost or free for local governments through resources provided by utilities or NYSERDA. The time frame involved will largely depend on the number of facilities owned by the local government and the method of funding the audits. Facilities staff should be available to guide the energy auditor through the building(s) and will likely be required to provide building information and utility bills to the auditor.

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

This CSC action is applicable to any local government that owns and operates buildings. Facilities managers or public works department staff would likely be responsible for implementing building energy audits.

E. How to obtain points for this action

Points are obtained for this action by conducting Level-2 or Level-3 audits at one or more local government buildings. The percentage of buildings audited can be calculated based on either the simple percentage of buildings, or the percentage of square footage of the total building portfolio.

	POSSIBLE POINTS
ASHRAE Level-2 energy audit completed at 10% of buildings	8
ASHRAE Level-2 energy audit completed for 25% of buildings	10
ASHRAE Level-2 energy audit completed for 50% of buildings	12
ASHRAE Level-2 energy audit completed for 75% of buildings	16

F. What to submit

Provide copies of the ASHRAE Level-2 (or Level-3) energy audit report for each building (or group of buildings) where an audit was performed. Be specific as to which type of audit was performed for which building. Audits must have been conducted within seven years prior to the application date. If several buildings were audited, local governments may submit a summary report as long as it provides the key findings and recommendations for each facility.

As background for calculating the percentage of buildings audited, submit a listing of all buildings owned by the local government. If the percentage is based on square footage, include the square footage of each building.

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

- NYSERDA FlexTech Program
- NYPA Customer Energy Solutions Building Assessments
- US DOE Pacific Northwest National Laboratory A Guide to Energy Audits
- Database of State Incentives for Renewables & Efficiency
- DEC CSC Reduce Utility Bills for Municipal Facilities and Operations

H. Recertification requirements

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

NEW YORK STATE OF OPPORTUNITY. | Climate Smart Communities

PE3 Action: Interior Lighting Upgrades

1 Points | 2 Points | 3 Points | 4 Points | 5 Points

A. Why is this action important?

Lighting represents close to 35 percent of the electricity used in commercial buildings in the US, according to the EPA ENERGY STAR program. Upgrading to more efficient lighting saves money and reduces indirect greenhouse gas (GHG) emissions associated with electricity consumption.

B. How to implement this action

Evaluate existing lighting throughout local government buildings and identify opportunities to upgrade to more efficient, longer lasting options. Gather information on rebates, financing, or incentives provided through local utilities, or available through the New York State Energy Research and Development Authority (NYSERDA) or the New York Power Authority (NYPA).

Recommendations for interior lighting upgrades are often provided in energy audits (see *PE3 Action: Government Building Energy Audits*). If the audit is more than two years old, the Climate Smart Communities (CSC) program recommends that an energy specialist or lighting specialist provide updated recommendations based on the latest available lighting technologies. If an audit has not been done, but the local government wants to pursue lighting upgrades, the following are a sample of efficient interior lighting options:

- Light-emitting diode (LED) fixtures and bulbs
- Compact fluorescents
- T5 or T8 linear tube fluorescents

C. Time frame, project costs, and resource needs

Lighting upgrades tend to have a relatively short payback period and newer lighting options, such as LED, last significantly longer, thus reducing replacement and maintenance costs. Costs for lighting upgrades are lower if replacement of fixtures is not necessary in addition to replacement of ballasts and lamps. A local government may have the staff and resources to do the lighting upgrade work in-house or may opt to hire a contractor. 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 who owns and operates buildings with interior lighting. Facilities managers or staff within the public works department would likely be responsible for implementing this action. Such staff should work with procurement staff for purchase of lighting products and possibly the procurement of a lighting contractor.

E. How to obtain points for this action

Local governments can earn points for this CSC action by increasing the percentage of interior lighting in government buildings that is energy-efficient, according to a standard set by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE). The fixtures 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.

An increase in the percentage of energy-efficient fixtures can be accomplished through upgrades of existing fixtures or through using efficient fixtures in new construction. Installation must have been performed within seven years prior to the application date.

Local governments must provide information on the number of existing lighting fixtures upgraded (and/or contained in newer buildings) in proportion to total interior fixtures across government buildings. If applicants do not know the total number of fixtures or other fixture details required, they can use the percentage of total building portfolio square footage as a proxy for estimating the scope of the installations.

Points are tiered based on the percentage of lighting that exceeds ASHRAE 90.1 by at least three percent:

	POSSIBLE POINTS
5% of lighting fixtures or square footage	1
10% of lighting fixtures or square footage	2
30% of lighting fixtures or square footage	3
50% of lighting fixtures or square footage	4
70% of lighting fixtures or square footage	5

F. What to submit

To obtain points based on the percentage of interior lighting fixtures, provide the following information:

- Total number of fixtures across the local government's entire building portfolio
- Percentage of fixtures that were installed within seven years prior to the application date and that exceeded ASHRAE 90.1 by three percent when installed
- Location: building(s) in which the lighting was installed
- Installation date: month and year when the lighting was installed
- Previous type: type of fixture that was replaced (for upgrades of existing lighting only)
- Efficiency: the type of lighting installed (from procurement records, for example) or other documentation demonstrating that the fixtures exceeded ASHRAE 90.1 by three percent when installed

If the specific number of fixtures is not available, applicants may obtain points based on square footage. To do this, provide the following information:

- Total building square footage across the local government's entire building portfolio
- Percentage of building square footage containing fixtures that were installed within seven years prior to the application date and that exceed ASHRAE 90.1 by three percent
- Location: building(s) in which the lighting was installed
- Installation date: month and year when the lighting was installed
- Efficiency: the type of lighting installed or other documentation demonstrating that the fixtures 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
- DEC CSC Reduce Utility Bills for Municipal Facilities and Operations
- US EPA ENERGY STAR List of Energy-efficient Lighting Products

H. Recertification requirements

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

NEW YORK STATE OF OPPORTUNITY. | Climate Smart Communities

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.

	POSSIBLE POINTS
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.

NEW YORK STATE OF OPPORTUNITY. | Climate Smart Communities

PE3 Action: Water-efficient Fixtures

1 Points | 2 Points | 3 Points | 4 Points

A. Why is this action important?

Water efficiency is an important component of energy efficiency. While the connection is not always obvious, energy is used to treat, pump, heat, and distribute water. When less water is consumed, less energy is required for these activities and fewer greenhouse gas (GHG) emissions are produced. Water-efficient fixtures are recommended throughout local government buildings to save money and reduce energy use, in addition to the benefit of overall water conservation.

B. How to implement this action

Water-efficient fixtures are often easy to install and generally have a short payback period. Water-efficient fixtures should be installed in bathrooms, kitchens, and any other relevant areas throughout local government buildings. Water-efficient fixtures may include low-flow or dual-flush toilets, faucet aerators, low-flow showerheads, or waterless urinals. Minimum recommended flow rates are as follows:

- Bathroom Faucets: 1.5 gallon per minute (GPM)
- Kitchen Faucets: 1.5 GPM (higher flow may be necessary for some purposes, such as utility sinks)
- Showerheads: 2 GPM
- Toilets: 1.28 gallons per flush (GPF) or 1.1/1.6 GPF for a dual-flush model

The WaterSense label from the US EPA is also given for many low-flow products; these fixtures are typically 20 percent more water-efficient than traditional products. WaterSense labeled products are backed by independent, third–party certification and meet EPA's specifications for water efficiency and performance.

C. Time frame, project costs, and resource needs

Water-efficient fixtures can be installed any time; it is not necessary to wait until existing fixtures stop working because new, low-flow fixtures greatly reduce water consumption. Payback for such fixtures is usually short, often less than a year or two, though that number will be different if a local government has its own water utility. Toilet replacements require more labor time and up-front investment, as compared to placing aerators on faucets or replacing showerheads. If the local government does not have in-house capacity for these upgrades, it may have to hire a contractor.

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 implementing. If the local government has a water utility, staff from that department may be involved as well.

E. How to obtain points for this action

Local governments can earn points for this Climate Smart Communities (CSC) action by increasing the percentage of water-efficient fixtures in government buildings. An increase in the percentage of water-efficient fixtures 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.

Points are obtained based on the percentage of fixtures that have been upgraded to water-efficient fixtures (defined as meeting the flow rates specified in Section B above and/or having a WaterSense label). If the exact number of fixtures upgraded is not available, local governments may use the building square footage affected by the upgrades as a proxy.

	POSSIBLE POINTS
Install water-efficient fixtures for 10% of total fixtures or building square footage	1
Install water-efficient fixtures for 20% of total fixtures or building square footage	2
Install water-efficient fixtures for 45% of total fixtures or building square footage	3
Install water-efficient fixtures for 70% of total fixtures or building square footage	4

F. What to submit

To obtain points based on the percentage of water-efficient fixtures, provide the following information:

- Total number of fixtures across the local government's entire building portfolio
- Percentage of fixtures that were installed within 10 years prior to the application date and that they meet the flow rates described above in Section B and/or have a WaterSense label
- Location: building(s) in which the fixtures were installed
- Installation date: month and year when the fixtures were installed
- Previous type: type of fixture that was replaced (for upgrades of existing fixtures only)
- Efficiency: the type of fixtures installed (brands and model numbers from procurement records, for example) or other documentation demonstrating that the fixtures meet the flow rates described above in Section B and/or have a WaterSense label

If the specific number of water fixtures is not available, applicants may obtain points based on square footage. To do this, provide the following information:

- Total building square footage across the local government's entire building portfolio
- Percentage of building square footage containing fixtures that were installed within 10 years prior to the application date and that they meet the flow rates described above in Section B and/or have a WaterSense label
- Location: building(s) in which the fixtures were installed
- Previous type: type of fixture that was replaced (for upgrades of existing fixtures only)
- Efficiency: the type of fixtures installed (brands and model numbers from procurement records, for example) or other documentation demonstrating that the fixtures meet the flow rates described above in Section B and/or have a WaterSense label

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

- List of EPA WaterSense Water-efficient Products
- EPA WaterSense Best Management Practices for Commercial and Institutional Facilities
- Alliance for Water Efficiency Tip Sheet

H. Recertification requirements

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

NEW YORK STATE OF OPPORTUNITY. | Climate Smart Communities

PE3 Action: Building Energy Management System

1 Points | 2 Points | 3 Points | 4 Points | 5 Points

A. Why is this action important?

Energy use in buildings is often the largest source of energy consumption and greenhouse gas (GHG) emissions within government operations. Energy efficiency can be achieved, in part, with proper selection of energy-efficient equipment and lighting. However, efficiency can be further optimized when systems are properly synchronized and managed, particularly through the utilization of a centralized energy management system. Building Energy Management Systems (BEMS)—sometimes called Building Automation Systems—are used to monitor, measure, and control energy use in buildings. Individual buildings can have their own BEMS to manage the lighting and heating, ventilation, and air conditioning (HVAC). Alternately, multiple buildings can be controlled by a central BEMS that manages the lighting and HVAC across several buildings. BEMS can also be used to provide metering, submetering, and monitoring functions to gather and manage energy use.

