



The Parker Ranch installation in Hawaii

**Maximizing energy efficiency in
municipal projects**

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**Northeast Energy Efficiency
Partnerships (NEEP)**

- Introduction to TAP and NEEP
- Review of five sections of EECEBG white paper
- Success stories and examples
- Resources
- Upcoming dates

DOE's Technical Assistance Program (TAP) supports the Energy Efficiency and Conservation Block Grant Program (EECBG) and the State Energy Program (SEP) by providing state, local, and tribal officials the tools and resources needed to implement successful and sustainable clean energy programs.



TAP offers:

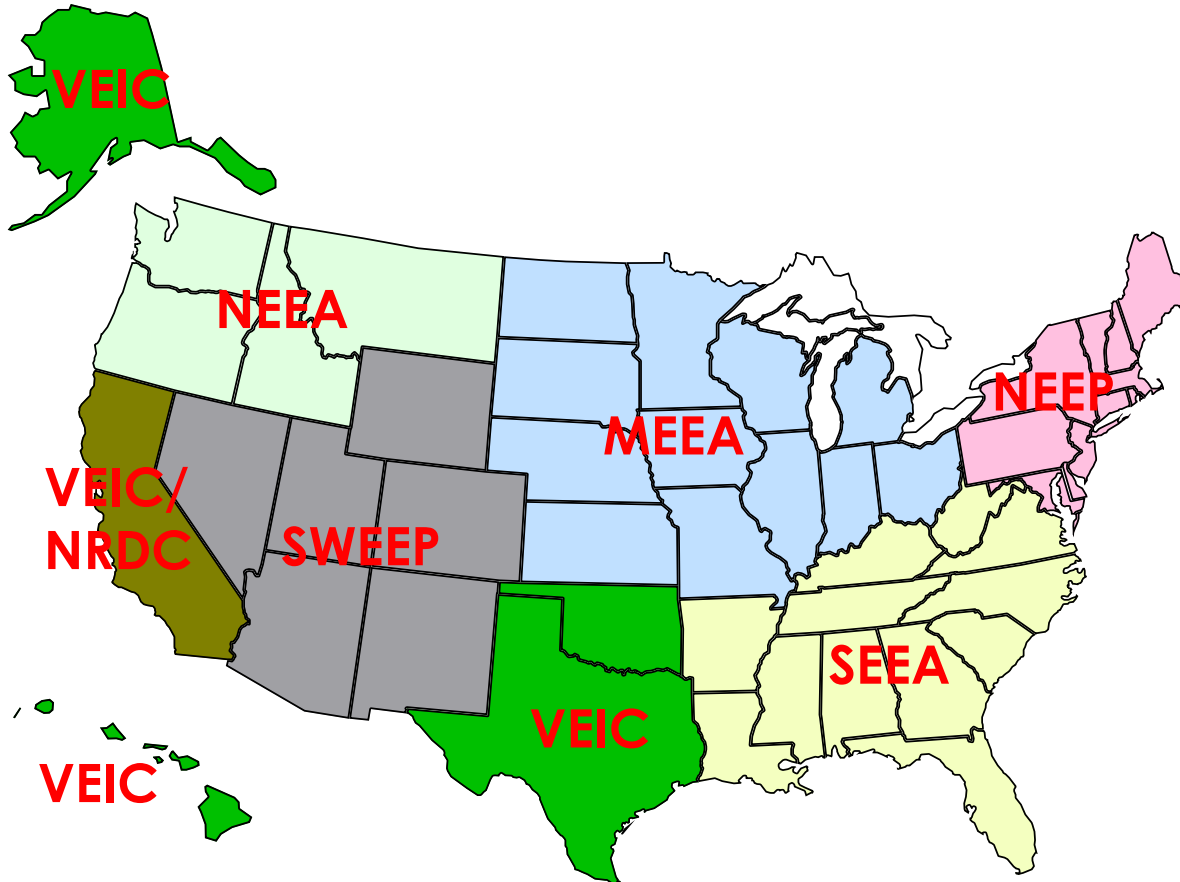
- One-on-one assistance
- Extensive online resource library, including:
 - Webinars
 - Events calendar
 - TAP Blog
 - Best practices and project resources
- Facilitation of peer exchange

On topics including:

- State and local capacity building
- Energy efficiency and renewable energy technologies
- Program design and implementation
- Financing
- Performance contracting

