
2010 DOE / EPA Partnership Work Plan

May 7, 2010

Table of Contents

- 1» Executive Summary**
- 2» Introduction**
- 3» ENERGY STAR Products Program**
 - Products
 - Qualification and Verification
 - Top Tier
- 4» Buildings Programs**
 - National Building Rating Program
 - Whole Buildings Programs
- 5» Other Areas for Coordination**
- 6» Next Steps**

Section 1: Executive Summary

- Overview
- 2010 Program Plan
 - Products
 - Buildings
- Management overview
 - Governance
 - Budget
 - Next Steps

2010 Work Plan Overview

Section 1: Executive Summary

The Work Plan represents the joint planning efforts of DOE / EPA in implementing ENERGY STAR and Buildings Programs.

- Implement new Memorandum of Understanding (MOU)
- Focus on 2010* activities
- Clear roles and responsibilities
- Smooth transition of government roles and responsibilities
- Initiate program enhancements
- Coordination

*Note: All dates calendar year, NOT fiscal year

Products: New and Revised Specifications (EPA)



Section 1: Executive Summary > ENERGY STAR Products

- More REVISIONS: 21 actions underway (7 to be done in 2010)
 - Existing products divided into short-lived (15), long-lived (26), and middle (8)
 - 25% of rapidly-evolving product with specifications less than 3 years old being addressed
 - 100% of long-lived products with market share of 35% or more as of 2008 data are being addressed
 - 100% of products with lifetimes in the middle are being addressed (to include reviews)
 - EPA in consultation with DOE will develop list of products for 2011 specification revision (Q1 2011)
- More NEW Products: Lower priority than revisions and enhanced qualification requirements
 - Focus on miscellaneous energy use, commercial food service, and enterprise products (up to 10 prospects)
 - Scoping / taking comments on priorities around additional 7 or 8 products
 - EPA in consultation with DOE will develop list of new products for GC review (Q1)
- Partnership agreements updated for 4 product categories so that annual shipment data provided to EPA across all products (Q3 2010)

2010 New Products and Specification Revision Schedule



Section 1: Executive Summary > ENERGY STAR Products

- As resources allow, EPA will scope additional products in 2010
- EPA will prepare a list of NEW products to take to governing council (Q1 2011)

Product Category	Product	Scoping Period	Testing Protocol
Appliances	Clothes Dryers	Q4	DOE test procedure
	Home Data Storage	Q4	ENERGY STAR/TBD
Home Electronics	Home Security Systems	Q4	Potentially DOE Battery Chargers procedure
	Projectors	Q3	TBD
Other Home Misc.	Garage Door Opener with light kit	Q3	TBD
Lighting	Lighting Controls	Q4	ANSI/IESNA
Data Centers	Data Center Telecom Networking	Q3	TBD
Medical Equipment	TBD	Q2	Power supply, DOE test procedure

Agency Roles and Responsibilities: Test Procedures, Certification and Verification

Section 1: Executive Summary > ENERGY STAR Products

- Test Procedures
 - DOE Covered Products (DOE leads via DOE Standards Program)
 - DOE Covered Products Under ENERGY STAR (DOE leads and is scheduling updates)
 - Developing/revising for ENERGY STAR products (DOE has lead)
- Certification
 - DOE Covered Products (DOE leads, currently allows self-certification; working on modifying)
 - All ENERGY STAR Products (EPA leads requiring independent laboratory or third party certification)
- Verification
 - DOE Covered Products (DOE leads via DOE Standards Program)
 - DOE Covered Products Under ENERGY STAR (DOE leads pilot testing program of 7 products, will expand program to all covered products)
 - All ENERGY STAR Products (EPA leads with third party verification program in addition to DOE continued verification of covered products)

Testing Procedures and Technical Analysis (DOE)

Section 1: Executive Summary > ENERGY STAR Products

- Test Procedure Work Plan across 3 areas
 - Begin updating existing testing procedures for approximately 5 existing ENERGY STAR products for FY 2010
 - Develop a priority list of test procedures (Q3 2010)
 - Priority list available (Q4 2010)
 - Begin additional new test procedures to support for approximately 3 new ENERGY STAR products for FY 2010
 - Develop a priority list of test procedures (Q3 2010)
 - Priority list available (Q4 2010)
 - Enhanced test procedure review; Systematic plan (Q3 2010)
 - Plan for reviewing testing procedures and identifying improvements across covered and non-covered products
- Technical analysis
 - Cost effective measures database (NREL) -- Integrates existing DOE databases of building retrofit measures costs into national database (Alpha release Q1 2010)
 - Roadmap for future enhancement and maintenance (Q1 2010)
 - Integrate into ENERGY STAR program support (Q4 2010)
 - Support more than 60 residential product categories

Enhanced Verification, Testing, and Enforcement



Section 1: Executive Summary > ENERGY STAR Products

- **Qualification Testing:** Pre-qualification testing and ongoing verification will be required for ALL product categories (using one of several models)
 - Pre-approval and lab submittal requirements instituted across all product categories-effective March 30, 2010
 - Propose new third-party certification/EPA-approved, accredited lab testing requirements – June 1, 2010
 - Finalize new testing requirements – July 15, 2010
 - New third-party certification/EPA-approved, accredited lab testing requirements effective by end of year
- **ENERGY STAR Verification Testing Program (DOE/EPA)**
 - DOE pilot program for key products linked to States' Appliance Rebate Programs (2010)
 - EPA market-based verification testing requirements for all ENERGY STAR product categories
- **Enforcement (DOE/EPA)**
 - New DOE database of all NAECA certified models for 16 ENERGY STAR product categories
 - New DOE/EPA enforcement protocol based on new testing data / program: DOE tests and refers to EPA; EPA determines corrective action

Quality Installation and Higher Tier Program



Section 1: Executive Summary > ENERGY STAR Products

- Quality Installation of ENERGY STAR products (DOE/EPA)
 - Develop quality installation programs where necessary for consumer to receive claimed savings (e.g. Quality HVAC)
 - Coordination/planning meeting (Q2 2010)
 - Installation specifications
 - Quality assurance and quality control protocols
 - Worker certification requirements in geothermal heat pumps, windows, and Insulation and air sealing
 - Development of programs (ongoing 2010)
- New higher tier program (DOE/EPA)
 - Joint DOE/EPA study (complete by Fall 2010)
 - Share with stakeholders for comment

National Building Rating Program: Commercial (DOE)

Section 1: Executive Summary > Whole Building Programs

- Phase 1: Q1 2010
 - Define audience for building labels and respective info needs
 - Gather information about existing building labeling programs, identify successful elements
 - Continue to promote EPA portfolio manager as part of EECSBG and SEP projects
- Phase 2: Q2-Q4 2010
 - Establish comprehensive framework for rating / labeling program
 - Review rating methods and ability to meet market needs
 - Design label options with appropriate information and presentation
 - Outline quality control options; skill requirements; protocols; training
 - Outline needs for supporting data systems
 - Stakeholder comment / engagement

National Building Rating Program: Residential (DOE)