B. How to implement this action

Conduct a needs assessment of the local government buildings where a BEMS might be beneficial. Evaluate the available options and consult NYSERDA's Real Time Energy Management Program for advice on which products and vendors are the best fit for local needs. BEMS range significantly in what they offer and how they function but ideally use sensors, direct digital controls, setbacks, resets, and other functions to optimize the efficiency of energy-consuming equipment in buildings. Ideally, the system will have controls allowing facility managers to adjust temperatures in various buildings remotely for maximum control.

C. Time frame, project costs, and resource needs

BEMS vary significantly in price, particularly when considering the number of buildings and equipment types to be managed. BEMS are sometimes installed under an energy performance contract. If done separately outside of such a contract, the facilities manager for the local government should work closely with procurement staff to research available systems, companies, installation, and ongoing management costs.

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, though the benefits of such systems increase with the size of the local government's building portfolio and the amount of square footage covered by the system. Facilities managers or the building division within a public works department would likely be responsible for implementation.

E. How to obtain points for this action

Climate Smart Communities (CSC) points are obtained for this action by installing a BEMS in one or more government buildings. Tiered points are based on the proportion of the total square footage of buildings covered by the BEMS. Systems used for controlling both HVAC *and* lighting are awarded more points than those that only control one (HVAC *or* lighting), as per the tiers described below.

	POSSIBLE POINTS

Install a BEMS for controlling lighting or HVAC in 10% of buildings or for controlling for both in 5% of buildings (by square footage)	1
Install a BEMS for controlling lighting or HVAC in 20% of buildings or for controlling for both in 10% of buildings (by square footage)	2
Install a BEMS for controlling lighting or HVAC in 60% of buildings or for controlling for both in 30% of buildings (by square footage)	3
Install a BEMS for controlling lighting or HVAC in 100% of buildings or for controlling for both in 50% of buildings (by square footage)	4
Install a BEMS for controlling both lighting and HVAC in 70% of buildings (by square footage)	5

F. What to submit

Provide reports from the BEMS illustrating that it has been actively in use within the year prior to the application date. Indicate the total square footage of buildings owned by the local government and the percentage of square footage covered by the BEMS. Indicate whether the BEMS covers both lighting and HVAC or just one of those two systems.

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

- NYSERDA Real Time Energy Management Program
- US DOE Solution Center Webcast, October 15, 2010, Energy Management Systems: Maximizing Energy Savings
- DEC CSC Reduce Utility Bills for Municipal Facilities and Operations

H. Recertification requirements

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

NEW YORK STATE OF OPPORTUNITY. | Climate Smart Communities

PE3 Action: Energy Benchmarking for Government Buildings

2 Points 4 Points

A. Why is this action important?

Buildings account for about 32% of greenhouse gas (GHG) emissions in New York State. Building energy benchmarking involves tracking energy use, measuring performance over time, and comparing building performance against similar buildings and against expected performance under the same climatic conditions. Benchmarking helps building owners and managers identify opportunities to reduce emissions, cut energy waste, drive continuous improvement, and quantify energy savings. When used for government buildings, energy benchmarking typically involves annually reporting and publicly disclosing the data. This promotes transparency in government operations and lays the groundwork for the local government to identify opportunities for improving energy efficiency in municipal buildings.

B. How to implement this action

The first step is to develop and adopt legislation requiring benchmarking and reporting of local government energy use for buildings and facilities. Local governments will need to define the size thresholds and the types of buildings and facilities covered by the mandate. For example, the size threshold required under NYSERDA's Clean Energy Communities program is government-owned or -occupied buildings or facilities that are 1,000 square feet or larger in size.

It is recommended that local benchmarking legislation contain the following components:

- Set forth the use of the US EPA ENERGY STAR Portfolio Manager tool. (See below for a description of this tool.)
- Designate responsibility for entering property data into Portfolio Manager and completing benchmarking and reporting activities.
- Require public disclosure of annual summary statistics on building energy consumption (aggregating benchmarking information for government buildings).
- Require public disclosure of statistics for each individual building, including energy use intensity, annual GHG emissions, and an energy performance score, where this score is available. (To be eligible for points under this CSC action, publicly disclosed information must include each building's energy use intensity and annual greenhouse gas emissions, at minimum.)
- Require annual reporting to the legislative body on summary energy consumption statistics and a list of municipal buildings, identifying any buildings exempted from the benchmarking requirements and the reason for the exemption. (Despite the building size or type thresholds selected, the benchmarking legislation may exempt buildings and facilities with characteristics that make benchmarking impractical.)

The model legislation available via NYSERDA's Clean Energy Communities program benchmarking toolkit accomplishes the above recommendations.

To implement an energy benchmarking program, local government staff should establish a system for tracking and disclosing the information. The Climate Smart Communities (CSC) program recommends use of the US EPA ENERGY STAR Portfolio Manager. Portfolio Manager is an interactive energy management tool that tracks and assesses the energy consumption of buildings in a secure online environment. It is a free tool that involves no fees for its use. The following types of local government buildings are tracked in Portfolio Manager:

- Courthouse
- Drinking Water Treatment & Distribution

- Fire Station
- Library
- Mailing Center/Post Office
- Police Station
- Prison/Incarceration
- Social/Meeting Hall
- Transportation Terminal/Station
- Wastewater Treatment Plant
- Other

C. Time frame, project costs, and resource needs

Implementing an energy benchmarking requirement can take approximately six to twelve months. Depending on the quality and availability of data, the level of effort to implement benchmarking could be minimal, or it could require a fair amount of staff time when establishing a new tracking system. There are no fees required to use the recommended benchmarking tool, Portfolio Manager, as it is a free online platform.

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 all types of local governments, although only certain building and facility types will be relevant for tracking in Portfolio Manager. The planning or public works department will most likely be responsible for implementing this action.

E. How to obtain points for this action

	POSSIBLE POINTS
Adopt an energy benchmarking requirement for government-owned or -occupied buildings and facilities	2
Implement the energy benchmarking requirement for government buildings and facilities (i.e., publicly disclose reports on energy use and GHG emissions)	2

NYSERDA Clean Energy Communities: Local governments that have completed the Clean Energy Communities program Benchmarking High Impact Action by adopting legislation for government-owned or –occupied buildings will satisfy the requirements for at least two of the points available under this Climate Smart Communities action, so long as the legislation is currently in effect. Local governments that have completed the Clean Energy Communities Benchmarking action by adopting legislation for privately owned buildings will satisfy the requirements for at least four of the points available under PE8 Action: Energy Benchmarking for Private Buildings.

F. What to submit

Submit documentation verifying formal adoption of benchmarking legislation, such as a copy of an executed resolution. The benchmarking requirement may have been adopted at any time prior to the application date, but must be currently in effect at the time of submittal.

To receive the full four points, provide documentation showing that at least one report on building energy use intensity and GHG emissions has been publicly disclosed within the past year. This documentation should include reports from Portfolio Manager or other equivalent building management system.

Local governments that have completed the Clean Energy Communities Benchmarking High Impact Action for government buildings should also submit documentation from NYSERDA confirming completion.

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

- NYSERDA Clean Energy Communities Benchmarking Toolkit
- US EPA ENERGY STAR Portfolio Manager
- US EPA ENERGY STAR Portfolio Manager, Videos and Training Resources

H. Recertification requirements

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

PE3 Action: Clean Energy Upgrades

10 Points

A. Why is this action important?

In this context, Clean Energy Upgrades are defined as energy efficiency and renewable energy projects in local government facilities. Facilities are one of the largest sources of greenhouse gas (GHG) emissions in government operations inventories. Integrating energy efficiency and renewable energy into government facilities can reduce GHG emissions and save taxpayer money. State programs can help get these projects accomplished with no or low up-front cost.

In addition, when local governments make measurable reductions in GHG emissions that are directly under their control, they demonstrate leadership and take responsibility for the emissions that cause climate change. The cumulative impact of many local governments across New York State achieving GHG reductions adds up to a significant statement that can inspire further action in other sectors of the economy.

B. How to implement this action

This action awards Climate Smart Communities (CSC) certification points for the successful completion of the NYSERDA Clean Energy Communities Program High Impact Action entitled Clean Energy Upgrades.

This action focuses on reducing GHG emissions from facilities that are owned by local governments. Local governments must reduce GHG emissions from their facilities by at least 10% over a period of one to three years, submit the required documentation, and receive approval from NYSERDA to be awarded CSC points for this action.

Government buildings and facilities may include municipal office buildings, public works facilities, fire stations, police precincts, parks facilities, and water treatment plants. While GHG emissions from roadway lighting (such as street lights and traffic signals) owned by the local government are not covered in this action, interior lighting and any exterior lighting directly associated with government buildings are included.

For guidance on implementing this action, see the NYSERDA Clean Energy Communities Program Clean Energy Upgrades Toolkit. Municipalities interested in this action can receive free technical assistance from the Clean Energy Communities Coordinators that are available across New York State. To find contact information for the coordinator in your region, visit https://www.nyserda.ny.gov/Contractors/Find-a-Contractor/Clean-Energy-Community-Coordinators. You may also contact cec@nyserda.ny.gov for more information.

C. Timeframe, project costs, and resource needs

The time frame, costs, and resource needs depend on the type of upgrades implemented. Project costs may include design and construction, as well as staff and consultant time, where applicable.

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

This action is applicable to all types of local governments. The department with responsibility for managing government-owned facilities (typically the department of public works) would probably be involved in implementing this action. Staff members that maintain the government's GHG emissions inventories would likely be responsible for doing the calculations for this action.

