What is TAP?

DOE’s Technical Assistance Program (TAP) supports state, local and tribal officials implementing the Energy Efficiency and Conservation Block Grant (EECBG) and the State Energy Program (SEP).

TAP offers tools and resources needed to implement successful and sustainable clean energy programs.
Goal: Provide SEP & EECBG recipients with resources needed to swiftly implement successful and sustainable clean energy programs.

Objectives: To provide proactive assistance, technical expertise, best practices, network expansion, and policy & program development in order to:

• Accelerate grantee’s implementation
• Improve program and project performance
• Increase the return on Recovery Act investments
• Increase the sustainability of Recovery Act investments
• Build protracted capacity at the state, local, and tribal level
TAP offers EECBG and SEP recipients:

• One-on-one assistance
• Extensive online resource library (best practices, templates, webinars, project map, events calendar, TAP blog)
• Facilitation of peer exchange of best practices and lessons learned

On topics including:

• Energy efficiency and renewable energy technologies
• Program design and implementation
• Financing
• Performance contracting
• State and local capacity building
TAP is DOE’s Opportunity to Help You!

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
Today’s Objectives

Have a greater understanding of the local, regional, and national efforts to promote energy efficiency in residential buildings

Have a greater understanding of the programmatic elements of residential building audit and retrofit programs and how those may or may not align with your programs

Learn about additional resources that you can access to address residential retrofit issues and concerns
Address or answer specific programmatic issues about the DOE’s EECBG grants – please contact your local regional coordinators

Address new homes or commercial building audits and retrofits

Address renewable energy strategies or programs

Provide specific guidance for designing your programs
• About Us
  • Speaker
  • Audience

• Context
  – Importance of residential sector energy use
  – History of addressing energy efficiency
  – Changing environment since 2008 (e.g., ARRA)

• Programmatic needs, frameworks and strategies
• Recent examples
• Resources
About the Speaker

• Owned a framing/remodel company for 15 years
• Participating contractor in Maryland’s Home Performance with ENERGY STAR program
• Supported utility programs that promoted energy efficiency goals
• For ICF International, currently supporting EPA programs
  – Home Performance with ENERGY STAR
  – Indoor airPLUS
Most audience members are grantees and have a residential design finalized – working with consultants, as needed

There are a wide variety of programs that are represented by audience members

- Audit only programs
  - HERS based approaches
  - Clipboard
  - Other
- Financing only – PACE, unsecured, other
- Single measure
- Mix of incentive levels
Diverse Goals

• That energy savings are the primary driving force for participation
  • Jobs
  • Carbon reduction
  • Total energy usage vs. peak load
  • Improving housing stock / tax base
  • Mitigating foreclosure concerns
  • Adding capacity to perform assisted work (weatherization)
  • Contractors, homeowners have even more value propositions
Importance of Residential Sector

- Industrial: 32%
- Transportation: 28%
- Commercial: 18%
- Residential: 21%
ENERGY STAR Products

• “ENERGY STAR qualified products…and services are more energy efficient than conventional products…and services”
• There are no trade-offs in performance or quality
House-As-A-System
Percentage of 2030 housing stock that have already been built today

Terminology and Existing Practices

- “Weatherization” – DOE program or scope of work?
- “Audits” and “Retrofits” – title of today’s webinar
- Audits, surveys, assessments, clipboard audits, diagnostic audits, walk-through’s, etc.
  - Skills of auditors
  - Protocols
  - Status of auditor
    - Third party?
    - “Contractors”?
    - Sales person / facilitator / “energy advocate”?
Examples of Existing Practices
Examples of Existing Practices

Can we rely on existing trades to provide “retrofits”?
Examples of Existing Practices

Can you see this if you didn’t pull up the insulation?

Will a walk-through audit catch this?

How do you confirm that this has been addressed after the work is complete?
Examples of Existing Practices

Do you need diagnostics – infrared camera?
Examples of Existing Practices

This looks like a good job.....?
Examples of Existing Practices
Examples of Existing Practices
Examples of Existing Practices

1200 ppm of carbon monoxide
Whose furnace is producing CO?

Who has the cold room?

Who wants the addition?

Whose bill is too high?
Let’s ask these questions again….

