



**Memorandum of Understanding on
Improving the Energy Efficiency of Products and Buildings
Between
The U.S. Environmental Protection Agency
and
The U.S. Department of Energy**



I. Overview and Purpose

- Purpose: Enhanced and expanded federal programs to advance energy efficiency are critical to addressing climate change, economic, and energy security issues.
- Common Goals and Objectives: The U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy (DOE) are agreeing to:
 - Expand and enhance federal energy efficiency programs so as to improve the efficiency of a broad set of energy-using products and improve the efficiency of the nation's buildings,
 - Build upon the important roles of each Agency in advancing energy efficiency in products and buildings, and
 - Realign program roles and responsibilities to most effectively implement these programs and systematize coordination across the two Agencies on energy efficiency so as to best utilize the expertise and resources of each Agency.
- Scope: The EPA and the DOE will coordinate to expand and enhance the ENERGY STAR program and the National Building Rating Program.
 - The ENERGY STAR label will identify top performing, cost-effective products, homes, and buildings.
 - The National Building Rating program will provide efficiency ratings and assessments of cost-effective improvements for homes and buildings.
- Collaborative Structure: The DOE will be the lead Agency on the National Building Rating program and EPA will be the lead Agency on the ENERGY STAR program. A Governing Council will be established comprised of the DOE Assistant Secretary for Energy Efficiency and Renewable Energy and the EPA Assistant Administrator for Air and Radiation. 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, and
 - Hold meetings twice annually with stakeholders.
- Relationship to Past Agreements: This agreement discontinues the coordination between the Agencies as outlined in the 1996 EPA and DOE *Memorandum of Cooperation on*

Energy Efficient, Environmentally Beneficial Buildings, consistent with the transition established under section V., and becomes the primary applicable agreement on Agency roles and responsibilities as referenced in the Energy Policy Act of 2005, Section 131.

- Communication and Outreach: EPA and DOE will jointly explain the agreement to other Agencies, stakeholders and Congress and provide opportunities for stakeholder comments on these programs.
- Agency Authorities: The EPA undertakes the activities outlined in this agreement under the authorities of the Clean Air Act, Section 103(g); Pollution Prevention Act of 1990, Sections 6602, 6603, 6604, and Energy Policy Act of 2005, Section 131.

The DOE undertakes the activities outlined in this agreement under the authorities of the Department of Energy Organization Act, Section 646, as amended; the Energy Policy and Conservation Act, Section 337, as amended; and Energy Policy Act of 2005, Section 131.

II. Overview of Programs

This agreement applies to the following two programs in which the Agencies both have important roles. The Agencies will work to enhance these programs through the roles and responsibilities as outlined below for each Agency. These programs will be implemented in coordination as appropriate with other efficiency programs at each Agency and consistent with each Agency's applicable existing international or domestic agreements.

ENERGY STAR Products Program

- **Program design:** The ENERGY STAR products program will be enhanced in the following ways:
 - (1) Specifications will be set so that the ENERGY STAR logo is applied consistently with established program principles and with approximately only the top quartile of products eligible.
 - (2) Product coverage will be expanded to include new consumer products with high energy saving potential.
 - (3) Verification of compliance with program requirements will be increased and efforts will be enhanced to identify and address product performance issues.
 - (4) An ENERGY Super Star program will be nested within the ENERGY STAR program to enable consumers to identify the top performing products.
- **Roles and Responsibilities:**
 - 1) Management. The EPA will manage the ENERGY STAR products program and the new Super Star program, in consultation with DOE.
 - 2) Testing for Program Purposes. EPA will maintain product testing results data with support from DOE as agreed to by the Agencies. DOE will lead the development of product testing procedures and metrics with EPA assisting where necessary.

- 3) Specification Levels. The performance levels for the ENERGY STAR for products will be set by EPA, with technical support provided by DOE, including technology analyses to help inform appropriate performance levels and program monitoring.