E. How to obtain points for this action

Ten CSC points are available for local governments that submit documentation from NYSERDA showing completion of this action.

F. What to submit

Submit a copy of the approval from NYSERDA that indicates completion of the Clean Energy Communities Program Clean Energy Upgrades High Impact Action.

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 examples

- NYSERDA Clean Energy Communities Program Clean Energy Upgrades Toolkit

H. Recertification Requirements

To maintain status as a certified Climate Smart Community, recertification is necessary every five years. For this particular action, CSC points will only be awarded once.

NEW YORK STATE OF OPPORTUNITY. | Climate Smart Communities

PE3 Action: Green Building Standard for Government Buildings

2 Points | 3 Points | 5 Points

A. Why is this action important?

Numerous local governments throughout the country have adopted green building standards for new construction of local government buildings. The construction of new buildings presents a significant opportunity to design with energy efficiency and resource conservation in mind. Adopting a green building standard for new construction will make green design consistent among all newly constructed buildings, reduce the local government's environmental impact, and demonstrate leadership by example to the rest of the community. This action is also in line with the New York State Green Building Construction Act passed in 2009 requiring all new state buildings meet green building standards. While not all local governments are constructing new buildings, all have existing properties. Green building standards can also be established for the operation and maintenance or retrofit of existing facilities. Significant energy savings and associated greenhouse (GHG) emissions reductions can come from improvements to existing buildings.

B. How to implement this action

New Construction

Green building standards such as the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) or Green Globes are now used widely to provide guidelines for the design of new buildings. The local government should adopt a clear policy that requires new construction be designed to a set of specific criteria or a green performance threshold. The local government may choose to reference existing standards such as LEED, ENERGY STAR, ICC-IGCC 2012 or ASHRAE Standard 189.1. Alternatively, a local government may choose to establish its own standards, but those standards should go substantially beyond minimum code requirements. If referencing an existing standard such as LEED, it is important to note that it is not necessary to require buildings to be officially certified, as that is often cost prohibitive. Instead, the policy can reference that the guidelines be met and that official certification by a third party is optional. NYSERDA's New Construction Program may be able to help offset the cost of incorporating energy efficiency measures into new buildings and achieving LEED certification.

Existing Buildings and Facilities

FOR EXISTING BUILDINGS AND FACILITIES, LOCAL GOVERNMENTS SHOULD ADOPT A CLEAR POLICY THAT REQUIRES ONE OR MORE OF THE FOLLOWING:

- Proactively upgrade existing buildings to a specific set of green building standards by a certain date
- Incorporation of green building standards when facilities are to be upgraded
- Apply green building standards to existing operation and maintenance programs

As with new construction, the local government can reference existing green building design guidelines such as LEED for Existing Buildings or LEED Operations and Maintenance, or may establish its own standards. If referencing an existing standard, it is not necessary to require buildings to be certified under the referenced program, as costs for certification can be cost prohibitive. Policies can instead require that buildings be certifiable under the guidelines. It is recommended that the adopted standards or policy specify the size and age of buildings to which the standards would be applicable.

C. Time frame, project costs, and resource needs

Adoption of the policy itself can be completed in the standard time for the local government to adopt any internal policy. Staff resources required to fulfill this task will depend on in-house expertise. Consultants could assist as needed. Implementation of the existing buildings policy will require significant staff time and resources to evaluate all existing buildings and implement improvements wherever necessary to meet the adopted standards.

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. The policy would likely be developed in coordination with numerous staff involved with capital planning, facilities management, and construction of new government buildings and would require approval and official adoption by the local government's highest ranking official(s).

E. How to obtain points for this action

Points can be obtained for this action by adopting a green building standard for new construction (2 points), adopting a green building standard for existing local government buildings and facilities (3 points) or both (5 points).

F. What to submit

Documentation of the written policy as well as signed documentation of its adoption and enactment by the government official or body authorized to enact such policies. Additionally, local governments should submit a memorandum outlining how the policy has incorporated an existing green building standard directly or incorporated aspects of the standard into the policy. The policy may have been adopted at any time prior to the application date to receive points for this action.

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

- NYSERDA Commercial New Construction Program
- LEED Green Building Standard
- US EPA ENERGY STAR
- ASHRAE Standard 189.1 for the Design of High-Performance, Green Buildings
- 2012 International Green Construction Code (IGCC)
- Syracuse, NY Green Building Ordinance (2007)

H. Recertification requirements

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

NEW YORK STATE OF OPPORTUNITY. | Climate Smart Communities

PE3 Action: Green Building Certification

15 Points

A. Why is this action important?

While the greenest buildings are existing buildings, local governments often must construct a new building if they cannot meet local needs with existing facilities. Building a resource-efficient green building provides local governments with the opportunity to lead by example and make long-term investments that will reduce energy use and operating costs of the building. Local governments should also make sure to apply smart-growth principles in selection of a site or location for the building, and possibly use the development as an opportunity to promote development in a redevelopment area.

B. How to implement this action

Local governments should first determine if it is necessary to build a new building or if existing facilities can be used to meet the needs of the government and community. If it is determined that a new building is needed, then local government should evaluate the existing national green building certification programs (listed below), and select its preferred program. In order to be eligible for points for this Climate Smart Communities (CSC) action, the local government must achieve certification for its new green building under one of the programs listed below.

C. Time frame, project costs, and resource needs

Each green building certification program will have its own individual timeline and associated costs. The additional incremental costs of the green building features will typically pay for themselves after a period of time through energy savings, but the payback periods can vary greatly depending on the type of energy efficiency improvement. Local government personnel resources may also vary based on the certification program chosen.

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 that has built a new facility in recent years. The department of public works or facilities will typically have responsibility for this action; however, the department(s) that will use the building will also be involved in the development process. The individual green building certification program guidelines may also dictate parties involved, for example, Leadership in Energy and Environmental Design (LEED) requires each project include the building owner, a building agent, and a project administrator.

E. How to obtain points for this action

Local governments can earn points for attaining a green building certification from one of the four national programs listed below. A flat fifteen points are awarded for the certification, regardless of the level of certification the building achieves within the green building program.

- ENERGY STAR Certification
- Green Globes Certification (4 certification levels: One Green Globe, Two Green Globes, Three Green Globes, and Four Green Globes,)
- LEED Certification (4 certification levels: Certified, Silver, Gold, or Platinum)
- Living Buildings Certification (Full Living Certified, Petal Certified, Net Zero Energy Certified, and Zero Energy Certified)

F. What to submit

Local governments must submit evidence of achieving green building certification from one the four eligible programs listed above. The building must have been certified within ten years prior to the application date.

G. Links to additional resources or best practices

Green Building Certification Programs:

- ENERGY STAR Certification
- Green Globes Certification
- LEED Rating Systems
- Living Buildings

Best Practices:

- 2012 International Green Construction Code
- US EPA Link to ANSI/ASHRAE/USGBC/IES Standard 189.1-2014
- US EPA Link to National Green Building Standard ICC 700-2012
- NYSERDA New Construction Program

H. Recertification requirements

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

NEW YORK STATE OF OPPORTUNITY. | Climate Smart Communities

PE3 Action: Fleet Inventory

4 Points

A. Why is this action important?

It is important for local governments to have complete, accurate information about the vehicles they own and operate. Such information provides a basis for making informed choices about municipal fleet management. By creating a fleet inventory and updating it on a regular basis, local governments can identify, for example, which vehicles are the least fuel-efficient and develop a plan to replace them with vehicles that serve the same function but are more efficient. The difference between 25 miles per gallon and 20 miles per gallon can amount to the prevention of 10 tons of carbon dioxide over a vehicle's lifetime, according to the US Environmental Protection Agency (EPA). In general, good fleet management improves efficiency, reduces greenhouse gas (GHG) emissions, and saves taxpayer money. A fleet inventory is the first step in realizing these benefits.

B. How to implement this action

As part of a larger GHG-reduction strategy, the Climate Smart Communities (CSC) program recommends that local governments implement these vehicle-based actions in the following order: Begin by completing an inventory (as per this action, *PE3 Action: Fleet Inventory*) and developing a fleet efficiency policy (as per *PE3 Action: Fleet Efficiency Policy*). Then conduct a rightsizing initiative (as per *PE3 Action: Fleet Rightsizing*), followed by an effort to replace traditional vehicles with advanced vehicles (as per *PE3 Action: Advanced Vehicles*).

To be eligible for points under this CSC action, the vehicle inventory must have been completed within the last years. In addition, it must include every four-wheeled vehicle owned or operated by the local government (including leased vehicles). The inventory must include vehicles that might be deemed to be exempt from a fleet efficiency policy (*PE3 Action: Fleet Efficiency Policy*) or excluded from calculations related to rightsizing (*PE3 Action: Fleet Rightsizing*) or replacing traditional vehicles with advanced vehicles (*PE3 Action: Advanced Vehicles*).

Visit http://www.fueleconomy.gov/ for information on fuel efficiency of vehicles. This website is useful for developing fleet inventories and making informed decisions about fleet management.

At minimum, the fleet inventory must include the following 11 categories for every four-wheeled vehicle owned or operated by the local government:

- Model year
- Year purchased
- Make
- Model
- Drivetrain type (2-wheel, 4-wheel, or all-wheel drive)
- Type of fuel/power source (e.g., gasoline, diesel, compressed natural gas, electricity)
- Miles per gallon (MPG) rating
- Mileage (i.e., the odometer reading)
- Class: light-duty, medium-duty, or heavy-duty
- Gross vehicle weight rating (GVWR) over 8,500 pounds: yes or no (This is a threshold often used for determining whether a vehicle qualifies as a heavy-duty vehicle and might therefore be deemed exempt from a municipal fleet efficiency policy.)
- Vehicle function (i.e., the tasks associated with the vehicle's use)

Other recommended categories include the following:

- Department the vehicle is associated with
- Miles driven per vehicle on an annual or quarterly basis
- Fuel (or power) consumption per vehicle on an annual or quarterly basis
- Average cost of fuel (or power) per mile

In addition to creating a baseline fleet inventory, local governments must develop a set of procedures to ensure the inventory is updated periodically. This can be a simple set of instructions describing the protocols for when the inventory will be updated, how to do it, and who will do it.