- Audits, surveys, assessments, clipboard audits, diagnostic audits, walk-through’s, etc.
  - Skills of auditors
  - Protocols
  - Status of auditor
    - Third party?
    - “Contractors”?
    - Sales person / facilitator / “energy advocate”?

- How do we verify and report QUALITY jobs – for the homeowner’s sake and the program’s sake?
Program Components

- Supply
- Demand
- QA/QC

Diagram showing the interconnection of supply, demand, and QA/QC components.
Program Components

• Supply
  – Identify, recruit, train, certify, mentor participants
  – Create training standards / define qualifications for program participation
  – Enable companies to differentiate themselves in the marketplace
  – Give them tools and resources to be profitable
Program Components

- **Demand**
  - Educate homeowners – about energy usage, the program, and the process
  - Identify and overcome barriers to purchase
    - Cost of initial audit
    - Lower total costs via rebates
    - Enable homeowners to finance cost-effective solutions
Program Components

• Quality
  – Provide tools and training to do good work
    • Software
    • Forms, processes that work for the participants
  – Trust but verify
    • Strong QA – for both the homeowners and the company participants
Home Performance with ENERGY STAR

A drafty home, rooms that are too hot or too cold, and high energy bills are all common issues for homeowners. A quality installation of a new heating or air conditioning system, buying replacement windows, or adding more insulation may fix part of the problem. But the way to better results is through an integrated “whole-house” approach that looks at your house as a system.

Home Performance with ENERGY STAR, a national program from the U.S. EPA and U.S. DOE, offers a comprehensive, whole-house approach to improving energy efficiency and comfort at home, while helping to protect the environment.

Contractors participating in a locally-sponsored Home Performance with ENERGY STAR program can help you cost-effectively improve your home’s energy efficiency. These specially-trained contractors evaluate your home using state-of-the-art equipment and recommend comprehensive improvements that will yield the best results.
Recovery Through Retrofit

- **Market Barrier 1:** Consumers need reliable home retrofitting information to make informed decisions

- **Market Barrier 2:** The costs of home retrofit projects are beyond the average homeowner’s budget

- **Market Barrier 3:** Increase the number of skilled workers and green entrepreneurs to successfully expand efficiency retrofit programs on a national-scale
**Barriers**

**Access to Information:**
Consumers do not have access to straightforward and reliable information.

**Access to Financing:**
Homeowners face high upfront costs and are often unable to recoup the value of their investment.

**Access to Skilled Workforce:**
There is an insufficient amount of skilled workers to expand energy retrofit programs on a national level.

**Program Elements**

- QA/QC
- Demand
- Supply
EECBG FOA

• Close to $400 million total, allocated to 8 – 20 winners ($5 to $75 million each)
• “Fundamentally and permanently transform energy markets…”
• “Comprehensive community-scale energy-efficiency approaches…”
• “Leverage…multiple local jurisdictions”
• FOA issued “in conjunction with Recovery Through Retrofit” – and announced a few days afterwards
• Retrofit for Energy and Environmental Performance
  • Replace current tax credits – still have prescriptive element
  • $3,000 for demonstrated 20% reduction, $1,000 for each 5% improvement (e.g., 30% = $5,000). Up to 50% of retrofit costs.
  • Rely on EPA to define contractor standards (e.g., BPI)
  • Rely on establishment of national standard for software development (BESTEST-EX)
  • Passed House, in Senate. While REEP has bipartisan support, current legislative vehicle does not (cap and trade).
Home Star

• Passed the House, Senate may consider in September

• Two levels:
  • Silver Star - prescriptive measures up to $3,000
  • Gold Star – performance based - $3,000 for 20% reduction, a 50% reduction could result in $8,000

• Could have financing component

• QA/QC similar to HPwES
**Incentives**

- **Homeowners:**
  - ENERGY STAR Financing: unsecured loan up to $20,000 (terms of 3, 5, 7 or 10 years); available to owner-occupied 1- or 2-family homes. (NYSERDA buys down the interest rate of the loan.)
  - OR
  - 10% of the cost of eligible energy efficiency improvements, up to a maximum incentive of $3,000,

- **Contractors:**
  - Reimbursements on training and equipment
  - Free TREAT software
  - Early buy-in cash incentive
  - 5% rebate for reporting audit
  - 2% bonus up to $400 for referrals to other BPI contractors
  - Cash awards ranging from $25 to $130 for every installed eligible ENERGY STAR product