National Building Rating Program

- ***Program design:*** The National Building Rating program will be enhanced in the following ways:
 - 1) A comprehensive whole building scale-based rating tool will be developed and promoted that reflects both the physical characteristics of a building (asset rating) and a way to compare the actual energy use of existing buildings with similar buildings.
 - 2) A labeling scheme will be developed to easily convey the energy use information from the whole building scale-based rating tool.
 - 3) The whole building scale-based rating tool will take account of the inherent building envelope, major energy-using equipment and appliances, and past performance based on utility bills.
 - 4) The whole building scale-based rating tool will be updated periodically to reflect improvements in building technology and analytical tools, and to enhance usability.
 - 5) The eligibility of buildings for the ENERGY STAR logo as applied to buildings will be based on the rating systems of the National Building Rating Program.
 - 6) The criteria for the ENERGY STAR logo will be updated periodically to reflect improvements in building energy efficiency, diagnostic capability, and market appetite for energy efficiency, and will be based on established program principles for the ENERGY STAR brand.
- ***Roles and Responsibilities:***
 - 1) Management. DOE will manage the National Building Rating program including the development of the whole building scale-based rating tool and associated labeling scheme, in consultation with EPA. EPA will continue its efforts to encourage key stakeholders to build new buildings to ENERGY STAR levels and improve existing buildings.
 - 2) Testing for Program Purposes. DOE will maintain building performance data with support from EPA as agreed to by the Agencies. EPA will support various aspects of the program and assist DOE with input to help inform development of the framework, tools, and updates of the rating schemes
 - 3) Specification Levels. The performance levels for the ENERGY STAR when applied to buildings will be set by EPA, with technical input provided by DOE and the National Building Rating Tool, consistent with established principles for the program.

Overall program coordination

- DOE and EPA will periodically evaluate and as appropriate modify their program efforts to ensure that the ENERGY STAR and National Building Rating programs are mutually reinforcing and coordinated.

III. Specifics on ENERGY STAR Program

The specifics of the enhanced program, roles and responsibilities and coordination mechanisms are provided below for the enhanced ENERGY STAR products program and one enhancement in particular -- a new “Super Star” element of the ENERGY STAR program.

Enhanced ENERGY STAR Products Program

- **Program Design**. The ENERGY STAR label will identify energy efficient products that offer meaningful energy savings (at an individual and/or national level) over those products typically purchased.
 - Specifications will be established which overlay the consumer perspective and the need to consistently identify top performing products.
 - Specifications will be set to recognize products that are cost-effective from the purchaser standpoint; offer at least equivalent functionality and features as standard products; and are proven and broadly available. Cost-effectiveness in terms of payback periods will be defined on a case-by-case basis, taking into account both the expected useful life of the product and the general desirability of shorter payback periods, but will in general be 3-5 years.
 - To identify top performing products, ENERGY STAR specifications will be set to identify approximately the top 25% most efficient of models within a product class under the ENERGY STAR specification at the time that specification becomes effective, with consideration of expected improvements in product efficiency and market penetration trends of those products that will take place between establishing a specification and the specification becoming effective.
- **ENERGY STAR Products Program Enhancements**
 - **Broader Product Coverage**. To build on the high national brand awareness, the program will aim to cover as many energy using consumer products as possible, with a focus on product categories in widespread use and with significant energy consumption. A list of products to be added to the ENERGY STAR program will be developed as part of an annual planning process with the goal of doubling the annual addition of products from the current level, based on the availability of resources.
 - **Up-to-date and More Stringent Specifications**. Measures (as appropriate for the different types of products covered in the program) will be implemented, in accordance with applicable procedures for stakeholder notice and comments and international agreements, to ensure that ENERGY STAR specifications are tightened as necessary for ENERGY STAR to consistently represent top performing products.
 - Product shipment data for ENERGY STAR qualifying products will be collected from manufacturers and analyzed on an annual basis to determine which specifications warrant updating.
 - For product categories with longer-lived product models (e.g. heating and cooling, home appliances), specifications will be reviewed for a possible revision at a minimum of every three years or once the market share for ENERGY STAR qualifying products reaches about 35%.