Local governments, especially those with large fleets, should consider investing in a fleet management information system. Such software systems can provide a framework for maintaining a fleet inventory and tracking the type of vehicle usage, fuel usage, and fuel efficiency of each vehicle operated by the government. Fleet management consulting firms can also assist with inventories and assessing the fleet for potential management practice improvements relating to fleet, purchase and replacement policy, usage, maintenance, and fueling.

C. Time frame, project costs, and resource needs

Doing an inventory of the local government fleet can take up to a few months, depending on the size of the fleet and quality of the available information about each vehicle. The costs primarily relate to staff time.

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 that owns and manages a fleet of vehicles. The department with responsibility for managing the local government's vehicle fleet, typically within the public works department, would be responsible for tracking fleet composition, vehicle miles traveled and fuel consumption.

E. How to obtain points for this action

Four points are available for applicants who develop a fleet inventory consistent with the minimum requirements described above.

F. What to submit

Submit a copy of a fleet inventory completed within the last two years prior to the date of application. The inventory must include the 11 categories of information listed above and must cover every four-wheeled vehicle owned or operated by the local government. Also provide a copy of the procedures describing when the inventory will be updated, how to do it, and who will do it.

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

- Ulster County Local Law No.3 of 2015, Establishing a Sustainable Green Fleet Policy
- Massachusetts Green Communities Fuel Efficient Vehicles Guidance

H. Recertification requirements

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

NEW YORK STATE OF OPPORTUNITY. | Climate Smart Communities

PE3 Action: Fleet Efficiency Policy

2 Points 3 Points

A. Why is this action important?

A vehicle fleet efficiency policy sets a fuel-efficiency standard for municipal vehicle acquisitions whenever they are commercially available and practicable. The policy provides vehicle fleet managers with the guidelines and requirements to improve the fuel efficiency of government fleets, thereby reducing fuel costs and greenhouse gas (GHG) emissions.

B. How to implement this action

As part of a larger vehicle-based, GHG-reduction strategy, the Climate Smart Communities (CSC) program recommends that local governments implement these actions in this order: Begin by completing an inventory (as per *PE3 Action: Fleet Inventory*) and developing a fleet efficiency policy (as per *PE3 Action: Fleet Efficiency Policy*). Then conduct a rightsizing initiative (as per *PE3 Action: Fleet Rightsizing*), followed by an effort to replace traditional vehicles with advanced vehicles (as per *PE3 Action: Advanced Vehicles*).

Local governments can develop a standalone fleet efficiency policy or incorporate fleet efficiency into a larger environmentally preferable purchasing policy. Research best practices and models to imitate, including Massachusetts Green Communities Green Fleet Example Policy and New York State policies on fleet efficiency (such as Executive Order 111).

Use the website http://www.fueleconomy.gov/ to find information on vehicle fuel efficiency that can inform the development of local minimum efficiency levels. The minimum efficiency levels established in the policy must represent an improvement compared to the level of efficiency that was measured when the baseline fleet inventory was completed (as per *PE3 Action: Fleet Inventory*).

Develop and include within the fleet efficiency policy the following components:

- A directive for maintaining an inventory of all four-wheeled vehicles owned or operated by the local government (including leased vehicles) and a schedule for updating the inventory on a regular basis (e.g., annually)
- Definitions for different vehicle types (This might be defined in the inventory conducted under *PE3 Action: Fleet Inventory*)
- Minimum efficiency levels for different vehicle types (In addition, this section can include policies requiring the purchase of certain types of advanced vehicles, such as plug-in hybrid vehicles, battery-electric vehicles, compressed natural gas vehicles, and hydrogen fuel cell vehicles.)
- Exemptions for certain types of vehicles (The local government should consider whether to include medium- and heavy-duty vehicles, machinery such as bulldozers, non-traditional vehicles such as boats, specialty vehicles such as busses, and emergency vehicles such as ambulances and fire trucks in fleet-greening activities. Most communities exempt such vehicles from municipal fleet-greening activities because low-emission alternatives that perform as well as their traditional counterparts can be difficult to find.)
- A minimum fleet efficiency level for the entire fleet
- Guidelines for periodically revisiting the minimum efficiency standards as technology evolves
- A vehicle replacement plan (This plan should include a schedule for increasing the percentage of new vehicles that meet fuel efficiency standards; requirements for tracking mileage and fuel consumption; and requirements for annual review of the replacement schedule to adjust for new, more efficient, vehicle

availability.)

As with any change in local laws and policies, local governments should consult with their attorney for guidance on drafting and enacting the new legislation or policy.

C. Time frame, project costs, and resource needs

Developing a vehicle fleet efficiency policy can take approximately two to four months to draft, finalize, and adopt, depending the political support for such a policy. The costs for developing the policy are primarily related to staff time.

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 that owns and manages a fleet of vehicles. The department with responsibility for managing the local government's vehicle fleet, typically within the public works department, often in collaboration with the chief elected official's office, would be responsible for drafting this policy.

E. How to obtain points for this action

To be eligible for points, the vehicle efficiency policy must be consistent with the guidelines above. To receive full credit for this CSC action, the policy must also include the following:

	POSSIBLE POINTS
Specify a short-term deadline (within two years) by which a minimum percentage of new vehicles will be fuel-efficient or a medium-term deadline (within five years) for attainment of a minimum fleet fuel-efficiency standard for the entire fleet	2
Require that 100% of new vehicles in local fleet are fuel-efficient by a certain year*	1

*Local governments may designate exempted vehicles, as described above (in the *How to Implement* section), to be excluded from this percentage calculation.

F. What to submit

Provide a copy of the vehicle efficiency policy that is consistent with the guidelines above. Submit signed documentation of the policy's adoption and enactment by the local government. The policy may have been adopted at any time prior to the application date but the local government must be actively implementing it.

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 examples

- DEC CSC Reduce Municipal Energy Use for Transportation
- New York State Alternative Fuel Vehicles policies
- New York State Executive Order 111
- Massachusetts Green Communities Green Fleet Example Policy
- Massachusetts Electric Vehicle Incentive Program
- Energy Aware Planning Guide: Local Government Fleet Efficiency
- NYSERDA Clean Transportation Program
- NYSERDA Transpiration Technology Program

H. Recertification requirements

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

NEW YORK STATE OF OPPORTUNITY. | Climate Smart Communities

PE3 Action: Fleet Rightsizing

1 Points | 2 Points | 3 Points

A. Why is this action important?

Local governments sometimes have more vehicles than needed in their local government fleets, and larger vehicles are often used for tasks that could be accomplished with smaller, more fuel-efficient vehicles. Local governments are encouraged to monitor their vehicle fleet composition and usage, and identify opportunities to reduce fuel usage by matching the right vehicle with the right task and reducing the overall number of vehicles, if possible. Using vehicles appropriate for their tasks maximizes the fuel efficiency of the overall fleet. Reducing the size of the fleet reduces greenhouse gas (GHG) emissions and decreases overall maintenance and insurance costs.

B. How to implement this action

As part of a larger vehicle-based, GHG-reduction strategy, the Climate Smart Communities (CSC) program recommends that local governments implement these actions in this order: Begin by completing an inventory (as per *PE3 Action: Fleet Inventory*) and developing a fleet efficiency policy (as per *PE3 Action: Fleet Efficiency Policy*). Then conduct a rightsizing initiative (as per *PE3 Action: Fleet Rightsizing*), followed by an effort to replace traditional vehicles with advanced vehicles (as per *PE3 Action: Advanced Vehicles*).

Rightsizing the local government fleet involves reducing the total number of vehicles and optimizing the usage of existing vehicles to ensure the most efficient vehicles are used as much as possible. An up-to-date fleet inventory is a pre-requisite for this action (see guidance under *PE3 Action: Fleet Inventory*). The inventory provides the informational foundation for the right-sizing effort.

As part of evaluating options, local governments should consider the following strategies.

Fleet Analysis

- Define the scope of the rightsizing initiative. Use the local fleet inventory to select which types of vehicles will be part of the rightsizing effort and which types will be exempt. This establishes the baseline by which reductions will be measured and points will be awarded.
- Track mileage and assess consumption to determine vehicle performance.
- Identify vehicles that are underutilized and can either be retired or better utilized.
- Identify vehicles that are not suited to the tasks for which they are typically used.
- For local governments with larger fleets, consider purchasing a fleet management information system that tracks the type of usage, fuel usage, and fuel efficiency of each vehicle in the system.

Optimize Fleet Assignments

- Reassign vehicles to make sure the appropriate vehicles are used for the right tasks.
- Develop processes and procedures to enforce vehicle-usage policies.
- Encourage car-pooling and more efficient route planning.

Reduce Fleet Size

- Retire or sell older or infrequently used vehicles.

C. Time frame, project costs, and resource needs

Rightsizing the local government fleet can take about three to six months, although it depends on the quality of the information in the fleet management system. With a robust management system in place, right-sizing of the fleet should be an ongoing process. The costs associated with fleet rightsizing primarily involve staff time, as the focus of the effort is on using resources more efficiently.

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 that owns and manages a fleet of vehicles. The department with responsibility for managing the local government's vehicle fleet, typically within the public works department, would be responsible for tracking fleet composition, vehicle miles traveled and fuel consumption.

E. How to obtain points for this action

The points for this action are tiered based on the percentage by which the size of the local government fleet of vehicles has been reduced.

	POSSIBLE POINTS
Reduce fleet size by 10-25%	1
Reduce fleet size by 26-50%	2
Reduce fleet size by >50%	3

F. What to submit

Submit documentation outlining a process that is consistent with the process described above. Describe the steps taken to reassign and better utilize the fleet and to reduce the total number vehicles. Provide information on how the percentage reduction was calculated (i.e., a definition of what portion of the fleet was included and the number of vehicles that were eliminated from the fleet).

Provide evidence that the rightsizing initiative was completed within five years prior to the application date.