Section 1: Executive Summary > Whole Building Programs

- Phase 1: Q1 2010
 - Communicate program principles
 - Gather information about existing home labeling programs, identify successful elements
 - Define audiences for building labels and respective info needs
 - Develop draft audit tool; use guidelines; and training materials
 - Develop database of cost-effective measures to support audit tool
 - Design pilots with HUD and other parties
- Phase 2: Q2-Q4 2010
 - Test audit tools
 - Develop draft performance metrics and label options
 - Outline long-term data management plan/needs
 - Implement pilots
 - Refine understanding of available tools in terms of costs, accuracy and how to address QC – refine information on labels

ENERGY STAR Labeling of Top Performers (EPA)

Section 1: Executive Summary > Whole Building Programs

- ENERGY STAR new homes
 - Advance new 2011 specification
 - Improve quality assurance
 - Expand to multifamily
 - Outreach on value of ENERGY STAR homes to appraisers, financial markets, insurers
 - Pilot advanced ENERGY STAR concept home
- ENERGY STAR commercial buildings
 - Enhance functionality/capacity of Portfolio Manager
 - Add new building types: senior centers and data centers
 - Outreach on top performing buildings

Building Retrofits (DOE/EPA)

Section 1: Executive Summary > Whole Building Programs

- **EPA commercial buildings**
 - Train/support state and local governments on portfolio manager / ENERGY STAR tools in support of ARRA awards (Q2 2010)
 - Building performance with ENERGY STAR (Q4 2010)
 - New building improvement competitions (Q2-Q4 2010)
- **DOE commercial buildings**
 - Ongoing SEP technical assistance
 - SEP competitive grant for strengthening building retrofits (Awarded Qx 20xx)
 - Commercial alliances in 3 sectors, and 2 more added in 2010
- **Home Performance with ENERGY STAR (DOE/EPA)**
 - Test alternative delivery models
- **DOE residential retrofits**
 - EECBG awards for new business models in residential retrofits (Q3 2010)
 - Financing outreach on sustainable financing options
 - Strengthening of work certification and quality assurance protocols
 - SEP competitive grant for strengthening building retrofits (Awarded Q1 2010)
 - Research, Development, and Demonstration (RD&D)

Management: Governance

Section 1: Executive Summary > Management

- The governing council will
 - Oversee the collaborative effort to ensure it is effective, efficient, avoids duplication, communicates effectively with other Agencies and stakeholders, maximizes the use of resources, and builds upon Agency and stakeholder efforts to date
 - Review annual plans and budgets, annual reports, and periodic program evaluations for each of the programs
 - Meet quarterly to review progress and address management issues
 - Hold meetings twice annually with stakeholders

Next Steps

Section 1: Executive Summary > Management

- Review
 - Budgets
 - Workplan
- Stakeholder outreach
 - Share work plan and obtain stakeholder comments (Spring 2010)
 - Stakeholder meeting
- Schedule Governing Council Meeting (Twice Annually)
- Key 2010 coordination / work efforts
 - Research for specification development
 - Top Tier Program
 - Testing / Verification
 - Building Ratings Program
 - Home Performance with ENERGY STAR
 - Quality installation programs
 - OWIP & FEMP coordination
 - Residential and Commercial R&D

Section 2: Introduction

- This work plan is based on
 - Memorandum of Understanding (MOU)
 - Stakeholder Feedback

Memorandum of Understanding

Section 2: Introduction > MOU

Background

- MOU signed September 30, 2009
 - Calls for annual joint workplan
- Stakeholder outreach and comments
 - ENERGY STAR products enhancement plan (released Dec 2)
 - Integrated lighting strategy (released Dec 4)
 - Stakeholder comments (Jan 8)
- Staff exchange
 - DOE detail to EPA on products
 - EPA expert to DOE (1 day / wk) on building rating program
- Joint 2010 workplan
 - Represents the joint planning efforts of DOE/EPA
 - Outlines detailed plans for program enhancements

Agency Roles for Products

Section 2: Introduction > MOU

- EPA will...
 - be the brand manager for the ENERGY STAR and higher tier program for products program including marketing, outreach, monitoring and verification, and setting the performance level(s)
 - maintain the master database of qualifying products and test results
 - develop the lists of new products to be added to the programs for consideration by the Governing Council
- DOE will...
 - support EPA by increasing its efforts in monitoring and verifying test procedure compliance and the development of Federal test procedures and metrics
 - provide technical analysis in support of specification setting
- Recommendations on key program elements and resource needs will be part of the annual program plan
- Quarterly progress updates on higher tier program.

Agency Roles for Buildings

Section 2: Introduction > MOU

- EPA will...
 - be the brand manager when the “Energy Star” is applied to whole buildings, including marketing, outreach, monitoring and verification, and performance level(s). Performance levels will be set using established and consistent principles for the ENERGY STAR brand. The eligibility of buildings for the ENERGY STAR logo will be based on the rating systems of the National Building Rating Program.
- DOE will...
 - manage the National Building Rating Program, consisting of building test procedures, building rating tools, and consumer-oriented building labels.
 - establish all Federal test procedures for buildings, which will include “asset,” and “operational” characteristics, and benchmark buildings against similar buildings.
 - maintain the master database of buildings rated by the National Building Rating Program
 - support EPA efforts in monitoring and verifying program compliance
- Quarterly progress updates to governing council



ENERGY STAR Qualified Lighting: An Integration Proposal

Section 2: Introduction > Feedback

ENERGY STAR Qualified Lighting: An Integration Proposal dated Dec. 4, 2009 comment period ended on Jan. 8, 2010 (17 comments received).

Key Issues/Concerns:

- Support that the SSL spec was left intact.
- Support for technology neutral approach.
- Supports the proposal to consider decorative and functional categories.
- Support for reaching consensus with the lighting and efficiency community about fixture classification.
- Support use of: Solid State Lighting – Definitions for Functional and Decorative Applications (LSD-51).
- Concern that overlap will create a “loophole” and current LSD document contains a loophole by allowing lower standards for decorative.
- NEMA LSD 51 should not be used until it is further refined.
- Proposal to not label decorative.

Next Steps:

- Revise Integration Proposal for lighting based on comments received.

Comments are available at: www.energystar.gov/mou

Section 3:

ENERGY STAR Products Program

3-1: Products

- Select new products
- More frequent specification revisions
- Enhanced test procedure development and technical analysis

3-2: Qualification and Verification

- Qualification Testing: verification of submitted product data
- Enhanced verification testing and enforcement
- Quality installation programs

3-3: Top Tier Program

- Research related to a potential top tier program

2009 Accomplishments: New and Revised Specifications



Section 3-1: ENERGY STAR Products

4 new products; 8 specification revisions

- New Specifications Completed
 - Servers, V1.0
 - CFS Ovens, V1.0
 - CFS Griddles, V1.0
 - Integral LED Lamps (DOE)
- Specifications revised
 - Displays, V5.0
 - TVs, 4.0 and 5.0
 - Audio/Video, V2.0
 - CFS Refrigerator/Freezer, V2.0
 - Geothermal HP, V3.0
 - Light Commercial HVAC, V2.0
 - Ventilation Fans, V2.2
 - Windows, Doors, and Skylights, V5.0 (DOE)



2010 New Product Efforts

Section 3-1: ENERGY STAR Products > New Products

EPA will advance new product categories as resources allow, with qualification and verification testing enhancements being a priority.