<p>State and Local Capacity Building</p>	<ul style="list-style-type: none"> • Trainings • Workshops • Peer-to-peer matching
<p>Technical</p>	<ul style="list-style-type: none"> • Renewable energy siting and development • Review of technical specs for RFPs • Strategic planning, energy management, and conservation strategies • Green building technologies • Building codes
<p>Program Design and Implementation</p>	<ul style="list-style-type: none"> • Policy and program development • Coordinating rate-payer funded dollars with ARRA projects and programs • Sustainable community and building design • State and regional EE and RE assessments and planning • EE and RE portfolio program design elements
<p>Financial</p>	<p>Program design support and guidance on financing mechanisms such as:</p> <ul style="list-style-type: none"> • Revolving loan funds (RLFs) • Property-assessed clean energy (PACE) • Loan loss reserves and enhanced credit mechanisms
<p>Performance Contracting</p>	<ul style="list-style-type: none"> • Designing and implementing a performance contract • Leveraging private investment • Reducing institutional barriers • Tracking and comparing programs

Who We Are: Team 4



ACEEE, NRDC: National Support



**NORTHWEST
ENERGY
EFFICIENCY
ALLIANCE**



NORTHEAST ENERGY EFFICIENCY PARTNERSHIPS (NEEP)

Regional non-profit since 1996

MISSION

Accelerate the efficient use of energy in the
Northeast & Mid Atlantic Regions

APPROACH

Overcome barriers to efficiency through
Collaboration, Education & Advocacy

VISION

Transform the way we think about
and use energy in the world around us.





Northeast Energy Efficiency Partnerships

REGIONAL GUIDE TO EECBG IMPLEMENTATION

Maximizing Energy Efficiency in
Communities

DECEMBER 2009

White Paper of the NEEP High Performance Buildings Project

White paper developed in December 2009

- Focuses specifically on energy efficiency activities
- Recovery Act funding is temporary – make investments last
- Five guidelines with examples in practice

Five Guidelines - *Regional Guide to EECSBG Implementation*

- 1. Leverage existing incentives, including ratepayer energy efficiency funds as administered by utilities and other agencies**
- 2. Establish a community energy policy**
- 3. Implement building operations and maintenance practices to ensure energy savings**
- 4. Commit to advanced building energy codes, including investments in training and compliance resources**
- 5. Utilize high performance building criteria for school energy efficiency projects**

1. Leverage existing incentives: Involve your local utility or program administrator

- Incentives may include:
 - Free energy audits
 - Technical analysis
 - Rebates for efficient lighting or heating, ventilation, and air conditioning (HVAC) control systems
 - Reduced costs for any number of efficient or renewable technologies
 - Water conservation incentives

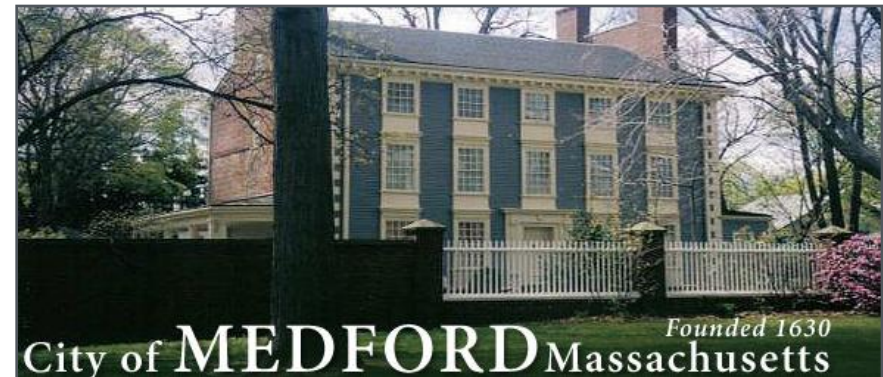
Example: Johnsbury, NY Community Center and NYSERDA

2. Establish a local energy policy

- Reduce energy consumption in facilities by a specific percentage portfolio-wide
 - Use life cycle cost analysis when making decisions about energy efficiency investments
 - Track results of energy efficiency initiatives
 - Purchase energy-efficient products
 - Ensure that energy efficiency is prioritized in any adopted high performance building policy or program (for example, requiring projects to achieve 20 percent greater energy efficiency above state energy code in addition to other sustainable design criteria).

Energy policy in action – Medford, Mass.