**Contractor Training and Requirements**

- BPI Building Analyst Certification
- BPI Home Performance Contractor Accreditation
- Completion of 24 jobs, or $180,000 in work, each year beginning in second year
- Utilize local community college for training

**Marketing**

- TV, cable, and print advertising
- Successful co-op advertising program
- Regional and local specific marketing
- Cross promotion with other NYSERDA programs, marketing of ENERGY STAR brand
Utah Home Performance

Residential Retrofits Yield Substantial Savings

Utah Home Performance with ENERGY STAR offers a comprehensive, whole-house approach to home improvement that results in better energy efficiency, greater comfort and lower energy bills. Specially trained analysts visit your home to perform an energy assessment and provide a customized energy- and cost-saving action plan, comparing what you pay now to what you could be paying when your home runs at peak performance. If you choose to make energy efficiency improvements using a Utah Home Performance contractor you may qualify for cash back on a percentage of the job cost, in addition to utility rebates and tax credits!

Learn more about our program, how it works, and what an energy audit entails here.

- Covers 50-80% of energy-efficient home improvement costs
- Target a 20% reduction in energy usage per home
- Estimates 2800 assessments with 750 improvements
- $100 entry point – NO FREE AUDITS!!
California Story so far…

- $110M via CPUC for Investor Owned Utility programs.
- Currently CPUC has approved approximately $20M for performance-based (HPwES) retrofit IOU programs and pending approval for approximately $90M prescriptive retrofit programs. [Statewide Prescriptive Whole House Retrofit Program (PWhRP) Program Implementation Plan filed January 29, 2010 by PG&E on behalf of the IOUs in PG&E Advice Letter 3087-G/3600-E.]

<table>
<thead>
<tr>
<th>CPUC Program targets for improved homes for investor owned utilities*</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>PG&amp;E</td>
<td>3,900-5,700</td>
<td>5,400-8,400</td>
<td>6,200-9,200</td>
</tr>
<tr>
<td>SCE</td>
<td>3,000-4,100</td>
<td>4,100-5,800</td>
<td>4,700-6,600</td>
</tr>
<tr>
<td>SCG</td>
<td>1,700-2,700</td>
<td>2,400-3,700</td>
<td>2,800-4,300</td>
</tr>
<tr>
<td>SDG&amp;E</td>
<td>900-1,690</td>
<td>1,300-2,400</td>
<td>1,400-2,700</td>
</tr>
<tr>
<td>Statewide Totals</td>
<td>9,500-14,200</td>
<td>13,200-20,300</td>
<td>15,100-22,800</td>
</tr>
</tbody>
</table>

*Source Prescriptive Whole House Retrofit Program Webinar, Feb 9, 2010

Slide from Patricia Plympton - RESNET 2010
ARRA SEP Funding

• California Comprehensive Retrofit Program – launching 2010
  • $20M - Sacramento Municipal Utility District includes HPwES program
  • $16M - Regional Council of Rural Counties
  • $11M – Association of Bay Area Governments
  • $3M – The SF Mayor’s Office of Housing

• CaliforniaFirst: Municipal Financing for EE and RE residential improvements
  • The CaliforniaFIRST Program is anticipated to launch with a pilot group of jurisdictions, consisting of 14 counties and up to 146 cities
  • $16M - Sacramento County
  • $5M – City of LA
  • $4M - County of Humboldt
  • $3M - City of Sonoma
  • $2M - City and County of SF

• $30M - Municipal and Commercial Retrofit Programs
Emerging Models – leverage and sustainability

- Experience running DSM programs
- Consistent touch points with customers
- Historically high level of satisfaction with customers
- More consistent funding stream
- More sophisticated IT backend infrastructure
- Access to utility billing data
- Lead market actor in Advanced Metering Initiatives
- Established relationship with trade contractors

- Avoid duplicate infrastructure
  - common software
  - consistent QA protocols
  - consistent methodology to calculate energy savings
- Fuel neutral
- Aggregated contractor/auditor base
  - standard requirements - insurance, certifications, protocols
  - common listing on website
- More seamless homeowner experience
  - Unified website
  - Consistent branding / messaging
  - Financing
Resources from DOE

The Solution Center is the home for Energy Efficiency and Conservation Block Grant (EECBG) Program and State Energy Program (SEP) technical assistance resources. The goal of the Solution Center is to help eligible grantees and sub-grantees develop and implement successful energy efficiency and conservation projects and programs that meet the conditions and guidelines of the EECBG and SEP programs. Please spend some time exploring this page and take full advantage of the resources available.