Product	Drivers	Milestones	Testing Protocol	Specification Date
Lab-grade Refrigerators and Freezers	Expand commercial solid door refrigeration specs to include lab-grade units	11/2010: Put out request for data Q1 2010: Address test procedure issues	ASHRAE standard	Q3 2010, contingent on data
CFS Pre-rinse Spray Valves	Availability of product 25% more efficient than Federal standard	7/2009: NOI published February 2010: Complete research on PRSV	ASTM Standard	Q1 2011
Packaged Terminal Air Conditioners**	New federal standard in place; may be a more energy efficient tier	2010: Update energy savings analysis	DOE testing procedure	TBD
Pool and Sump Pumps**	May offer significant savings, particularly for peak		CEC test procedure for pool pumps	TBD
SSL Outdoor Luminaires	Expand SSL coverage to parking lots and roadways	8/2008: 1 st draft issued 7/2009: 2 nd draft issued 10/2009: Webinar held 1/2010: Work with NEMA	Industry and/or DOE test procedure	Q3 2010

**Resource dependent



2010 New Product Efforts

Section 3-1: ENERGY STAR Products > New Products

Product	Drivers	Milestones	Testing Protocol	Specification Date
Uninterruptible Power Supplies (UPS): Home to Data Center	Large potential savings of more than \$100 M / yr	1/2010: Announcement letter and webinar	Develop test procedure off EU Code of Conduct and IEC test procedures	Q4 2010
Data Center Storage	Fast growing segment of IT market. Manufacturer interest. Enhances datacenter products suite.	1/2010: Complete data collection Q2 2010: Draft 1 to build off Spec Framework 2/2/2010: Stakeholder meeting	SNIA	Q4 2010
Small Network Equipment	Large savings potential of almost \$100 M / yr	11/2009: Launch 12/2009: Test procedure distributed to stakeholders 3/2010: Data collection by stakeholders	ENERGY STAR	Q3 2010
Climate Controls	PT spec sunset 12/09, barriers to labeling PTs, new products entering the market-focus usability, comfort, communication	12/2009: Sunset current specification 2/2010: Launch spec 3/2010: Distribute draft	DOE Usability Test	Q4 2010



2010 Scoping Plans

Section 3-1: ENERGY STAR Products > New Products

- As resources allow, EPA will undertake scoping efforts (each effort takes approximately 2 months)
- Receive stakeholder comments on priorities

Product Category	Product	Scoping Period	Testing Protocol
Appliances	Clothes Dryers	Q4	DOE test procedure
Home Electronics	Home Data Storage	Q4	ENERGY STAR/TBD
	Home Security Systems	Q4	Potentially DOE Battery Chargers procedure
	Projectors	Q3	TBD
Other Home Misc.	Garage Door Opener with light kit	Q3	TBD
Lighting	Lighting Controls	Q4	ANSI/IESNA
Data Centers	Data Center Telecom Networking	Q3	TBD
Medical Equipment	TBD	Q2	Power supply, DOE test procedure



Specification Revision Overview

Section 3-1: ENERGY STAR Products > Specification Review

- 22 total specification updates to address growing market share, new federal standards, expand to active power, etc. (7 to be completed in 2010)
 - 4 specifications to expand program scope to broader set of products, etc. (4 to be completed in 2010)



Commercial Food Service

Section 3-1: ENERGY STAR Products > Specification Revisions

Product Category / Product	Drivers	Milestones	Testing Protocol	Specification Date
CFS / Commercial Ice Makers	Add flake and nugget makers in addition to cubed	1/2010: Test Data available in AHRI cert database 2-3/2010: Launch revision 9-10/2010: Complete revision	AHRI procedure in development	Q1 2011
CFS / Commercial Fryers	Expand to larger equipment (>15")	11/2009: Begin revision 8-9/2010: Complete revision	ASTM procedure	Q4 2010 / Q1 2011
CFS / Hot Food Holding Cabinets	High market share as of 2008	11/2009: Launch revision 12/2009: Webinar 5/2010: Proposed final spec	ANSI/ASTM procedure, ENERGY STAR	Q3 2010
CFS / Commercial Dishwashers	High market share as of 2008	Spring 2010: Launch revision	ASTM procedure for total energy consumption	Q3 2010



Electronics & Computing

Section 3-1: ENERGY STAR Products > Specification Revisions

Product Category / Product	Drivers	Milestones	Testing Protocol	Specification Date
Data Center / Servers, Tier 2	Expand to active mode and blade servers	9/2009: Preliminary draft distribution and workshop 12/2009: Draft 1 distribution 4/2010: Draft 2 distribution	ENERGY STAR, 80 Plus	Q4 2010
Home Electronics / Battery Chargers	Expand to active mode; international harmonization	Q1 2010: EPA launch revision 1-2/2010: DOE draft test procedure Q2/3: EPA data analysis/draft 1	DOE draft test procedure	Q4 2010
Home Electronics / Set Top Boxes, Tier 2	Resolve remaining issues and expand to IP devices	11/2009: Launch revision 12/2009: Webinar 4/2010: Proposed final spec	ENERGY STAR	Q3 2010
Office Equip. / Computers	Quickly evolving product; v5.0 requirements effective 7/2009	Q2 2010 complete review Q3 Launch	ENERGY STAR, IEC	Q2 2011
Office Equip. / Computers: Game Consoles	Significant energy savings opportunity. Utility and retail interest.	Q1: Circulate draft final for stakeholder comment 2/2010: Work with stakeholders to complete survey re: use 3/2010 based on survey results, work with stakeholders to either refine requirements or go final with Draft Final proposal.	ENERGY STAR	Q1 2010
Imaging*		Summer 2010: Explore opportunities to refine spec	ENERGY STAR, IEC	v1.1: July 2010

*Market share analysis



Heating, Cooling, & Appliances

Section 3-1: ENERGY STAR Products > Specification Revisions

Product Category / Product	Drivers	Milestones	Testing Protocol	Specification Date
Heating & Cooling / Light Commercial HVAC, Tier 2	Federal standards effective 2010 at Energy Star level	2010: Begin to update energy savings analysis	DOE Testing Procedure	July 1, 2011 (Effective Date)
Appliances / Room Air Conditioners (RAC)	Market share of ENERGY STAR 43% as of 2008; Federal standards effective 2010	2010: Begin to update energy savings analysis Q3: Launch Revision Q1 2011: Complete	DOE Testing Procedure	Q4 2011
Heating & Cooling / Furnaces	Canadian standard; market share ~ 35% for gas furnaces as of 2008	12/2010: Launch revision of existing spec with a new gas level of 92%	DOE Testing Procedure	Q2 2011
Heating & Cooling / Boilers	Federal standards effective 2012; determine whether to revise or suspend	2010: complete review, message to stakeholders	DOE Testing Procedure	TBD
Appliances / Dehumidifiers	Federal standards effective 2012	2010: Begin revision	DOE Testing Procedure	TBD
Heating & Cooling / CAC / ASHP	Allow more parties to offer ENERGY STAR options	Progress dependent on AHRI certification program / integrity	DOE Testing Procedure	TBD
Heating & Cooling / ERVs / HRVs	Extend current Canadian spec to US market	2010; address regional and proper installation issues	CSA C439-09	TBD