- For product categories with rapidly evolving product models (e.g., consumer electronics, office equipment), specifications will be updated about every two years, including the use of out-year criteria that anticipate improving energy efficiency performance based on market trends.
 - For product categories with large variations in product size (with impacts on energy use), overall limits for energy use may be incorporated into ENERGY STAR specifications.
 - Verification of ENERGY STAR Qualifying Products. Verification of ENERGY STAR qualifying products will be enhanced in two ways:
 - All products will be required to be tested in an accredited laboratory and qualifying product information be submitted to the government before the product can be qualified as ENERGY STAR.
 - Enhanced “off-the-shelf” product testing will be instituted across the full suite of ENERGY STAR covered product categories through a combination of EPA/DOE testing, manufacturer funded/EPA-DOE administered testing, or other third party testing.
 - Product-specific performance improvement programs. Product-specific installation and maintenance programs (e.g. ENERGY STAR Quality Installation of HVAC equipment) will be developed and expanded where necessary to pursue the full energy savings potential of the ENERGY STAR qualifying products.
 - Additional Technical Work on Testing Procedures. The ENERGY STAR program will also be enhanced by drawing upon additional research commissioned to review and improve existing test procedures for energy use and other performance requirements as well as other performance related issues, in accordance with applicable procedures for stakeholder notice and comments.
 - Program planning. Recommendations on key program elements and resource needs will be part of the annual program plan, or identified as needed, and will be made to the Governing Council for approval and concurrence.
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- Agency Roles and Responsibilities.
 - EPA will be the brand manager of the ENERGY STAR products program consistent with the program design. These brand management responsibilities include marketing, education and outreach, partner relationships, program integrity functions (e.g., logo use and monitoring), and specification development.
 - EPA will establish the performance levels for the ENERGY STAR for products programs, with technical support provided by DOE. Building on the skills and knowledge acquired through its statutory responsibilities in setting standards for certain energy-using products, DOE will provide technical support in the areas of test procedure and metric development, review, and improvement as well as product testing and verification. DOE will lead the development of testing procedures and metrics, with assistance from EPA where necessary.
 - EPA will maintain a database of product testing results, with support from DOE as agreed to by the Agencies.
 - EPA will develop a list of products to be added to the ENERGY STAR program each year, in consultation with DOE.

- Recommendations on key program elements and resource needs will be part of the annual program plan, or identified as needed, and will be made to the Governing Council for approval and concurrence.

ENERGY STAR “Super Star” Program

- Program Design. The Super Star program will promote a “top-tier” of energy efficient products in a given category; it will cover approximately 5% of products in a given category and will, when appropriate, be supportive of products that have a longer payback period than those products under the main ENERGY STAR logo.
 - The Super Star program will promote advanced technologies to drive market acceptance of these “top-tier” efficient products and technologies.
 - These advanced products and technologies will meet consumer needs for performance, cost effectiveness, and additional environmental benefits, as appropriate to effectively target a meaningful segment of the broad consumer market
 - The need and opportunity for incentives linked to these “top-tier” products will be assessed and pursued as appropriate, and as permitted under law.
 - In terms of labeling and brand identity, the Super Star program will be “nested” within the ENERGY STAR program. A marketing and brand analysis will be undertaken to provide the most effective options.
 - Efforts will also be developed through a process consistent with this MOU, to explore and advance products and technologies that are likely candidates for the ENERGY STAR / Super Star program that may with some additional assistance meet the criteria for these programs.
 - Recommendations on key program elements and resource needs will be part of the annual program plan, or identified as needed, and will be made to the Governing Council for concurrence.
- Agency Roles and Responsibilities
 - Super Star will be nested within the existing ENERGY STAR program, and EPA will be the brand manager of the effort. These brand management responsibilities include marketing, education and outreach, partner relationships, program integrity functions (e.g., logo use and monitoring), and specification development.
 - EPA will determine performance levels for products to qualify for the ENERGY STAR logo, with support from DOE. Building on the skills and knowledge acquired through its statutory responsibilities in setting standards for certain energy-using products, and its role in developing and deploying cutting edge technologies, DOE will provide technical support to Super Star in the areas of test procedure and metric development, review, and improvement as well as product testing and verification. DOE will lead the development of testing procedures and metrics, with assistance from EPA where necessary.
 - EPA will maintain a database of product testing results, with support from DOE as agreed to by the Agencies.
 - EPA will develop a list of products to be added to the ENERGY Super Star program, in consultation with DOE.
 - Recommendations on key program elements and resource needs will part of the annual program plan or as needed and will be made to the Governing Council for concurrence.