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 examples

- DEC CSC Reduce Municipal Energy Use for Transportation
- US Department of Energy Alternative Fuels Data Center, Rightsizing Your Fleet to Conserve Fuel
- Article from Government Fleet website (2009): 11 Approaches to Right-Sizing Your Fleet
- NYSERDA Clean Transportation Program
- NYSERDA Transpiration Technology Program

H. Recertification requirements

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

NEW YORK STATE OF OPPORTUNITY. | Climate Smart Communities

PE3 Action: Advanced Vehicles

2 Points | 4 Points | 6 Points | 8 Points | 10 Points

A. Why is this action important?

Advanced vehicles are more fuel-efficient and produce fewer greenhouse (GHG) emissions than their traditional counterparts. Examples include plug-in hybrid vehicles, battery-electric vehicles, compressed natural gas (CNG) vehicles, and hydrogen fuel cell vehicles. Use of these vehicles can help stimulate the local and national market for advanced vehicles and the market for alternative fuels. In addition, these vehicles can help raise awareness of the local government's commitment to clean air and fuel efficiency as the vehicles are used and seen in the community.

B. How to implement this action

As part of a larger vehicle-based, GHG-reduction strategy, the Climate Smart Communities (CSC) program recommends that local governments implement these actions in this order: Begin by completing an inventory (as per *PE3 Action: Fleet Inventory*) and developing a fleet efficiency policy (as per *PE3 Action: Fleet Efficiency Policy*). Then conduct a rightsizing initiative (as per *PE3 Action: Fleet Rightsizing*), followed by an effort to replace traditional vehicles with advanced vehicles (as per *PE3 Action: Advanced Vehicles*)

There are four types of vehicles that the CSC program currently defines as advanced vehicles: plug-in hybrid vehicles, battery-electric vehicles, CNG vehicles, and hydrogen fuel cell vehicles. (Advanced vehicles must also be manufactured for use primarily on public streets, roads, and highways, and have a maximum speed capability of at least 50 miles per hour.) Prior to purchase or lease, local governments should assess which of these four types of advanced vehicles are well suited to their circumstances.

A fleet inventory is a prerequisite for obtaining points under this action. (Guidance on this process is provided in *PE3 Action: Fleet Inventory*). Points for this CSC action are tiered based on the percentage of advanced vehicles in the local government fleet. As a result, the first step is to define the scope of the replacement initiative. Use the local fleet inventory to select which types of vehicles will be examined for replacement with advanced vehicles and which types of vehicles will be exempt. The scope of the replacement initiative establishes the baseline by which eligibility for the different tiers of CSC points will be measured. The scope could only include light-duty vehicles, for example.

Advanced vehicles may be light-duty, medium-duty, or heavy-duty, but local governments should consider whether to exclude medium- and heavy-duty vehicles, machinery such as bulldozers, non-traditional vehicles such as boats, specialty vehicles such as buses, and emergency vehicles such as ambulances and fire trucks from their fleet-greening activities. Local governments might choose to exempt medium- and heavy-duty vehicles from the replacement initiative because low-emission alternatives that perform as well as their traditional counterparts can be difficult to find.

As part of evaluating the most appropriate advanced vehicles, local governments should consider the following strategies.

- Use established minimum fuel efficiency requirements for the types of vehicles in the fleet, as developed under *PE3 Action: Fleet Efficiency Policy*, if completed.
- Collect information on which advanced vehicles are likely to suit local needs and be available for purchase or lease locally.
- Replace vehicles as they near the end of their useful life with advanced vehicles, and/or replace the least fuel-efficient vehicles prior to the end of their useful life.
- Research opportunities to reduce costs through grants, rebates, and bulk purchasing, including the programs described below.

- Participate in a bulk purchase or lease of vehicles or organize a joint procurement with other neighboring jurisdictions, to maximize your buying power. The New York State Office of General Services and the New York State Department of Environmental Conservation (DEC) have organized several joint aggregate purchases of electric vehicles with municipalities. Contact climatechange@dec.ny.gov to inquire about upcoming state-organized aggregate purchases of plug-in hybrid vehicles and battery-electric vehicles. All authorized users of the New York State Vehicle Marketplace (which includes local governments) can participate.
- DEC offers a Municipal Zero-Emission Vehicle (ZEV) Rebate Program that provides rebates to municipalities for costs associated with the purchase or lease (for at least 36 months) of eligible clean vehicles and with the installation of eligible infrastructure that supports public use of clean vehicles.

To be eligible for points under this CSC action, the advanced vehicles may have been acquired at any time prior to the application date, but must be active at the time of the CSC application.

C. Time frame, project costs, and resource needs

Implementing a comprehensive vehicle-based GHG-reduction strategy and guidelines to purchase advanced vehicles can take about four to six months, depending on the level of local support, the quality of information about the local government fleet, and available financial resources. The initial effort involves developing procurement guidelines and can typically be performed by local government staff.

The additional cost of advanced vehicles compared to traditional vehicles varies, depending on the type. The U.S. DOE Vehicle Cost Calculator helps compare the total cost of ownership for different vehicle makes and models. Local governments should also research opportunities to reduce costs through grants, rebates, and bulk purchasing, as described above.

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 that owns and/or manages a fleet of vehicles. The department with responsibility for managing the local government's vehicle fleet, typically within the public works department, would be responsible implementing this action.

E. How to obtain points for this action

Points for this action are tiered based on the percentage of advanced vehicles in the local government fleet. See above for the definition of advanced vehicles and for information about completing a fleet inventory (which is a prerequisite for this action) and defining the scope of the vehicle replacement initiative.

	POSSIBLE POINTS
Deployment of 1 advanced vehicle (if not amounting to at least 10% of fleet)	2
10-24% of fleet is advanced vehicles	4
25-49% of fleet is advanced vehicles	6
50-74% of fleet is advanced vehicles	8
75-100% of fleet is advanced vehicles	10

NYSERDA Clean Energy Communities: Local governments that have completed the Clean Energy Communities Clean Fleets High Impact Action by deploying at least one alternative fuel vehicle will satisfy at least the minimum two points available under this CSC action, so long as the vehicle is currently active. Local governments that have completed the

Clean Energy Communities Clean Fleets High Impact Action by providing a CNG fueling station or an electric-vehicle charging station will satisfy the requirements for at least the minimum four points available under the CSC PE6 Action: Alternative-fuel Infrastructure.

F. What to submit

Local governments must submit documentation on the proportion of advanced vehicles in the fleet. Documentation should indicate the scope of the replacement initiative and the total number of vehicles that were examined for replacement with advanced vehicles; for example, provide information on whether the scope was limited to the portion of the fleet that are light-duty vehicles.

The submittal should also include the types of advanced vehicles that were acquired (whether plug-in hybrid vehicles, battery-electric vehicles, CNG vehicles, or hydrogen fuel cell vehicles) and whether those vehicles are currently active. The advanced vehicles may have been acquired at any time prior to the application date but must be active at the time of submittal.

Local governments that have completed the Clean Energy Communities Clean Fleets High Impact Action may fulfill the CSC submittal requirements by providing documentation from NYSERDA confirming completion, as well as a completed Clean Fleets Certification Form (available in the Clean Fleets Toolkit). This form should include information about the vehicle and confirmation that it is actively in use at the time of submittal for CSC certification. If applying for more than the two minimum points (for one advanced vehicle), applicants must provide additional documentation as described above.

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

- DEC Zero Emission Vehicle & Infrastructure Rebate Program
- US Department of Energy Fuel Economy Website
- US Department of Energy Alternative Fuels Data Center, New York Laws and Incentives
- US DOE Vehicle Cost Calculator
- EPA Green Fleet Guide
- NYSERDA Clean Transportation Program
- NYSERDA Transpiration Technology Program

H. Recertification requirements

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

NEW YORK STATE OF OPPORTUNITY. | Climate Smart Communities

PE3 Action: LED Street Lights

5 Points | 6 Points | 7 Points | 8 Points | 10 Points

A. Why is this action important?

Advanced street light technology such as light-emitting diodes (LEDs) can reduce street light energy use by as much as 70 percent. Efficient street lights will save money and energy, also reducing the greenhouse gas (GHG) emissions associated with electricity consumption. Installation of efficient street lights is also a demonstration of the local government's commitment to resource conservation that can be seen by the community it serves.

B. How to implement this action

The following guidelines provide an outline for the process a local government might follow for converting street lights to LEDs.

Plan for Street Light Retrofit

- Perform an outdoor lighting inventory, if one doesn't exist. At minimum, the inventory should focus on street lights and include information such as the name of entity that owns each street light (local government or the local utility), the location or address of each street light, the style of each street light (cobra-head or non-cobra-head), and notes on the condition and effectiveness of each street light. If the resources are available, local governments should consider a comprehensive inventory of all outdoor lighting that covers street lights, traffic signals, and off-street light fixtures (in parking lots and public parks, for example). Such a comprehensive inventory will create a foundation for earning points under all of the CSC actions that are focused on outdoor lighting: *PE3 Action: LED Street Lights*, *PE3 Action: LED Traffic Signals*, *PE3 Action: Outdoor Lighting Reduction*, and *PE3 Action: Outdoor Lighting Upgrades*.
- Define the scope and objectives of the project, in terms of the quantity of street lights to be converted, and if other changes to local street lighting are necessary, such as increasing or reducing number of street lights based on input from residents and businesses.
- Climate Smart Communities (CSC) points for reducing the number of street lights are available under *PE3 Action: Outdoor Lighting Reduction*.
- Identify street lights for conversion; focus on the most outdated fixtures.
- Consider performing a pilot of the LED street lights in a limited area, to confirm the technology and lighting output meet local needs.
- Develop project plan and financing strategy.

Identify Design Concerns and Constraints

- Determine if existing light fixtures can be retrofitted or if they must be replaced.
- Consult with NYSERDA regarding which LED conversion and technology options meet economic and operational goals. NYSERDA Clean Energy Coordinators provide customized technical assistance with LED street lights to local governments; they can be reached at cec@nyserda.ny.gov.
- Check with utilities regarding options for converting street lights to LEDs.
- Select appropriate technology and understand maintenance impacts.
- Ensure the new technology meets the minimum design standards, such as those from the DesignLights Consortium Qualified Products List.
- Consider other design factors such as glare, light pollution, safety and security, and aesthetic requirements

Implement New Lighting Technology

- Convert street lights to LEDs, preferably those found on the DesignLights Consortium Qualified Products List.
- Monitor and report on performance of the new fixtures.
- Develop or update ongoing maintenance plans.

For local governments that do not own their own street lights, there are two possible pathways to LED street light conversion: Upgrade to utility-owned LEDs, where available, or purchase existing street lights from the utility and replace with municipally-owned LEDs.