- Municipal Energy and Resource Policy, est. 2005
 - “...minimize the cost of City operations to City tax payers and to protect and preserve the natural environment and quality of life in Medford.”
 - Addresses:
 - A. Lighting
 - B. Office equipment
 - C. Heating and air conditioning
 - D. Water
 - E. Motor vehicle fleets
 - F. New Construction
 - G. Employee commuting



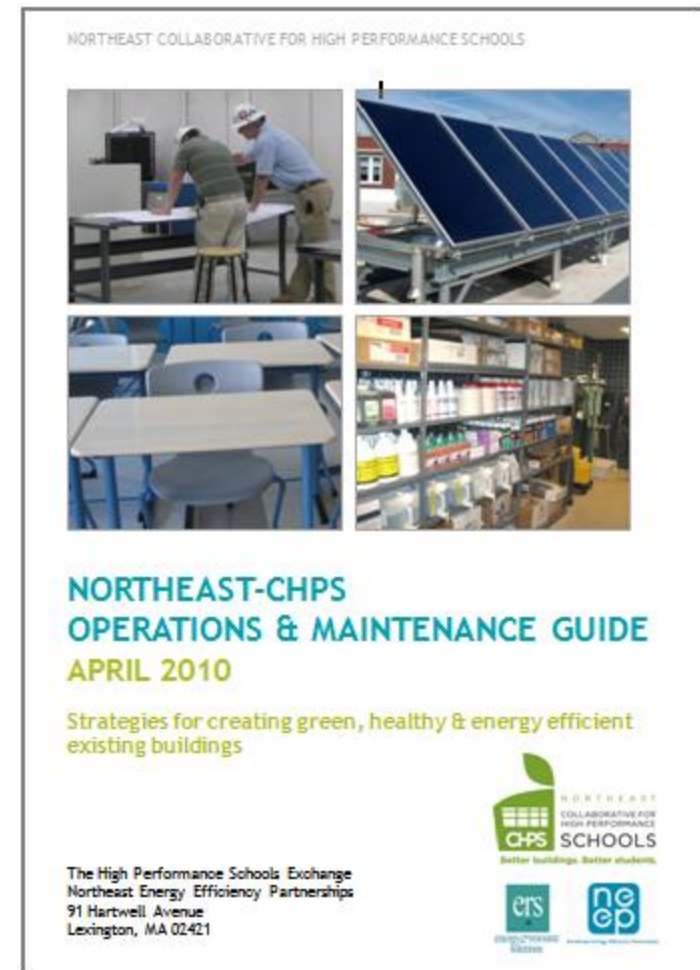
3. Implement building operations and maintenance practices to ensure energy savings

- Train your building operators and occupants
- Implement an Energy Management Plan
- Tools such as NE-CHPS Operations and Maintenance Guide and DOE's federal O&M Guide



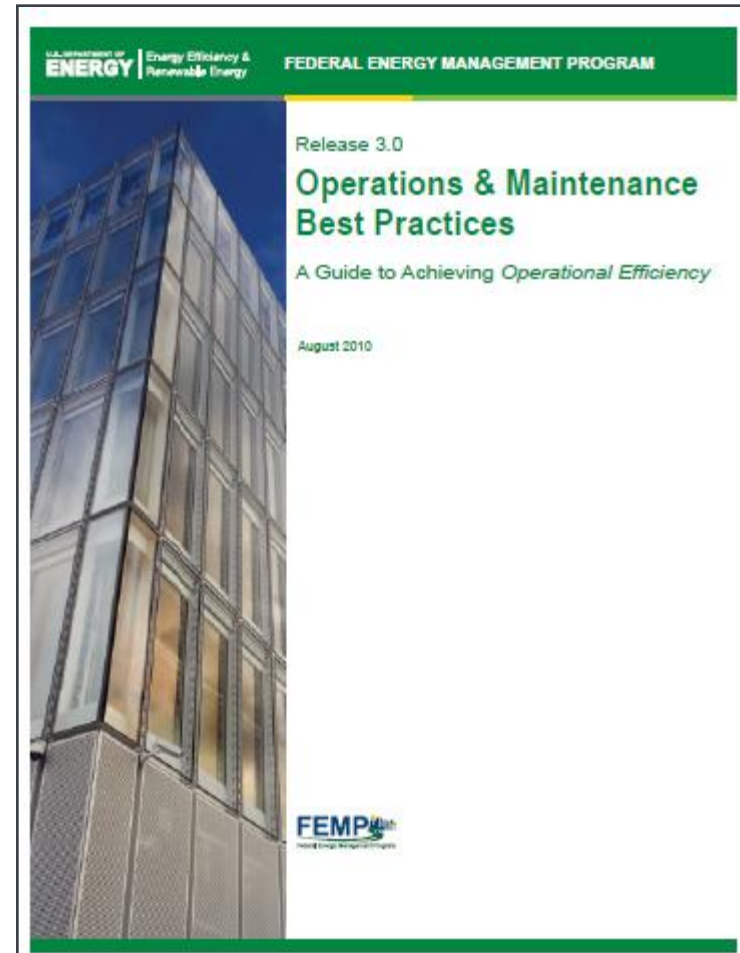
NE-CHPS O&M Guide: What is it?