Coordination Mechanisms

- EPA and DOE shall coordinate on communication of enhancements to the ENERGY STAR Program so as to ensure stakeholders have sufficient time to comment on and to adopt these enhancements.
- EPA and DOE shall jointly commission a marketing analysis to assess the market position of the ENERGY STAR brand and assist in design of the Super Star program.
- An annual planning meeting between key Agency staff shall be held to review priorities and establish annual work plans with regard to the ENERGY STAR program and the Super Star program.
- Quarterly progress updates shall be delivered to the Governing Council.
- EPA will provide support and cooperation through the ENERGY STAR program to DOE enforcement efforts under the Federal minimum energy efficiency standards for appliances, as appropriate.

IV. Specifics on National Building Rating Program

The specifics of the enhanced program, roles and responsibilities and coordination mechanisms are provided below for the National Building Rating program.

- Program Design. The National Building Rating program will provide guidance for building energy retrofits based on state-of-the-art cost and performance data and a national, comprehensive energy efficiency rating system for both residential and commercial buildings.
 - The program's rating system will address the building's physical characteristics (the "asset measurement") and past energy performance (the "operational measurement") as well as its performance relative to other similar buildings ("benchmarking"). These measurements build upon existing tools, including EPA's commercial and residential building benchmarking tools.
 - The program will use a labeling scheme that conveys building energy use information from the rating system to residential and commercial building owners, energy managers, purchasers and other stakeholders
 - The program will provide information on specific, actionable and cost-effective energy retrofit measures for residential and commercial buildings to owners, energy managers and purchasers. These measures will be based on a comprehensive energy model of the building's physical characteristics.
 - The program will support continuous improvement of building energy-efficiency by enabling tracking of costs and impacts of energy-efficiency improvements in residential and commercial buildings, including work funded by the DOE Weatherization Assistance Program (WAP), State Energy Program (SEP), and the Energy Efficiency and Conservation Block Grant (EECBG) Program programs.
- Program Enhancements. The program will be developed and enhanced as follows:
 - A new database will be developed on baseline energy-use and implemented retrofits for residential and commercial buildings receiving Recovery Act funding. This database will be developed to be maximally compatible, to the extent practicable, with EPA's existing

datasets, and the energy-related information of the datasets integrated into one master dataset.

- A database of retrofit measure impacts and costs will be expanded, and methodologies for evaluating new and existing retrofit technologies will be upgraded, building upon ongoing DOE research in building science as well as the results of field installation of these measures. Retrofit measure effectiveness will be refined through analysis of the master buildings dataset discussed above. As new technologies and analytical methods become available, these databases will be updated accordingly.
- Free, online software tools (web applications) will be made available to enable various user groups to analyze whole-building energy use, taking into account contributions from envelope, major equipment, appliances and past performance. These tools will generate recommendations for specific, actionable retrofit measures based on information in the retrofit databases discussed above. These tools will target several different user groups, with appropriate levels of sophistication and access rights.
- A labeling scheme will be developed to convey the building rating information.
- Certification standards and training programs for home contractors and other home improvement professionals will be developed, maintained, and improved, building upon industry efforts and EPA and DOE program experience.
- Auditing programs will be developed to ensure recommendations arising from the National Building Rating Tool are undertaken well.
- A variety of efforts will be undertaken to improve the availability of energy billing data and to more broadly promote building retrofits beyond those buildings receiving assistance through Recovery Act funding.
- The most energy efficient buildings, based on the rating systems of the National Building Rating Program, may be eligible to be recognized with the ENERGY STAR logo. The criteria for the ENERGY STAR logo will be updated periodically to reflect improvements in building energy efficiency and based on established program principles for the ENERGY STAR brand.