For *off-street* outdoor lighting upgrades such as in parking lots and parks, points should be obtained under *PE3 Action: Outdoor Lighting Upgrades*.

C. Time frame, project costs, and resource needs

Many local governments carry out LED street light conversion in phases, in part to test the performance of the technology used, and in part because of the upfront cost. For a local government that does not have money in its budget for such a capital investment, implementing a LED street light conversion in a pilot neighborhood may prove more feasible at first.

The local government should investigate whether grants are available for funding support. Incentives may also be available through the electric utility. The project costs will depend on the scope of the project, and will include costs for design, implementation, and materials. Smaller local governments will typically want to hire a contractor to perform the upgrade; larger local governments may have the needed expertise in house to procure and install the upgrade.

The New York Power Authority (NYPA) offers a LED Streetlight Conversion program providing low-interest rate financing. Local governments could also consider issuing an RFP for an Energy Performance Contract (a common tool used for financing and implementing energy efficiency improvements with little or no up-front capital costs) or piggybacking on a contract from another municipality.

For local governments planning to purchase existing street lights from their utility to then replace them with municipally-owned LEDs, the purchase price will need to be negotiated with the utility. (In October 2015, Governor Cuomo signed into law the Streetlight Replacement & Savings Act (PSL § 70-a), which establishes procedures for the transfer of street light system ownership from a utility to a municipality.)

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 local governments that own and operate street lights but is also applicable to local governments that lease or pay fees for utility-owned street lights. Local governments that do not own their street lights may upgrade to utility-owned LEDs or purchase existing street lights from the utility to install municipally-owned LEDs. The department likely to be responsible for spearheading this action would be a public works, transportation, or engineering department.

E. How to obtain points for this action

Local governments can earn points for this project by successfully converting at least 10% of street lights to LEDs. Points are awarded based on the percentage of street lights converted. For this CSC action, the percentage of street lights is based on the total number of municipally- and utility-owned street lights within the jurisdiction that are actively in use at the time of application.

	POSSIBLE POINTS
Complete NYSERDA Clean Energy Communities LED Street Lights High Impact Action*	5
Upgrade 10-24% of street lights to LED	6

Upgrade 25-49% of street lights to LED	7
Upgrade 50-74% of street lights to LED	8
Upgrade 75-100% of street lights to LED	10

*__NYSERDA Clean Energy Communities:__ There are several differences between the Clean Energy Communities (CEC) and Climate Smart Communities (CSC) requirements for LED street lights. These include, for example, the fact that the CEC program has a higher minimum threshold of 50%, but that threshold is based on a percentage of cobra-head style street lights. In contrast, points under the CSC program are based on a percentage of the community's total number of street lights (of any style, cobra and non-cobra-head). As part of aligning these two programs, local governments that have completed the CEC LED Street Lights High Impact Action are eligible for five of the points available under this CSC action, provided the LED street lights are currently active at the time of submittal for CSC certification and the applicant submits the actual number of individual cobra-head street lights upgraded to LED. Local governments interested in earning greater than five points must provide documentation that meets the specific requirements of this CSC action.

F. What to submit

At minimum, provide the following information:

- Baseline: As per the street light inventory, provide the total number of street lights in the community. For this CSC action, the percentage of street lights is based on the total number of municipally- and utility-owned street lights within the jurisdiction that are actively in use at the time of application.
- Percentage converted: Provide the number of street lights that were converted to LEDs.

Documentation should indicate that the updated street lights are actively in use (through photographs or utility bills, for example). Applicants may also provide invoices or purchase orders that indicate the type of LED street lights purchased and the date of purchase. If available, also provide cost and energy savings (estimated or actual) resulting from the conversion to LEDs.

Local governments that have completed the NYSERDA Clean Energy Communities LED Street Lights High Impact Action must submit documentation from NYSERDA confirming completion and provide the number of cobra-head street lights upgraded to LED in order to be eligible for the minimum five points.

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

- NYSERDA Clean Energy Communities Program LED Street Lights Toolkit
- Mid-Hudson Street Light Consortium: This website has guidance documents and tools applicable to for municipalities outside of New York's Mid-Hudson region.
- Case Study: Lewiston, NY, Effective Energy Efficient Street Lighting Project
- Case Study: Yonkers Streetlight Installation—Climate Smart Communities Anchor Project
- Green Light: Sustainable Street Lighting for NYC
- Efficiency Vermont: Improving Efficiency in Municipal Street and Public Space Lighting
- New York Power Authority LED Streetlight Conversion program

H. Recertification requirements

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

NEW YORK STATE OF OPPORTUNITY. | Climate Smart Communities

PE3 Action: LED Traffic Signals

1 Points | 2 Points | 3 Points | 4 Points

A. Why is this action important?

Converting incandescent traffic signals to light-emitting diodes (LEDs) is cost-effective way to lower local government energy bills. Traffic signals are the automatically operated colored lights (typically red, amber, and green) that control traffic at road junctions and crosswalks. LED traffic signal lamps use 80 to 90 percent less energy than incandescent lamps. Local governments can expect to save approximately 60-130 dollars in annual energy costs per signal head by switching to LEDs. Additionally, LED traffic signal lamps can reduce maintenance costs over incandescent technology by approximately 75 percent. The estimated simple payback on LED traffic signal conversions based on energy cost savings alone is as little as one year.

B. How to implement this action

Local governments can follow the guidelines below to identify opportunities to improve the efficiency of local traffic signals.

Plan for the Traffic Signal Retrofit

- Conduct an inventory of that, at minimum, covers every traffic signal owned by the local government. Points for this Climate Smart Communities (CSC) action are awarded based on the percentage of traffic signals converted to LEDs, so the total number of traffic signals is required. If the resources are available, local governments should consider a comprehensive inventory of all outdoor lighting that covers street lights (including those owned by the local utility), traffic signals, and off-street light fixtures (in parking lots and public parks, for example). Such a comprehensive inventory will create a foundation for earning points under all the CSC actions that are focused on outdoor lighting: *PE3 Action: LED Street Lights*, *PE3 Action: LED Traffic Signals*, *PE3 Action: Outdoor Lighting Reduction*, and *PE3 Action: Outdoor Lighting Upgrades*.
- Define the scope and objectives of the project, in terms of the number of traffic signals to be converted and the financing strategy. For the purpose of this CSC action, traffic signals are a category of outdoor lighting that includes the automatically operated colored lights (typically red, amber, and green) for controlling traffic at road junctions and crosswalks. When planning the conversion to LED, focus on the most outdated signals first.
- Consider performing a pilot of the LED technology first, to confirm the selected technology meets local requirements.
- Develop project plan and select a contractor to perform the conversion.

Identify Design Problems and Constraints

- Determine if existing traffic signals can be retrofitted or if they must be replaced.
- Select appropriate LED technology and understand maintenance impacts.

Implement New Lighting Technology

- Convert traffic signals to LED.
- Monitor and report on performance of the new signals.
- Develop or update ongoing maintenance plans.

C. Time frame, project costs, and resource needs

A traffic signal upgrade project can typically be completed within a year, although it depends on the number of signals to be converted. The project costs also depend on the number of signals; however, local governments can anticipate that the payback for the upgrade will be about one year. The project costs will include costs for design, implementation, and materials. Smaller local governments will typically hire a contractor to perform the upgrade. Larger local governments may have the needed expertise in house to perform the upgrade. Grants or incentives may be available through the local utility.

The cost savings associated with LED traffic signals can be significant, approximately 80 to 90 percent savings over incandescent lights, along with the savings from reduced maintenance requirements.

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 that owns and operates traffic signals. This type of project is typically performed by the department of public works or transportation.

E. How to obtain points for this action

Local governments can earn points for this project by converting traffic signals to LEDs. Points are awarded based on the percentage of traffic signals converted.

	POSSIBLE POINTS
Upgrade 10-25% of traffic signals to LED	1
Upgrade 26-50% of traffic signals to LED	2
Upgrade 51-75% of traffic signals to LED	3
Upgrade 76-100% of traffic signals to LED	4

F. What to submit

At minimum, provide the following information:

- Baseline: As per the inventory, provide the total number of traffic signals owned by the local government.
- Percentage converted: Provide the number of traffic signals that were converted to LEDs.

Documentation should indicate that the updated traffic signals are actively in use (through photographs or utility bills, for example). Applicants may also provide invoices or purchase orders that indicate the type of LEDs purchased and the date of purchase. If available, also provide cost and energy savings (estimated or actual) resulting from the conversion to LEDs. The traffic signals must have been updated within ten years prior to the submittal date.

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

- DEC CSC Reduce Utility Bills for Municipal Facilities and Operations
- NYSDOT/NYSERDA Informational Brochure on New Lighting Technologies and Roadway Lighting
- Westchester County, Completing LED Traffic Signal Upgrades on a Tight Budget
- NYSDOT Traffic Signal Best Practices (via Lighting Research Center at Rensselaer Polytechnic Institute website)
- NYSERDA LED Traffic Signal Life Cycle Cost Analyzer Tool This Excel-based tool is available via a website for the Lighting Research Center at Rensselaer Polytechnic Institute. Though it is functional, please note that

is no longer supported by NYSERDA.

- Rocky Mountain Institute Guide to Energy Efficient Traffic Signals and Street Lighting

H. Recertification requirements

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

NEW YORK STATE OF OPPORTUNITY. | Climate Smart Communities

PE3 Action: Outdoor Lighting Reduction

1 Points | 3 Points | 4 Points

A. Why is this action important?

Local governments may have the opportunity to reduce outdoor lighting to conserve energy, save on utility costs, and reduce greenhouse gas (GHG) emissions. This Climate Smart Communities (CSC) action involves either optimizing the lighting schedule and/or reducing the number of outdoor lighting fixtures in use, to easily reduce total energy use. However, local governments should ensure public safety is a top priority whenever any changes to lighting are considered and implemented.

B. How to implement this action

Local governments can implement this action by identifying opportunities to reduce the number of outdoor lighting fixtures or reduce the time in which the fixtures are in use. Outdoor lighting can be essential for safety and security, particularly in commercial or industrial areas; however, residents often prefer reduced outdoor lighting to decrease light pollution. The following steps outline the process for identifying opportunities to reduce outdoor lighting energy use.