- A pathway for existing schools to adopt high performance strategies
- Many low cost ideas
- Regionally developed
- Eleven sections, from Policies to Recycling
- Available online as a free resource at www.neep.org



Federal O&M Best Practices

- “...follow a mantra of **O&M First.**”
- Sections include:
 - building commissioning process and how it contributes to effective O&M
 - promising O&M technologies and tools on the horizon



Success Story: Cranston, Rhode Island

- **Goal:** By January 2010, all municipal facility directors must be certified through BOC
- Without major retrofits, Cranston Public Schools have seen a cost avoidance of approximately **\$2.5 million in energy spending.**
- Four Cranston elementary schools in 2009 received Energy Star plaques

Snapshot of webpage: <http://cpsed.net/energy/>

Energy

Guidelines

Energy Star

NEED Curriculum

BOC

Northeast CHPS O & M Manual

Cranston Public Schools

Cranston Public Schools

Welcome to Cranston Public Schools Energy Page!

In September 2006 the Cranston School Committee set a standard of compliance by implementing energy guidelines.

Due to the tremendous effort of Cranston Public School employees we have avoided paying over **\$2.5 Million** to the utility companies.

4. Commit to advanced building energy codes, including investments in training and compliance resources

- Invest in training and resources
- Consider adopting a “reach” or “stretch” code to achieve above code energy savings
 - MA Stretch Code example



PNNL photo

Massachusetts “Stretch” Energy Code

- Appendix to the 8th addition of the MA building code
- BBRB Adoption May 12, 2009
- One alternative energy code for communities wanting a more energy efficient option
- About 20% greater efficiency than base code (2009 IECC)
- Adopted by 45 municipalities across the state