Other / Appliances

Section 3-1: ENERGY STAR Products > Specification Review

Product	Drivers	Milestones	Testing Protocol	Specification Date
Building Products				
Windows, Doors and Skylights	Ready for planned revision for 2013/2014; undertake key research	1/2010: Phase 1 of spec 2010; address key research issues 2013-2014: Phase 2 of spec	NFRC	Phase 1 – Jan 4, 2010 (Effective Date) Phase 2 - TBD
Appliances and Lighting				
Appliances: Clothes Washers; Dishwashers; Refrigerators and Freezers	Identify new savings opportunities, test procedure issues, resolve any market share issues	Launch Q2	DOE Testing procedure	TBD
Residential Water Heaters	Evaluate extending sunset for gas storage water heaters	Q3 2010: spec review begins	DOE Testing procedure	TBD
Water Coolers	Specification needs update.	Launch Q2		TBD
Ceiling Fans / Light Kits	32% market share for ceiling fans, 1% for fans with light kits as of 2008; expand scope; remove lighting kits for integrated lighting	June 2010: Begin revision	DOE Testing Procedure	TBD



Light Fixtures

Section 3-1: ENERGY STAR Products > Specification Review

- **Current specifications in place:**
 - Residential Light Fixtures Version 4.2
 - Solid State Light Fixtures, Version 1.1
- **Goal:**
 - Combine two specifications to allow technologies to compete
 - Will allow fair comparisons of different technologies for consumers
 - Set technology neutral test procedures for energy efficiency and color
- **Timeline:**
 - May 2010 – begin stakeholder meetings and identify further research needs
 - May/June 2010 – release first draft of combined specification
 - September 2010 – anticipated completion of specification



Light Sources

Section 3-1: ENERGY STAR Products > Specification Review

- Currently two specifications in place:
 - Compact Fluorescent Lamps, Version 4.0
 - Integral LED Lamp, Version 1.0
- Goal: merge two specifications into a single “source” program:
 - Will allow competition among technologies
 - Will allow fair comparisons of different technologies for consumers
 - Set technology neutral test procedures for energy efficiency and color
- Timeline:
 - Version 4.0 of the CFL specification took effect (late 2008)
 - Version 1.0 of the Integral LED Lamp specification will take effect August 2010
 - Revision timeline is therefore not immediate
 - To allow for existing specifications to take effect
 - To allow for further research on technologies
 - Coordinate with DOE on light source testing procedures
 - Anticipated first draft light source specification (September 2010)

Enhanced DOE Test Procedure Review

Section 3-1: ENERGY STAR Products > Testing Procedure Development & Analysis

- Test procedures need to be both updated and created to support ENERGY STAR product categories.
- DOE will develop a priority list of test procedures by:
 - Researching existing procedures and relevant industry referenced ones
 - Coordinating efforts with industry test procedure committees and approximately 27 trade associations
 - Drafting new or updating existing test procedure and examining relevant industry referenced standards for appropriate action
 - Revising draft or updating existing test procedure
 - Developing new test procedures based on 2010 Scoping Plans and new product expansion
- Next steps:
 - Develop a priority list of test procedures
 - Align priority test procedures with DOE resources
 - Review and reprioritize list at Quarterly meetings
 - Release priority list to stakeholders (Summer 2010)

DOE Testing Procedures and Standards Development

Section 3-1: ENERGY STAR Products > Testing Procedure Development & Analysis

	ENERGY STAR Cat.	Test Procedure Changes	Final Test Procedure	Final Standard
<u>Heating, Ventilation and Air Conditioning</u>				
Furnaces and Boilers	✓	Standby Mode & Off Mode	2010	2011
Furnace Fans	Scoping		2012	2013
Central Air Conditioners and Heat pumps	✓		2011	2011
Direct Heating Equipment		Standby Mode & Off Mode	2010	2010
Room Air Conditioners	✓		2010	2011
Comfort Controls	✓			
Boilers (combination space-heater & water heaters)	✓		2010	2011
<u>Lighting</u>				
Lighting Controls	Scoping			
Light Bulbs (Compact Fluorescent Lamps)	✓			2017
Residential Light Fixtures	✓			
Decorative Light Strings	✓			
Ceiling Fan Light Kits	✓			
Ventilating Light Kits	✓			
<u>Appliances</u>				
Dehumidifiers (Residential)	✓	Standby Mode & Off Mode	2011	
Room Air Cleaners	✓			
Water Heaters (Residential)	✓	Standby Mode & Off Mode	2010	2010
Clothes Dryers	Scoping		2010	2011
Refrigerators (Residential)	✓		2010	2010
Microwave Ovens		Standby Mode & Off Mode	2011	2011
Clothes Washers (Residential)	✓		2011	2011
Dishwashers (Residential)	✓	Standby Mode & Off Mode	2011	2015
Ranges and Ovens (Electric and Gas)			2011	2017

DOE Testing Procedures and Standards Development

Section 3-1: ENERGY STAR Products > Testing Procedure Development & Analysis

	ENERGY STAR Cat.	Test Procedure Changes	Final Test Procedure	Final Standard
Electronics				
Home Audio	✓			
DVD products	✓			
Servers Tier 2	Under Dev			
Uninterruptible Power Supplies: home to data center	Under Dev			
Battery Chargers, External Power Supplies (Class A & non-Class A)	✓		2011	2011 (BC & class A)
Data Center Telecom Networking Equip	Scoping			
Home Data Storage	Scoping			
Projectors	Scoping			
Televisions	✓			2013
Commercial Food Equipment				
Walk-In Coolers and Freezers			2010	2012
Commercial Clothes Washer				2015
Commercial refrigeration	✓			2013
Commercial Fryers	✓			
Commercial Hot Food Holding Cabinets	✓			
Commercial Steam Cookers	✓			
Other				
Medical Equipment	Scoping			
Pool and Sump Pumps	Scoping			
Home Security Systems	Scoping			
Garage Door Opener w Light Kit	Scoping			
Pool Heaters		Standby Mode and Off Mode		2010
Water Coolers	✓			