1. Identify possible areas or fixtures to reduce outdoor lighting.

- Consult with a NYSERDA Clean Energy Coordinator. These coordinators are available to provide guidance to local governments on evaluating outdoor lighting as part of technical assistance with LED street lights; they can be reached at cec@nyserda.ny.gov.
- Conduct a comprehensive inventory of all outdoor lighting that covers street lights (including those owned by the local utility), traffic signals, and off-street light fixtures (in parking lots and public parks, for example). Such a comprehensive inventory will create a foundation for earning points under all the CSC actions that are focused on outdoor lighting: *PE3 Action: LED Street Lights*, *PE3 Action: LED Traffic Signals*, *PE3 Action: Outdoor Lighting Reduction*, and *PE3 Action: Outdoor Lighting Upgrades*. The inventory should describe the location, type, and condition of each light. If a comprehensive inventory is not feasible, a more focused inventory of just the outdoor light fixtures owned by the local government is still valuable and eligible for CSC points under this action as part of the strategy to reduce lighting.
- Determine if the outdoor lighting schedule can be optimized, to reduce unnecessary outdoor lighting during daylight hours.
- Identify any areas in which light pollution has been a concern. Conduct a survey or review the results of any recent resident and business surveys to identify opportunities.
- Review street lighting design specifications. If any minimum standards are exceeded in terms of lighting spacing or output, opportunities may exist to decommission fixtures.

2. Review any proposed changes with affected residents and/or businesses.

- Gather input from residents and/or businesses to confirm that the proposed changes will not adversely affect business opportunities or a sense of safety and security.

3. Implement proposed changes.

- Implemented reduced outdoor lighting plans, ensure that all minimum lighting specifications are met or exceeded.
- Monitor and report on energy savings.

- Monitor resident and business feedback to ensure changes have no negative impacts. Where possible, incorporate a question regarding lighting into annual surveys to monitor satisfaction of the levels of outdoor lighting.

C. Time frame, project costs, and resource needs

This type of effort will typically take between two to four months to implement, but the time to implement depends on the scope of the effort and the available information to develop a plan. The level of effort to reduce the lighting fixtures in use, the output of lighting fixtures, or the lighting schedule also depends on the systems and lighting technology. The costs will depend on whether the changes can be performed centrally, or if a technician must be deployed to the field to make the change to the fixture directly.

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, whether it operates its own street lights or contracts them out to a local utility. The departments of public works or transportation are most likely to lead this effort for local governments that manage their own lighting. The department responsible for managing the outdoor lighting contract will lead the effort for local governments whose outdoor lighting is provided by a local utility.

E. How to obtain points for this action

Local governments can earn points for this action by developing and implementing a strategy to reduce outdoor lighting energy use.

	POSSIBLE POINTS
Develop a strategy for reducing outdoor lighting use	1
Implement outdoor lighting reduction strategy	3

F. What to submit

For one point, local governments must submit a copy of their outdoor lighting reduction strategy (or similar engineering planning document). The strategy document should include the total number of outdoor light fixtures owned by the local government, identification of opportunities to reduce outdoor lighting, a review of minimum design standards, and feedback from affected residents or businesses. For full points, also provide documentation of the number of fixtures reduced or modifications made to the lighting schedule because of implementing the strategy. Implementation must have taken place within five years prior to the application date.

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

- DEC CSC Reduce Utility Bills for Municipal Facilities and Operations
- NYSERDA Clean Energy Communities Program LED Street Lights Toolkit
- Mid-Hudson Street Light Consortium: This website has guidance documents and tools applicable to for municipalities outside of New York's Mid-Hudson region.

H. Recertification requirements

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

NEW YORK STATE OF OPPORTUNITY. | Climate Smart Communities

PE3 Action: Outdoor Lighting Upgrades

1 Points | 2 Points | 3 Points | 4 Points

A. Why is this action important?

This Climate Smart Communities (CSC) action focuses on upgrading outdoor lighting (other than street lights and traffic signals) to more efficient and/or solar technology. Light-emitting diodes (LEDs) often offer a relatively short payback period. Outdoor lighting in public areas and parks may represent a smaller portion of total outdoor lighting energy use compared to street lights, but these off-street fixtures are often the costliest to maintain, as they are more widely distributed and sometimes in inconvenient locations, requiring more time and effort for regular maintenance. Upgrading off-street outdoor lighting not only reduces energy consumption but also decreases long-term maintenance costs.

B. How to implement this action

Local governments can follow the guidelines below to plan for and upgrade off-street outdoor lighting.

Plan for the Lighting Upgrade

- At minimum, conduct an inventory of off-street outdoor lighting inventory (in parking lots, public parks, etc.) owned by the local government. Points for this action are awarded based on the percentage of lights that are upgraded, so the total number of off-street outdoor fixtures is required. The inventory should describe the location, type, and condition of each light. If feasible, consider conducting a comprehensive inventory of all outdoor lighting that covers street lights (including those owned by the local utility), traffic signals, and off-street light fixtures (in parking lots and public parks, for example). Such a comprehensive inventory will create a foundation for earning points under all the CSC actions that are focused on outdoor lighting: *PE3 Action: LED Street Lights*, *PE3 Action: LED Traffic Signals*, *PE3 Action: Outdoor Lighting Reduction*, and *PE3 Action: Outdoor Lighting Upgrades*.
- Define the scope and objectives of the project in terms of the number and location of fixtures to be updated and the financing strategy. Focus on the most outdated fixtures first. Possible locations can include parks, recreational areas, parking lots, and walkways.
- Consider performing a pilot of the new technology first, to confirm the selected technology meets local requirements.
- Develop a project plan and select a contractor to perform the upgrade.

Identify Design Concerns and Constraints

- Determine if existing fixtures can be retrofitted or if they must be replaced.
- Select appropriate technology and understand maintenance impacts.
- Ensure the new technology meets minimum design standards and is suitable for the location.
- Ensure the new technology meets the minimum design standards, such as those from the DesignLights Consortium Qualified Products List.
- Consider other design factors such as glare, light pollution, safety and security, maintenance, and aesthetic requirements

Implement New Lighting Technology

- Convert outdoor lights to LEDs found on theDesignLights Consortium Qualified Products List of solar powered lighting.
- Update or convert off-street outdoor lighting fixtures.

- Monitor and report on performance of the new fixtures.
- Develop ongoing maintenance plan.

C. Time frame, project costs, and resource needs

The costs associated with upgrading outdoor lighting depend on scope of the project, the selected technology, and the number of fixtures to upgrade. Such a project will include costs for design, implementation, and materials. Solar LED lights have a longer payback period compared to traditional LED lights, but they could be a preferred solution for more remote locations that are not connected to the grid or inconvenient to maintain. Smaller local governments will often hire a contractor to perform the upgrade. Larger local governments may have the needed expertise in house to perform the upgrade.

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 that owns and operates outdoor lighting in public places. The department likely to be responsible for this would be the public works, transportation, parks. or engineering department.

E. How to obtain points for this action

Local governments can earn points for this action by upgrading outdoor lighting fixtures to energy efficient fixtures or to solar technology.

	POSSIBLE POINTS
Upgrade 10-25% of light fixtures (other than street lights and traffic signals)	1
Upgrade 26-50% of light fixtures (other than street lights and traffic signals)	2
Upgrade 51-75% of light fixtures (other than street lights and traffic signals)	3
Upgrade 76-100% of light fixtures (other than street lights and traffic signals)	4

F. What to submit

At minimum, provide the following information:

- Baseline: As per the inventory, provide the total number of off-street outdoor lights owned by the local government.
- Percentage converted: Provide the number of off-street outdoor lights that were converted to high-efficiency fixtures (such as LEDs) and/or to solar technology.

Documentation should indicate that the updated off-street outdoor lights are actively in use (through photographs or utility bills, for example). Applicants may also provide invoices or purchase orders that indicate the type of lights purchased and the date of purchase. If available, also provide cost and energy savings (estimated or actual) resulting from the conversion. The lights must have been upgraded within ten years prior to the submittal date.

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

- DEC CSC Case Studies: Energy Efficient Municipal Facilities and Operations
- DesignLights Consortium Qualified Products List
- Efficiency Vermont: Improving Efficiency in Municipal Street and Public Space Lighting

H. Recertification requirements

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

NEW YORK STATE OF OPPORTUNITY. | Climate Smart Communities

PE3 Action: Environmentally Preferable Purchasing Policy

1 Points | 2 Points | 3 Points | 4 Points

A. Why is this action important?

A local government's commitment to climate action should extend to how it can influence climate action and efficiency outside its own operations. One important way to do this is through its purchasing. Demand for energy efficient and environmentally responsible products will improve market penetration. In addition, establishing an environmentally preferable purchasing (EPP) policy institutionalizes decisions on appliances, products, and materials.

B. How to implement this action

EPP policies can be adopted can include standards for some or all the following components:

- Energy efficient appliances
- Energy efficient information technology equipment
- Efficient heating, ventilation, and air conditioning (HVAC) equipment
- Recycled material content
- Recyclable materials
- Forest stewardship
- Locally-produced goods
- Organic goods and foods

Because this pledge element aims to reduce energy demand in local government operations, the EPP adopted must, at a minimum, include standards for purchase of energy-efficient equipment, using standards such as ENERGY STAR.

C. Time frame, project costs, and resource needs

This policy can be adopted in a short time. It will require coordination among various staff to determine policy scope, language, and specifications. It may require additional research to determine product specifications and identify model language, but this action is likely to require primarily administrative time and resources. Implementation of the policy may result in some cost premiums for products, though those premiums continue to diminish as demand has risen for energy efficient and environmentally preferable products.

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

This action can be implemented by any local government. The procurement or purchasing officer or department will be primarily responsible but likely in consultation with facilities staff.

E. How to obtain points for this action

Local governments can earn points for this action by adopting a purchasing policy covering the environmental considerations outlined in Section B.

POSSIBLE POINTS

Energy efficiency standards included in policy	1
Recycled materials standards included in policy	1
Locally produced/organic goods standards included in policy	1
Forest stewardship standards included in policy	1

F. What to submit

Submit documentation of the written policy as well as signed documentation of its adoption by the local government. Additionally, provide reference to and/or a copy of any definitions, specifications, and/or standards referenced in the adopted policy. The policy should have been adopted or updated within the past 5 years of the application date or include specifications that account for the availability of new, more efficient and/or more environmentally preferable products.