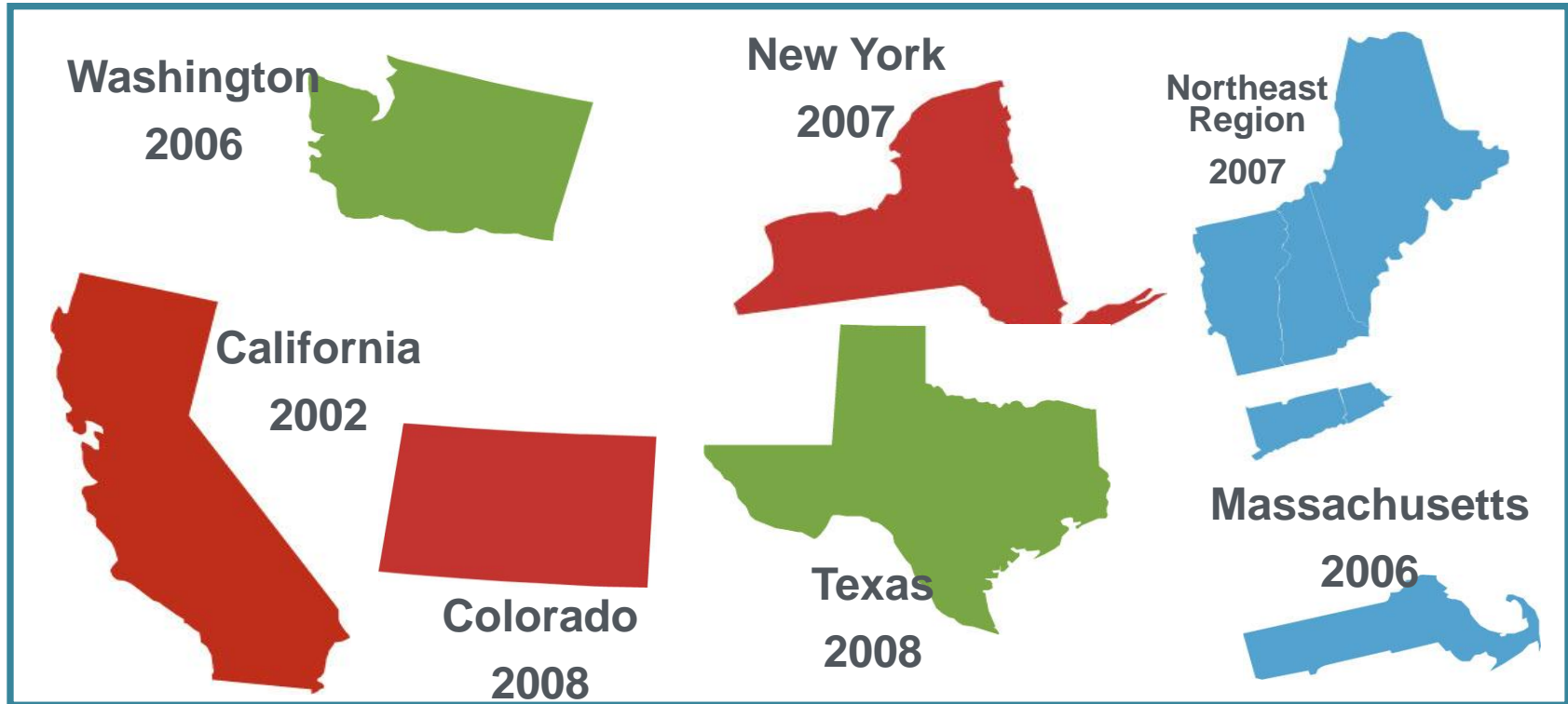
Fidelity Bank. Images from National Grid.

5. Utilize high performance building criteria for school energy efficiency projects

- Integrated design
- Reduce energy use by at least 20%
- Reduce water use by at least 20%
- Superior indoor environmental quality
- Policy and operations



Collaborative for High Performance Schools (CHPS)



- The first high performance school design criteria
- 46 completed CHPS schools across the U.S.
- Approx. 300 schools underway
- 35 school districts committed

Success Story – Andover, Mass.

– Overview

- Population of 32,000
- 10 school buildings
- 4 major town buildings
- Town Yard, Water Treatment Plant, a municipal cemetery and athletic fields
- “Massachusetts Green Community”



Success Story – Andover, Mass.

– What they did right

- Formed an Energy Task Force and Green Advisory Board
- Determined Energy Use Baseline
- Conducted energy audits on all buildings
 - Used results to form energy reduction plan
- Using high performance school design criteria for new elem. school
- Using renewables as a teaching tool



Success Story – Andover, Mass.

– Key elements

- Involving local utility: ***“National Grid has proven to be an excellent partner and provided excellent planning and support for facilitation of these projects.”***
- Energy efficiency opportunities identified through audits:
 - retro-commissioning
 - lighting upgrades
 - vending machine controls
 - computer power management
 - implement all recommendations within the next 3 years

Success Story – Cheshire County, NH

– Efficiency and public demonstration

- ARRA funding for 116 projects in 67 communities
 - including 26 lighting upgrade projects at traffic signals
 - schools and government buildings
 - energy audits at about 90 buildings and schools
 - installation of solar panels and solar hot water heaters at several schools and municipal buildings
 - Efficiency first, then renewables
 - » LED pilot project in nursing home (could save \$50,000 a year)
 - » Feasibility studies: Solar? Wind?

Success Story – Cheshire County, NH

– Efficiency and public demonstration

- County Administrator John G. Wozmak on the renewable feasibility studies for the nursing home project:

“ What I wanted to do from a public demonstration point of view is to do those studies side by side for the same location as an educational tool.

One of the purposes of the federal funds is that we do things for display purposes so that other people could use that information for their own businesses or houses.”

