



Energy Efficiency Program Summary

Cambridge Energy Alliance

Program Sponsor:	City of Cambridge & NSTAR	Program Administrator:	Cambridge Energy Alliance
Program Location:	Massachusetts	Eligibility:	Single & Multi-Family Residential & Commercial
Program Start:	2007	Program Type:	Municipally Sponsored/Private Capital

Program Description:

In 2007, the City of Cambridge created the Cambridge Energy Alliance (CEA) to assist thousands of Cambridge residents and businesses by identifying and arranging financing for all cost-effective energy efficiency improvements for their homes and businesses. CEA partners with organizations that provide energy auditing capability, construction expertise, and financial resources so it can assist residents with the entire process of making their home or business more energy efficient and save money.

The Cambridge Energy Alliance expects that many efficiency projects can reap immediate savings through long-term financing options. As part of this effort, CEA will work with government and non-government organizations to secure all available incentives and maximize benefits received by CEA participants.

CEA, through its partner organizations, offers:

- Comprehensive energy audits for Cambridge buildings, generally for free
- Up to 30% reductions in energy bills
- Energy efficiency upgrades with no up-front cash required
- A one-stop energy solution with guaranteed quality

The Cambridge Energy Alliance has set the following goals:

- Reduce electricity demand by 50 mW;
- Reach a 15% peak load reduction; reduce annual electricity and water consumption by 10% citywide;
- Achieve a participation rate of 50% in each sector (e.g., municipal, commercial, residential); and
- Reduce annual GHG emissions from the city by 150,000 tons (10%).

CEA will measure energy reductions by comparing citywide consumption for these utilities on a monthly basis for each customer class. CEA will also track consumption of energy, gas, heating oil, and water for each participant if they voluntarily provide utility data.

Financing & Financial Products:	<p>CEA selected 5 local financial institutions to offer loans to program participants. Or, participants can use the bank of their choice.</p> <p>East Cambridge Savings Bank – loan (<i>unsecured</i>) up to \$25, 000 for homeowners; small business loan is a typical commercial loan.</p> <p>Citizens Bank – loan (<i>unsecured</i>) up to \$3,000 at 3% APR or up to \$10,000 at 5% APR.</p> <p>Wainwright Bank – loan (<i>secured</i>) up to \$100,000 for 5, 10, or 15 years; 50% of loan must be for “green” purposes.</p> <p>Key Equipment Finance – specializes in financing or leasing for small & medium-sized businesses.</p> <p>Bostonia Partners – provides financing for energy savings performance contracts.</p>
Marketing:	<p>CEA is a community energy office. CEA administers the program by pre-screening banks and contractors, and arranging audits for homeowners and businesses. CEA does not implement or finance any measures. Since CEA is a clearinghouse of information and resources, it provides all marketing for the program.</p>
Enrollment Process:	<p>Homeowner/business requests an audit through the CEA website.</p> <p>CEA arranges for a pre-screened auditor to visit the home/business.</p> <p>CEA Energy Advisor follows-up with homeowner/business to discuss rebates, financing options, contracting, etc., and encourage implementation of audit measures.</p> <p>Pre-screened Energy Service Company (ESCO) partner or contractor installs measures within 60 days.</p>
Audits:	<p>Residential customers can choose from 4 energy audits. A pre-screened contractor conducts a MassSAVE audit for NSTAR (utility). The MassSAVE audit includes an evaluation of building envelope, insulation, and other building needs such as windows.</p> <p>Basic Energy Audit – MassSAVE audit, which is free for homes with 1–4 units. Audit performed by Conservation Services Group (CSG) in 1–2 hours. Homeowners receive a checklist of measures to implement.</p> <p>Enhanced Energy Audit – MassSAVE audit, which includes blower door test, thermal imaging, and basic home weatherization. Costs \$170 after utility rebate for homes with natural gas (cost is \$599 for homes with fuel oil). Audit performed by Next Step Living. Comprehensive and quantitative report furnished within 48 hrs.</p> <p>Low Income Weatherization – Free for qualified families.</p> <p>Multi-Family (5–49 units) Energy Audit – There is a \$350 fee for the one-hour audit. Audit performed by CSG. Homeowners receive a checklist of measures to implement. For an additional \$105/hr, CSG will prepare an audit report.</p> <p>Commercial customers receive detail energy audit from Prism Consulting, an energy service provider.</p> <p>Commercial Energy Assessment – Businesses sign data release form to allow CEA to review utility bills.</p>

Implementation Criteria:	Audits typically recommend the following measures: <ul style="list-style-type: none"> • Weatherization • Mechanical Systems • Major Appliances • Lighting
Contractors, Training & Accreditation:	<p>CEA has pre-screened 6 ESCOs, or energy service providers, for this program. CEA selected contractors through a competitive bid process—closely reviewed by a team of experts—on the basis of the strength and depth of their technical abilities, a proven track record in delivering excellent quality and value to customers, significant local presence and experience, and the capability to deliver the full range of CEA program features. CEA assigns projects to ESCOs on a rotating basis</p> <p>Conservation Services Group (CSG) – Provides Basic Energy Audits to facilities with less than 50 units</p> <p>Next Step Living – Provides Enhanced Energy Audits to facilities with less than 50 units</p> <p>Ameresco – Provides Basic or Enhanced Energy Audits to facilities with more than 50 units and Commercial Energy Assessment to facilities with > 500 kW</p> <p>Rise Engineering – Provides Basic or Enhanced Energy Audits to facilities with more than 50 units</p> <p>Prism Consulting – Provides Commercial Energy Assessment to facilities with < 500 kW</p> <p>ConEdison Solutions – Provides Commercial Energy Assessment to facilities with > 500 kW</p>
Contracts:	It's unclear if CEA has contracts with the ESCOs or energy service providers. But it seems likely that there is some sort of contractual relationship, given the initial bid process and the requirement that the selected ESCOs provide all assessment and implementation services.
Repayment, Collection & Flow of Funds:	<p>For fee-based energy audits, consumer pays upfront.</p> <p>Basic Energy Audits are completely subsidized by NSTAR, while the Enhanced Energy Audits are partially subsidized by NSTAR.</p> <p>If consumer obtains financing, then the lender will provide capital to consumer who pays the contractor for all installed measures.</p> <p>Consumer repays loan through separate monthly bill from lender.</p>
Program Sustainability:	<p>The Cambridge Energy Alliance is an outgrowth of Cambridge's commitment to the Cities for Climate Protection (CCP), an international consortium of communities working to reduce the emission of greenhouse gases. As a member of the CCP, the city created a city-specific greenhouse gas emissions inventory and subsequently set targets and strategies to reduce these emissions through a comprehensive and well-defined plan. As long as the city remains committed to reducing emissions, the Cambridge Energy Alliance will be promoting energy efficiency.</p> <p>CEA has structured this program in a way that ensures long-term viability. Because CEA funnels customers to contractors, the organization never has any financial capital at risk. For the Enhanced Energy Audits, the customer shares in the cost, minimizing free-riders and encouraging implementation of recommended measures.</p>

CEA staff is funded by the City of Cambridge, making it vulnerable to budget cuts. Furthermore, NSTAR fully funds the Basic Energy Audits and partially funds the Enhanced Audits, also making that subsidy vulnerable to budget cuts. However, the program would not stumble if all audits were fee-for-service. Cambridge is an affluent community and most residents or businesses could pay for audits.