ENERGY STAR Enhanced Testing and Verification Overview

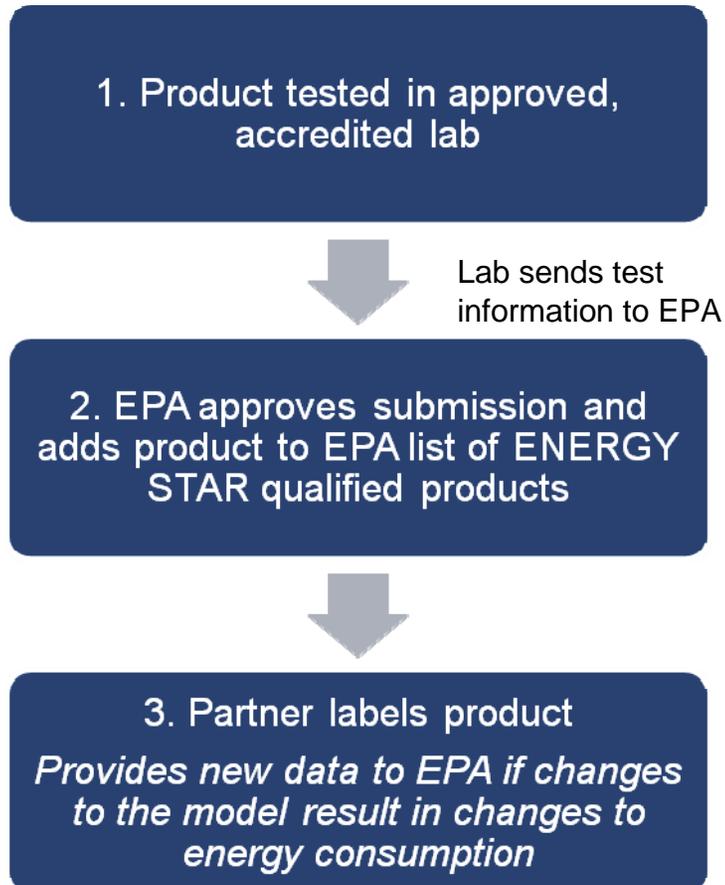
Section 3-2: Qualification and Verification

Testing Enhancement	Qualification Testing	Verification Testing
<p>Purpose:</p> <p>Key Approaches:</p>	<ul style="list-style-type: none">• <i>Ensure each product meets ENERGY STAR specification prior to being labeled with the ENERGY STAR</i>• Require test data for each product from approved, accredited lab.• Data may be provided to EPA through approved third-party certification system	<ul style="list-style-type: none">• <i>Ensure that products continue to meet ENERGY STAR requirements</i>• Require ongoing verification testing as a condition of ENERGY STAR logo use• Verification testing administered through third-party testing program• DOE has initiated verification testing through Testing Pilot Program• DOE to provide ongoing QA for verification testing

EPA Qualification Testing

Section 3-2: Qualification and Verification > Qualification Testing

- EPA conducts qualification testing for all products



- EPA will modify partner commitments to reflect this new requirement.
- All testing conducted in accredited laboratories
 - Will consider ISO 17025 where appropriate
 - Other accreditations may be appropriate for some products
 - Third party certification programs can serve this function if they include initial testing in accredited labs as a criteria
 - Pre-approval and lab submittal requirements instituted across all product categories-effective March 30, 2010
 - Propose new qualification requirements June 1, 2010
 - New qualification requirements final July 15, 2010

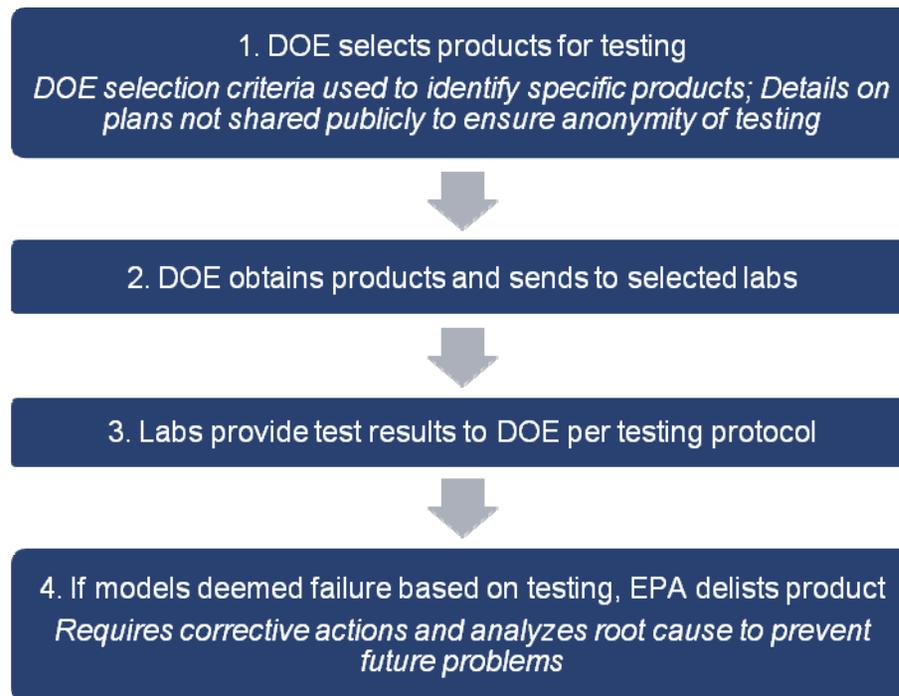
DOE Verification Testing Program

Section 3-2: Qualification and Verification > Verification Testing

Scope: All ENERGY STAR Product Categories (prioritize DOE-covered products)

Process

Purpose: Ongoing government testing program to verify energy performance of product in the market against reported energy performance data.



Roles

DOE Role

- Select products
- Select labs
- Obtain products and send to labs
- Work with labs to obtain test results
- Refer test failures to EPA

EPA Role

- Take enforcement action where products are deemed failures based on testing
- Work with labs to obtain test results
- Refer test failures to EPA

Market-Based Testing

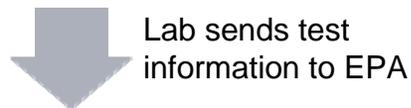
Section 3-2: Qualification and Verification > Market-Based Testing

Scope: All ENERGY STAR Product Categories

Qualification Testing

Purpose: Ensure that testing is conducted as required by ENERGY STAR specification and that lab submits test results to EPA that are representative of products sold to customer.

1. Product tested in approved, accredited lab



2. EPA approves submission and adds product to EPA list of ENERGY STAR qualified products



3. Partner labels product

Provides new data to EPA if changes to the model result in changes to energy consumption

Verification Testing

Purpose: Ensure that products continue to meet ENERGY STAR requirements.

1. Product selected for testing

Third-party administrator facilitates product selection once or twice a year based on certified product (if certification program) or ES QP list (if EPA-selected administrator)



2. Manufacturer pays third-party to administer independent, off-the-shelf or off-the-line witnessed testing



3. Third party administrator has products tested as required and shares results with EPA



4. If models deemed failure based on testing, EPA delists product
Requires corrective actions and analyzes root cause to prevent future problems

Qualification Testing Timeline

Section 3-2: Qualification and Verification > Market-Based Testing

Timeline:

- **May 3**
Release for Comment: Requirements for Accreditation Bodies
- **May 15**
Release for Comment: Requirements for laboratory accreditation for all ENERGY STAR product specifications and process for approving labs
- **June 1**
Release for Comment: Proposed requirements for qualification and verification testing for all product categories, including requirements for certification programs
Finalize: Requirements for Accreditation Bodies and start accepting applications
- **June 15**
Finalize: Lab accreditation requirements and approval process
- **July 15**
Finalize: Certification program requirements for relevant product categories (listed below) and begin accepting applications from certification programs.
Finalize: Qualification (and verification) testing requirements for relevant products (CE/IT and lighting products).
- **July – Dec**
Approve: Certification programs and accredited labs
- **September**
Finalize: New partner commitments (requiring testing in approved, accredited labs) for all products and require partners to sign agreement to continue partnership.
- **November 30**
All new product models in specified CE/IT and lighting categories require testing in EPA-approved, accredited lab.
- **December 30**
Required participation in a third-party certification program for all products in specified categories.