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

- US EPA About the Environmentally Preferable Purchasing Program
- US EPA Local Government Climate and Energy Strategy Series- Energy Efficient Product Procurement
- Center for a New American Dream, Environmental Purchasing Resources (2003)

H. Recertification requirements

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

NEW YORK STATE OF OPPORTUNITY. | Climate Smart Communities

PE3 Action: Financing Mechanism for Government Energy Projects

5 Points

A. Why is this action important?

The up-front cost for implementing energy efficiency improvements and renewable energy projects is often a deterrent to doing so. However, local governments are aware that energy savings will often pay back the up-front costs. Establishing a financing mechanism, such as a revolving energy fund, can provide that initial capital and uses the energy savings to replenish the fund, thus allowing for continuous energy improvements over time.

B. How to implement this action

Local governments can establish different types of financing strategies for energy efficiency and renewable energy projects. One approach is to dedicate a portion of the annual energy budget to energy efficiency upgrades or to use budget incentives to allow departments to keep the energy savings resulting from energy efficiency projects. Another approach is to require the audit and upgrade of buildings after a certain period of time, or when the upgrade has a payback period less than a certain number of years. A revolving energy fund is another financing mechanism that uses savings from energy efficiency or renewable energy projects to pay for future improvements.

Revolving energy funds can take two forms. They can be established strictly internally for local government improvement projects through which departments can access funds for energy improvements and replenish the fund with savings achieved. Funds can also be established by the local government to provide loans to the community, specifically to residents and businesses. While such community-scaled funds are encouraged and are the subject of *PE8 Action: Financing Program for Residential Energy Efficiency*, this action should focus on providing a financing mechanism for local government projects as the goal of Pledge Element 3 is to decrease energy demand within local government operations.

C. Time frame, project costs, and resource needs

The initial setup of a revolving energy fund or other financing mechanism is the most challenging part. Finance managers and department heads must meet and come to an agreement about how best to set up the fund. Adoption of new budget policies may be required to allow for the fund to be established, since budgets operate in different ways and sometimes even operate differently among various departments, and also involve the use of taxpayer money. In addition, the local government must identify seed money for the fund.

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. It will require buy-in from all departments and the highest-ranking official(s) but will primarily be the responsibility of the finance or budget department.

E. How to obtain points for this action

Points will be awarded for establishing a financing mechanism for energy efficiency or renewable energy projects. The financing mechanism must be in active use for the CSC to receive points.

F. What to submit

Provide documentation of the establishment of this financing mechanism, source of the seed money, any policies that

were adopted to establish the dedicated financing mechanism, and a list of projects, including cost details and estimated savings that have been funded through this mechanism. For a revolving energy fund, the terms and conditions for drawing from and replenishing the fund must be submitted, and it must be capitalized and operational for the CSC to receive points for this action.

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

- US DOE Solution Center, State and Municipal Revolving Loan Funds
- ICLEI Climate and Sustainability Funding Opportunities

H. Recertification requirements

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

NEW YORK STATE OF OPPORTUNITY. | Climate Smart Communities

PE3 Action: Waste & Energy Provisions in Government Contracts

1 Points | 2 Points | 3 Points

A. Why is this action important?

Often products and procedures that affect a local government's energy use and waste stream are not the responsibility of the local government staff but are procured or handled by external entities through government contracts. For this reason, it is important that energy efficiency and waste handling provisions are incorporated into the standard specifications of those contracts.

B. How to implement this action

Energy efficiency standards and waste handling requirements should be adopted as standard specifications in government contracts. Types of specifications could include, but are not limited to, the following:

- Waste separation and recycling requirements for
  - Janitorial services
  - Construction and demolition
  - Events held on public property
- Energy efficiency and fuel efficiency standards for
  - Appliances and equipment used by contractors
  - Transit vehicles
  - Waste hauling vehicles
- Anti-idling policies for contractor vehicles

There are many more examples and local governments should consider the types of specifications that make sense for inclusion in their contracts, especially for those contracted goods and services that have significant effect on energy use and waste handling.

C. Time frame, project costs, and resource needs

These standard specifications can be developed over time and should be reviewed and adjusted on an ongoing basis as needed. Local government staff will benefit from investigating example specifications regarding energy efficiency and waste handling from other local governments' contracts, as provided below.

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. This may include drafting of specifications by a variety of departments, but procurement staff will be primarily responsible for implementation of this action.

E. How to obtain points for this action

Local governments can earn points for this action by incorporating energy efficiency and waste handling specifications into government contracts.

POSSIBLE POINTS

Incorporate energy efficiency specifications into government contracts	2
Incorporate waste handling specifications into government contracts	1

F. What to submit

Submit copies of all relevant specifications included in government contracts. The contracts must be active or executed within one year prior to the application date.

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

- US EPA Energy-Efficient Product Procurement
- New York City Department of Design and Construction, Construction and Demolition Waste Manual (2003)

H. Recertification requirements

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

NEW YORK STATE OF OPPORTUNITY. | Climate Smart Communities

PE3 Action: Incentives for Employee Carpooling & Transit

1 Points | 2 Points | 3 Points

A. Why is this action important?

The transportation sector is the largest source of greenhouse gas (GHG) emissions in New York State. Local governments can lead by example and encourage resource-efficient behavior among their employees by providing incentives for them to use alternative forms of transportation.

B. How to implement this action

Contribute to reducing air pollution, GHG emissions, and traffic in the community by subsidizing or incentivizing employees to make non-single occupancy vehicle commutes. Incentives may include establishing transportation reimbursement accounts whereby employees determine their contribution of pre-tax salary for mass transit fares and passes, car and vanpools, and parking (e.g., park and ride), to encourage and reduce the employee's costs of alternative commutes. Other incentives may include cash gifts for those who rideshare, free or discounted public transit passes, or parking discounts or preferential parking for carpoolers and vanpoolers. Establish a formal policy with the human resources office regarding how the program shall be administered and used, create a registration process and monitoring system, and tailor benefits to the needs and circumstances of employees (e.g., rideshare will likely be more useful to employees who live in a rural part of a community, while bus passes will likely be more useful to an employee who lives in a more developed part of a community).

C. Time frame, project costs, and resource needs

Establishing a commuter incentive program will require time and effort on the part of human resources and payroll, but there are numerous programs already established throughout the country on which a local government can model its program. A local government may also wish to pursue contracting with a third-party entity, such as WageWorks, that can help administer the benefit through the payroll system.

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

Any local government could establish a commuter incentive program, though it will be most beneficial in communities with more alternative commuting options, such as public transit, bike paths, and existing ride-share programs. Human resources and payroll staff will be instrumental in implementing this action.

E. How to obtain points for this action

Local governments can earn points for this action by subsidizing or incentivizing employee alternative commutes.

	POSSIBLE POINTS
Establish preferred parking for carpools and vanpools or a system for organizing ride-sharing	1
Provide subsidized or pre-tax transit pass incentives	2

F. What to submit

The local government must provide documentation of the incentive program provided to employees, including level and type of incentives, and evidence that the program is communicated to new and current employees. If the program has been in place for 6 months or more, the number of employees enrolled in the program should be provided. The program must be currently active to receive points for this action.

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

- New York City Transit Benefit Program through WageWorks
- DOT, Ride Share Programs

H. Recertification requirements

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

NEW YORK STATE OF OPPORTUNITY. | Climate Smart Communities

PE3 Action: Energy Code Enforcement Training

5 Points

A. Why is this action important?

The Energy Code is a minimum building standard for energy efficiency, applicable to new construction and renovation of commercial and residential buildings in New York State. The Energy Code is a complex document and one of nine building codes in New York State, making implementation and enforcement complex and time consuming.

Since buildings represent roughly 60 percent of New York's total energy consumption, there is significant opportunity for energy savings and reduced greenhouse gas emissions through improved Energy Code compliance. This training focuses on what code enforcement officials need to know about the Energy Code in the context of its practical application on active construction projects.

B. How to implement this action

This action awards Climate Smart Communities (CSC) certification points for the successful completion of the NYSERDA Clean Energy Communities Program High Impact Action entitled Energy Code Enforcement Training.

The focus of this action is on educating local compliance officials about energy code best practices. Code officials attend free, NYSERDA-approved workshops that focus on best practices in energy code enforcement through training, collaborative plans reviews, and joint onsite inspections of local construction projects. For larger communities, additional municipal officials will be required to attend a portion of the workshops.

For guidance on implementing this action, see the NYSERDA Clean Energy Communities Program Energy Code Enforcement Training Toolkit. Municipalities interested in this action can receive free technical assistance from the Clean Energy Communities Coordinators that are available across New York State. To find contact information for the coordinator in your region, visit https://www.nyserda.ny.gov/Contractors/Find-a-Contractor/Clean-Energy-Community-Coordinators . You may also contact cec@nyserda.ny.gov for more information.

C. Time frame, project costs, and resource needs

For small- and medium-size communities (0 – 39,999 population), at least one code official must complete a NYSERDA-approved training series that includes both residential and commercial workshops. For large-size communities (40,000+ population), the training series includes an orientation meeting, a joint onsite inspection of two building projects, and a close-out meeting; in addition to the code official, at least two other municipal staff must attend the preliminary and close-out meetings. These training sessions are free to attend. Date of completion for this action is defined as the date of certification.

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 all local governments that enforce the uniform code for private buildings. In New York State, this responsibility falls to cities, towns, and villages in most cases. Code officials participate in the training. For communities with a population of 40,000 or more, at least two other municipal staff, officials, or planning board and zoning board of appeals members must also participate in the training.

E. How to obtain points for this action

Five CSC points are available for local governments that submit documentation showing participation in a NYSERDA training of the type described here.

F. What to submit

Submit a copy of the approval from NYSERDA that indicates completion of the Clean Energy Communities Program Energy Code Enforcement Training High Impact Action.

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

- NYSERDA Clean Energy Communities Program Energy Code Enforcement Training Toolkit
- NYSERDA Schedule of Energy Code Enforcement Trainings

H. Recertification requirements

To maintain status as a certified Climate Smart Community, recertification is necessary every five years. Pending updates to this action, applicants for recertification must submit evidence of participation in an energy code enforcement training within the last five years. The training must meet the NYSERDA standards described above.