Upcoming Webcasts
Cutting Residential, Commercial, and Industrial Energy Use: Tools and Incentives that Work
Date: July 8, 2010
Time: 3:00-4:00 EST

Need Help?
Click Here to Request Technical Assistance
Or call 1-877-EEERE-TAP (1-877-337-3027)

Activities
The Solution Center has gathered best practices, tools, sample projects, and other related resources for all eligible EECBG and SEP activities. Find resources for your projects via the maps below or the menu on the left-hand side of this page.
How to Develop a Local Program

Who can become a sponsor?
Organizations that are typically eligible to sponsor a Home Performance with ENERGY STAR program include utilities, states, municipalities, and non-profit organizations that promote energy efficiency and renewable energy.

What is the role of the program sponsor?
A Home Performance with ENERGY STAR sponsor is responsible for overseeing the program’s implementation and the performance of participating contractors to ensure that quality standards are met. To be effective in this role a sponsor must be legally and financially independent from participating contractors. Sponsoring a program is a significant commitment and will require an investment of financial resources. Therefore, organizations should establish a budget and identify a consistent source of revenue before making a commitment.

Where do I start?
All program sponsors sign an ENERGY STAR Partnership Agreement and submit a Program Implementation Plan for ENERGY STAR review. The Program Implementation Plan documents how the local program’s policies and procedures meet national program requirements. Download a copy of our Sponsor Guide (610KB) and our Program Implementation Plan Template (600KB) to help you get started.

Federal Grant Opportunities for Home Performance Sponsors
Federal agencies such as HUD and DOE offer grant programs (169KB) whose funds can be used to support energy efficiency efforts for existing homes, including affordable housing. Organizations can apply for funding under these grant programs to develop and implement energy efficiency programs, including the development of a Home Performance with ENERGY STAR program.

For additional information and support for developing a local Home Performance with ENERGY STAR program, contact:
- HomePerformance@EnergyStar.gov
- Chandler von Schrader at EPA (202-343-9096; chandler.vonschrader@epa.gov)

Go to Marketing Resources

Participate in the ENERGY STAR Mortgage Pilot Program
An ENERGY STAR mortgage pilot program is underway to demonstrate that financing can be a useful tool in promoting whole-house, energy-efficient retrofits. Homes that improve their energy efficiency by at least 20% under a Home Performance program are eligible for financing under this pilot program.
Resources from Local Stakeholders, cont.

Building Performance Institute  www.bpi.org

RESNET  www.resnet.us
Resources from Local Stakeholders, cont.

Home Performance Resource Center
www.hprcenter.org

Efficiency First www.efficiencyfirst.org

• Best Practices Committees
  • Nine case studies analyzing successful program
  • Best Practices White Paper
  • Finance and Incentives Recommendations
  • Marketing Recommendations
  • Workforce Development Recommendations
  • Business Model Recommendations
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Learn about additional resources that you can access to address residential retrofit issues and concerns
Thank You

Casey Murphy
ICF International
240-375-2311
caseymurphy@icfi.com
Information and resources from this webinar can be found using the links below. The PowerPoint from the webinar will be posted on the DOE Solution Center at:
http://www1.eere.energy.gov/wip/solutioncenter/webcasts/default.html

• ENERGY STAR Web site for homeowners:
http://www.energystar.gov/index.cfm?c=home_improvement.hm_improvement_index

• ENERGY STAR Web site to develop or support a local program
http://www.energystar.gov/index.cfm?c=home_improvement.hpwes_sponsors_develop

• DOE Solution Center:
www.eere.energy.gov/wip/solutioncenter

• DOE Technical Assistance Center:
https://tac.eecleanenergy.org/

• Home Performance Research Council – best practices on financing, marketing, workforce development, business models, and other topics. Case studies are included:
http://www.hprcenter.org/
http://www.surveymonkey.com/s/audits