Note: Specified categories for certification program participating are HVAC products, Appliances, Windows, Water Heaters, Commercial Food Service equipment, External power supplies and battery charging systems, water coolers and vending machines

Ongoing Market-Based Activities

Section 3-2: Qualification and Verification > Ongoing Programs

- For 2010, the below activities will be continued by EPA and DOE. Going forward, these efforts will be folded into the enhanced verification structure described earlier in this deck.
- EPA is:
 - Administering established verification testing for residential light fixtures and computers, including all communication with partners and any necessary follow-up actions related to enforcement.
 - Track product testing results
- DOE is:
 - Administering established verification testing for CFLs, including communication with partners. Issues requiring enforcement actions will be referred to EPA.
- Verification Testing for Computers
 - One round of verification testing will be conducted in Spring 2010 for computers as outlined in the ENERGY STAR for Computers Verification Testing Guidelines and Procedures Manual Version 1.0
- Verification Testing for Lighting
 - Two rounds of verification testing for residential light fixtures will be conducted as outlined in the ENERGY STAR for Residential Light Fixtures Quality Assurance Testing Guidelines and Procedures Manual.
 - Two rounds of verification testing for CFLs will be conducted as outlined in the ENERGY STAR Program Requirements for CFLs Version 4.0



Quality Installation Activities

Section 3-2: Qualification and Verification > Quality Installation

- Promote Quality Installation (QI) of ENERGY STAR products and renewable energy for homes
- These will incorporate specifications, training, best practices and QC procedures
- Coordination meeting (Q2 2010)

Product Area	Key Next Steps / Agency Roles	Timeframe
HVAC Quality Installation	<ul style="list-style-type: none"> • Expand ENERGY STAR HVAC QI beyond existing utility partners (EPA) • Integrate the specification into ENERGY STAR New Homes specifications (EPA) 	Q1 2010
Ground Source Heat Pump (GSHP) QI Specification	<ul style="list-style-type: none"> • Facilitate industry's development of QI specification and verification protocols • Develop implementation framework for deployment, verification and documentation of GSHP QI • Implement GSHP QI initiative through Energy Star buildings program • Certification of Installers (DOE) 	Q3 2010 Q3 2010 Q1 2011 Will have by 4/1
Solar Thermal QI Specification	<ul style="list-style-type: none"> • Assess technological feasibility and market acceptance for QI specifications • Facilitate development of a QI specification and verification protocol that details the requirements, roles and obligations for market participants • Develop a framework for supporting the deployment, verification and documentation of QI specifications • Certification of installers (DOE) 	Q2 2010 Begin Q3 2010 Q1 2011 Will have by 4/1
Insulation / Air Sealing	<ul style="list-style-type: none"> • Develop quality installation guidelines: incorporates specifications, training, best practices and QC procedures (DOE) 	Q2 2010
Windows	<ul style="list-style-type: none"> • Examine manufacturers ability to communicate proper installation techniques to installers (EPA) 	2013 (Phase II for windows)

ENERGY STAR Enforcement

Section 3-2: Qualification and Verification > Additional Activities

- Publish standard enforcement protocol for increased transparency
 - Triggers for enforcement actions
 - Communicating testing and labeling issues
- Communicate with key internal and external stakeholders on testing results and enforcement actions.
 - Follow-up on misuse of the ENERGY STAR logo
 - Follow-up on verification testing failures, including potential delisting of products from ENERGY STAR



Section 3-3: Top Tier

Section 3-3: Top Tier Program

- ENERGY STAR is exploring how to structure an effort to promote a “top-tier” of energy efficient products
- EPA and DOE are evaluating:
 - Consumer needs and how a top tier effort can help
 - How to protect ENERGY STAR’s current position in the market
 - The energy savings potential
 - The most effective options from a marketing/brand analysis

Any new program would:

- Be nested within the current ENERGY STAR program
- Draw on existing ENERGY STAR infrastructure
- Be applied to specific product categories case-by-case
- Be provided to stakeholders for comment

Next Steps

Section 3-3: Top Tier Program

- Research proposal:
 - Scope of work (Spring 2010)
 - Data collection (Spring to Summer 2010)
 - Review and “mine” existing data
 - Stakeholder involvement and contribution of data
 - Review social media outlets to gauge consumer attitudes and expressed needs
 - Develop consumer profiles; specific demographic information
 - Qualitative research (Fall 2010)
 - Data collection
 - Focus groups
- Research Findings and Recommendations (November 2010)
- Stakeholder outreach (November 2010)
- Coordinating with DOE on plan
- Efforts will also be developed through a process, consistent with the MOU, to explore and advance products and technologies that are likely candidates for the “Top Tier” program that may meet the criteria for these programs with additional assistance.
- Recommendations on key program elements and resource needs will be part of the annual program plan or otherwise identified.

Section 4: Whole Building Programs

1. National Building Rating Program

- Purpose & Approach
- Commercial Work Plan
- Residential Work Plan

2. Whole Building Programs

a) Commercial

- Accomplishments
- ENERGY STAR
- Support and RD&D

b) Residential

- Accomplishments
- New Homes
- Retrofits

Rating Program Purpose

Section 4-1: National Building Rating Program

- The MOU on Improving the Energy Efficiency of Products and Buildings between the DOE and the EPA outlines the future National Building Rating Program (NBR)
- The NBR may be the rating tool used by the ENERGY STAR Program
- It will provide a rating that is:
 - Easily understood by target audience (owners, energy managers, etc.)
 - Ease / low cost of verification of savings, label, auditing services;
 - Audit tool(s) that are simple and cost effective, yet accurate
 - Consistency between as designed and operating ratings, where applicable
 - Building codes align with building labeling programs

General Approach

Section 4-1: National Building Rating Program

- Establish/communicate key principles for both Residential and Commercial
- Define key terms
- Assess existing work
 - Approaches
 - Results
- Outline phased development processes
- Provide for Stakeholder Involvement
 - Individual input from key stakeholders to identify specific issues, solutions, or to understand an existing market program or service
 - Smaller expert groups to discuss key topics and gather input on specific issues
 - Broad participation from stakeholders to inform them of progress, gather general information or secure agreement

Initial Key Principles

- Designed to assist decision-makers make good investment decisions
- Easily understood by target audience (owners, energy managers, etc.)
- Ease / low cost of verification of savings, label, auditing services
- Consistency between as designed and operational ratings, where applicable
- Audit tool(s) that are simple and cost effective, yet accurate
- Building codes align with building labeling programs
- Offer methods, tools for state and local policies to adopt
- Provide consistent methods
- Allow customization