From “Cheshire County government looks to conserve energy,” *Keene Sentinel*, 7/12/2010

- Conclusions – Maximize energy efficiency
 - Involve your energy efficiency programs and local utilities from the start
 - Create policies that set clear and attainable goals for energy reduction AND behavior change
 - Remember the mantra “O&M First”
 - Invest in building energy code compliance
 - Use high performance design criteria when building and renovating your schools and public buildings that prioritize energy efficiency

Questions, contact sjones@neep.org

Additional Resources

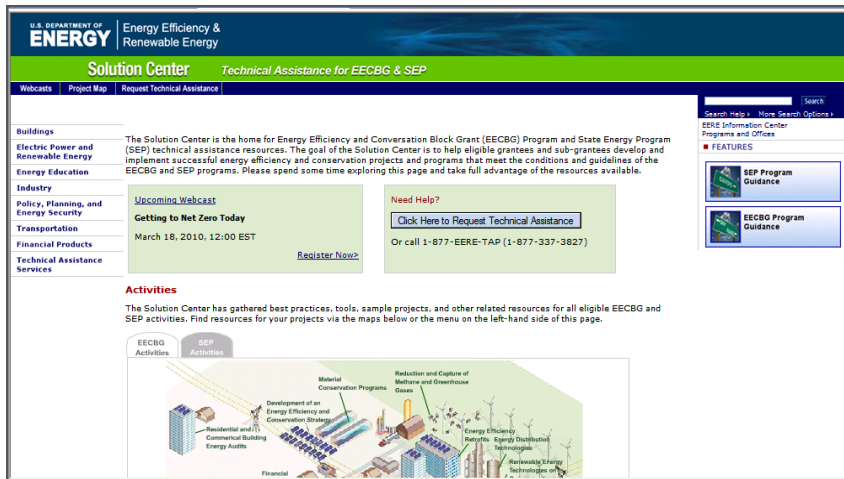
- Northeast Energy Efficiency Partnerships: www.neep.org
- Collaborative for High Performance Schools: www.chps.net
- DSIRE – Database of State Incentives: <http://www.dsireusa.org/>
- Energy Star: <http://www.energystar.gov/>
- ICLEI (Local Governments for Sustainability): <http://www.iclei.org/>

- City of Medford Energy Taskforce: http://www.medford.org/Pages/MedfordMA_Energy/taskforce
- Cranston Public Schools energy page: <http://cpsed.net/energy/>
- Town of Andover’s Green Communities information: http://www.mass.gov/Eoeea/docs/doer/green_communities/grant_program/Andover%20ERP.pdf

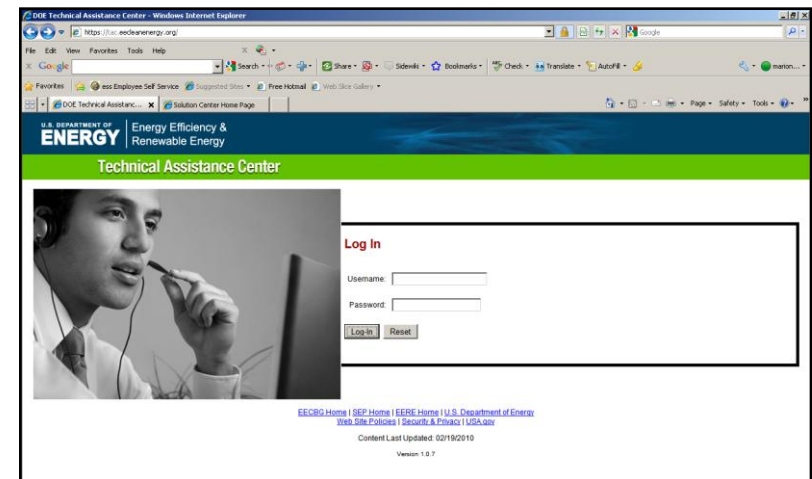
- Your local utility & energy efficiency program providers

We encourage you to:

1) Explore our online resources via the [Solution Center](#)



2) Submit a request via the [Technical Assistance Center](#)



3) Ask questions via our call center at 1-877-337-3827 or email us at solutioncenter@ee.doe.gov

Please join us again:

Title: **Designing Effective Retrofit Programs**

Host: Richard Faesy, Energy Futures Group

Date: August 30, 2010

Time: 2:00 – 3:30 EST

Title: **Residential Building Audits and Retrofits**

Host: Casey Murphy, ICF International

Date: September 1, 2010

Time: 1:00 – 2:00 EST

For the most up-to-date information and registration links, please visit the Solution Center webcast page at www.wip.energy.gov/solutioncenter/webcasts

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