Commercial Workplan

Section 4-1: National Building Rating Program > Commercial

Phase 1: Q2 2010	Phase 2: Q3-Q4 2010	Phase 3
Promote use of EPA "Operational" Building Benchmarking		
Gather information about existing building labeling programs, identify successful elements	Review rating methods and ability to meet market needs	Establish performance rating and labeling protocols, standards, tool certifications
Define audience for building labels and respective info needs	Establish comprehensive framework for rating / labeling program	Establish professional certification requirements / quality control
	Design label options with appropriate information and presentation	Establish data collection protocols
	Outline quality control options / skill requirements / protocols / training	Partner with key parties
	Outline needs for supporting data systems	



Residential Workplan (DOE)

Section 4-1: National Building Rating Program > Residential

Phase 1: Q1 2010	Phase 2: Q2-Q4 2010	Phase 3
<p>Gather information about existing home labeling programs, identify successful elements</p> <p>Define audience for building labels and respective info needs</p>	<p>Review rating methods and ability to meet market needs</p> <p>Review audit methods and ability to meet market needs</p> <p>Establish framework for rating/audit method(s)</p> <p>Design label with appropriate information and presentation</p> <p>Outline quality control options / skill requirements / protocols / training</p> <p>Outline needs for supporting data systems</p> <p>Pilot efforts</p>	<p>Establish performance rating and labeling protocols, standards, tool certifications</p> <p>Establish professional certification requirements / quality control</p> <p>Establish data collection protocols</p> <p>Launch publicly with first set of partners</p>


STAKEHOLDER ENGAGEMENT


Residential Workplan: Phases

Section 4-1: National Building Rating Program > Residential

- Phase 1: Q1 2010
 - Gather information about existing home labeling programs, identify successful elements
 - Define audiences for building labels and respective info needs
 - Develop draft audit tool; use guidelines; and training materials
 - Develop database of cost-effective measures to support audit tool
 - Design pilots
- Phase 2: Q2-Q4 2010
 - Test audit tools
 - Develop draft performance metrics and label options
 - Run pilots
 - Refine understanding of available tools in terms of costs, accuracy and how to address QC
- Ongoing
 - Identify / follow related issues such as access to utility bill information and utility ratemaking policies

Section 4-2: Whole Building Programs

Section 4-2: Whole Building Programs > Commercial

- Accomplishments
- Commercial
 - 2009 Accomplishments
 - ENERGY STAR new construction labeling
 - ENERGY STAR existing building labeling
 - Building Retrofits
 - RD&D
- Residential
 - ENERGY STAR new construction labeling
 - ENERGY STAR existing building program
 - Building Retrofits
 - RD&D

2009 Accomplishments

Section 4-2: Whole Building Programs > Commercial

- More than 5,000 organizations are ENERGY STAR buildings program partners.
- Building benchmarking
 - More than 120,000 buildings (nearly 14 billion sq feet) measured through EPA Portfolio Manager.
- ENERGY STAR building labeling
 - Nearly 9,000 buildings have earned the ENERGY STAR
 - More than 230 buildings “Designed to Earn the ENERGY STAR”
- Building improvements
 - 4,500 SPP client buildings improved by 10% or more, measured using standardized system
- RD&D
 - Launched Commercial Real Estate Energy Alliance
 - Launched Hospital Energy Alliance
 - With Energy Alliances, held Supplier Summits: HVAC & Controls (Jan 2009); Lighting & Controls (May 2009)
 - EnergyPlus release: V3.1

EPA Portfolio Manager

Section 4-2: Whole Building Programs > Commercial

- Release enhance reporting features, which facilitate disclosure policies and energy management (Q3 2010)
- Develop new benchmarking opportunities:
 - New performance scales: Data Centers (April); Senior Centers (Oct)
 - Benchmarking groups: Stadiums; multifamily
- Continue Stakeholder Coordination:
 - Begin modifications for long term integration of Canadian benchmarking with NRCAN
 - With FEMP/GSA to enhance Sustainability checklist / other federal functionality
- Build Automated Data Transfer features to grow utility / market users (Q4 2010)
- Expand hardware capacity (new servers) to speed processing (Q3 2010)
- Implement new tracking features:
 - Currently: water, on-site renewable, RECs, federal sustainability report
 - Future: waste tracking, CHP, other greenhouse gases
- Begin requirements for new data base architecture and improved usability

EPA Building Improvement Campaigns



Section 4-2: Whole Building Programs > Commercial

- Outreach
 - Launch new National Building Competition to recognize biggest percent energy savings improvements (Q2 2010)
 - Release Top 10 ENERGY STAR labeled buildings (Q1 2010)
 - Continue building partnerships in key sectors (ongoing): Commercial Real Estate, retail, entertainment and hospitality, healthcare, small business and congregations, data centers, multifamily housing
- Pilot Building Performance with ENERGY STAR tool (Q1 2010)
 - New EPA tool to advance building energy performance
 - Enable program administrators and service providers
 - Packages successful ENERGY STAR strategy to enable greater use by program administrators and service providers

Federal, State, and local government support

Section 4-2: Whole Building Programs > Commercial

- Ongoing activities
 - Portfolio manager training and support of ARRA fund recipients (EPA)
 - Assistance to government disclosure policies (EPA)
 - Assistance to SEP and EECSBG recipients (DOE)
 - Grant assistance for innovative state commercial building retrofit programs (SEP grant: awards Q3 2010), (DOE)
- Federal, State, and local government support
 - Lead by example: upgrade own building
 - Voluntary community campaigns

State	Program
Iowa	Iowa SEP Grant Program
Maine	Efficiency Maine Commercial Project Grant Program
New Mexico	EECSBG Grant Program
New York	New York Energy Efficiency Program
Pennsylvania	Pennsylvania Conservation Works! Program
Utah	Utah Advanced Energy Efficiency Strategies for Buildings Program

Implementation Support

Section 4-2: Whole Building Programs > Commercial

Support implementation of growing energy disclosure mandates using Portfolio Manager

Location	Legislation / State Activity	Public Buildings	Private Sector
CA	AB 1103	X	X
DC	Clean and Affordable Energy Act of 2008	X	X
HI	House Bill 1464	X	
MI	EO 2005-4, 2005	X	
OH	EO 2007-02	X	
WA	SB 5854 - 2009-10	X	X
New York City , NY	Greener Greater Buildings Plan, Int. No. 476-A	X	X
Denver, CO	Executive Order 123	X	
Austin, TX	ECAD Ordinance for Owners of Commercial Buildings	X	X
Seattle, WA	Proposed benchmarking and disclosure, voting early 2010	X	X
Portland, OR	Pending benchmarking and disclosure (in planning phase)	X	X
San Francisco, CA	Pending benchmarking and disclosure (in planning phase)	X	X

DOE RD&D

Section 4-2: Whole Building Programs > Commercial

- The CBI program is structured into two elements in order to carry out its goal of marketable zero-energy buildings (ZEB).
- Market Engagement Activities
 - National Accounts – CBI partners with major commercial real estate companies dedicated to design, build, commission, and operate buildings that promise enhanced energy efficiency.
 - Commercial Building Energy Alliances – CBI leads and manages associations of building owners and operators who want to reduce energy consumption and greenhouse emissions.
- Building Design Package Research and Development Activities
 - Advanced Design Guides – CBI develops these information products, that indicate how to achieve exemplary whole-building energy performance levels in new construction.
 - Building Decision Tools – CBI develops tools which enable building designers and owners to look across sets of energy-efficient technology solutions and select appropriate ones.

2009 Accomplishments

Section 4-2: Whole Building Programs > Residential

- ENERGY STAR new homes (EPA)
 - Past milestone of 1 million ENERGY STAR homes built; saving families almost \$300 million / year
 - ENERGY STAR homes saving 20 to 30 percent over 2004 IRC code built homes
- DOE new construction RD&D
 - Completed research in 3 climates at 40% energy savings compared to Building America benchmark.
 - Completed research in 5 climates at 30% energy savings compared to Building America benchmark
- Home Performance with ENERGY STAR (DOE/EPA)
 - 70,000+ homes improved to date across Utility, state, and municipal sponsors in 30 states
 - Launched National Contractor Pilot in January 2010 in Northern VA.
 - Utilities, state, and municipal governments in CA, NC, LA, UT, TN, MI & WA are planning new programs
- DOE home retrofit RD&D
 - Completed interim version of BESTEST-EX, protocols for testing whole house energy software tools



EPA ENERGY STAR New Homes

Section 4-2: Whole Building Programs > Residential > New Homes

- **New Construction: ENERGY STAR New Homes**
 - **New 2011 Guidelines for New Homes**
 - Finalize new guidelines in February, 2010
 - Implement national training campaign leveraging sponsors and manufacturers
 - Develop field guide training curriculum
 - Webinars through ENERGY STAR web site
 - **Enhance Quality Assurance**
 - Incorporate guideline checklists into RESNET Standards (Q1 2010)
 - Work with RESNET to enhance RESNET QA oversight of providers (Q2 2010)
 - Implement on-line builder and rater certification course (Q4 2010)
 - Add training and QA requirements for sponsor partners (Q4 2010)
 - **Outreach / Marketing**
 - New materials, show value behind the walls, share best practices
- **Expand Multi-Family High Rise Labeling Program (Q2 2010)**
 - Finalize program documents
 - Determine whether increase in specification stringency is necessary.



EPA ENERGY STAR New Homes Support

Section 4-2: Whole Building Programs > Residential > New Homes

- Capture financial value of ENERGY STAR new homes in key services (EPA)
 - Continue training for appraisers-“How to Value an Energy Efficient Home”
 - “Design to Earn” label for architects (Q2 2010)
 - Continue ENERGY STAR Financing with primary lenders / secondary investors
 - Affordable housing outreach through housing finance agencies and public housing authorities
 - Work with manufacturers (insulation, windows, HVAC) to promote better mortgage rates, lower insurance premiums, and higher appraised values for ENERGY STAR New Homes
- Pilot test ENERGY STAR V.4 specification (Concept home)
- Develop Renewable Energy (RE) Ready New Home Specification (EPA)
 - Develop standardized approach to RE Ready Home specifications for a set of onsite renewable energy technologies
 - Develop a framework for supporting the deployment, verification and documentation of Specification
 - Integrate into existing ENERGY STAR V4 and other program delivery mechanisms

DOE New Construction RD&D

Section 4-2: Whole Building Programs > Residential > New Homes

- Demonstrate cost neutral, energy savings in all five climates
 - 40% savings in 2010
 - 50% savings by 2015
 - Coordinate with EPA to build into ENERGY STAR specifications
- Component R&D - Pathway to Low Energy Homes:
 - Space Conditioning Systems (2011)
 - Automated Home Energy Management (2012)
 - Lighting (2013)
 - PV & PVT (2014)
 - Miscellaneous Electric Loads (2014)
 - Domestic Hot Water (2015)
 - Cold Climate Windows (2015)
- Documentation: Methods to Value Energy Efficiency and Best Practices

Home Performance with ENERGY STAR (HPwES)



Section 4-2: Whole Building Programs > Residential > Retrofit

- Test Alternative Delivery Models
 - Contractor-based delivery pilot in Northern Virginia (DOE/EPA)
 - Audit with Direct-Install component
 - Remodeler program – “No Net Energy Increase” remodels with HPwES
 - Delivery system for affordable housing networks
- Recruitment & Sponsor Outreach (EPA)
 - Recruit new program sponsors
 - Marketing Campaigns to support HPwES sponsors
 - Clean Energy Markets Outreach to utilities
 - Continue outreach through CEE, AESP, NASEO, ACI, Efficiency First



HPwES: Offerings and Outreach

Section 4-2: Whole Building Programs > Residential > Retrofit

- Enhance HPwES Program Guidelines and Offerings
 - Require minimum energy efficiency improvement for qualified HPwES jobs (20%)
 - Audit quality assurance programs of sponsors
 - Set minimum credential requirement for contractors
 - Develop guidance for estimating energy savings
 - Expand ENERGY STAR Finance
 - Expand HPwES to multi-family high- and mid-rise
 - Support credentialing organizations (BPI, RESNET, NATE and others)
 - Include elements of the NBRP in HPwES where appropriate and consistent with program objectives
- Continued public awareness of energy efficiency
 - Develop new graphic for homeowners to show “Home Improved under guidelines specified under Home Performance with ENERGY STAR”
 - Yardstick, pod-casts, Home Energy Advisor, HPwES homeowner profiles
 - Participate in the ENERGY STAR “Change the World Campaign”
 - Big box retailer promotions

Technical Assistance

Section 4-2: Whole Building Programs > Residential > Retrofit

- Weatherization Assistance Program tools, training, and worker certification
 - Specifications for retrofit measures
 - Worker training and certification requirements
 - Audit tools
- New business models under EECSBG \$400 M competitive grant
 - Address information, delivery and financing
- New state assistance under SEP competitive grant (up to \$23 M)
 - Address information, delivery and financing

DOE R&D

Section 4-2: Whole Building Programs > Residential > Retrofit

- Technology R&D: reduce energy use by 50% or more
 - Miscellaneous Electric Loads Reduction
 - High R walls
 - Attics: bring ducts into conditioned space, seal air leaks
 - Home Automation with owner feedback
 - Moisture Management
 - Access to Un-insulated spaces
 - Evaluate Combustion Safety & IAQ in Air Sealing Retrofits
- Technical Resources
 - 40% Best Practices for the Mixed Humid and Cold Climates (2010)
 - Retrofit Best Practices guide
 - Retrofit Quality Assurance guide and Procedures (2010)
 - Health & Safety Protocol
 - Business Case Studies
- Complete BESTEST EX - software approval procedure
- Evaluate and improve audit protocol

Roles and Coordination

- Roles
 - DOE/EPA development coordination on operational ratings (such as The Yardstick)
 - EPA alignment of HPwES with the NBRP products
 - EPA will lead HPwES sponsor recruitment and operations
- Coordination
 - Greater coordination between DOE/EPA on future labeling programs
 - EPA and DOE residential staff shall meet at least once a month initially to coordinate efforts, assuring:
 - That HPwES and ENERGY STAR New Homes take advantage of program efforts and research at DOE
 - That DOE research and NBRP benefit from EPA's experience and understand EPA's programmatic needs to implement ENERGY STAR to its full potential