- **Agency Roles and Responsibilities**

- DOE will collect information on all commercial buildings receiving energy-efficiency retrofit funding under SEP and EECBG Program and residential buildings receiving weatherization assistance under the WAP program, including energy consumption data and basic building information.
- DOE will maintain and continuously upgrade data on the cost and performance of building equipment and retrofit measures, drawing on EPA data sets when appropriate. This will include regionally adjusted actual costs.
- DOE will develop, validate, and update software tools for both asset rating and benchmark ratings, in consultation with EPA based on EPA's substantive experience in building benchmarking and to ensure consistency across the tools, as appropriate. These tools will provide information to owners on whole-building comparative energy use, and additionally provide decision assistance about retrofits. DOE will maintain all relevant databases used by the software tools and develop data sharing mechanisms with EPA.
- DOE and EPA will assess options for improving the implementation of key building practices and technologies as part of improving building rating systems and promoting improved building practices through appropriate mechanisms of each agency.

- DOE will develop training and certification programs for certifying energy auditors (including building inspectors) in the use of DOE energy audit software.
- DOE will oversee an audit program to ensure appropriate use of the building rating tools and recommendations.
- DOE, in collaboration with EPA, will develop certification criteria, training programs, retrofit guidance documents and manuals, and certification programs for contractors delivering whole building performance upgrades, and quality assurance / quality control requirements for assessing the quality of contractor retrofit work.
- DOE and EPA will maintain and make publicly accessible a list of federal financial incentives for home retrofits as well as information to help make claiming them easy. DOE and EPA will also promote the use of other retrofit incentives such as those from utility programs, cap and trade program allowances, and state and local tax credits.
- DOE and EPA will promote the programs outlined in this section.
- DOE, in conjunction with its Recovery Act programs and consistent with all applicable law, will work with utilities to encourage a common data format for reporting utility bills and a method for easily downloading billing data into software that will benchmark individual buildings and validate models run to estimate a building's energy use. DOE will coordinate with EPA on methods using utility data in Portfolio Manager.
- EPA will establish the performance levels for the ENERGY STAR when applied to buildings, with technical input provided by DOE and its National Building Rating Program, consistent with established principles for the program.
- EPA will periodically evaluate and as appropriate modify its ENERGY STAR program and other outreach, recognition, and certification efforts, to ensure that they are not only consistent with, but supportive of, the National Building Rating Program, as outlined in this document.
- Recommendations on key program elements and resource needs will part of the annual program plan, or identified as needed, and will be made to the Governing Council for approval and concurrence.

Coordination Mechanisms

- EPA and DOE shall coordinate on communication of enhancements to the National Building Rating Program so as to ensure stakeholders have sufficient time to comment on and to adopt these enhancements.
- An annual planning meeting between key Agency staff shall be held to review priorities and establish annual work plans with regard to the National Building Rating Program.
- Quarterly progress updates shall be delivered to the Governing Council.
- DOE and EPA will periodically evaluate and as appropriate modify program efforts to ensure that the ENERGY STAR and National Building Rating programs are mutually reinforcing and coordinated

V. Transition of Activities Between Agencies.

The implementation of this agreement will lead to the transition of certain activities between the Agencies. The specific activities and timing will be detailed through the development of annual work plans by the Agencies and reviewed by the Governing Council.

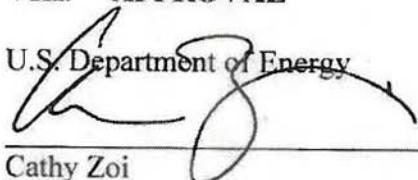
VI. LIMITATIONS

- A. All commitments made in this MOU are subject to the availability of appropriated funds and each Agency's budget priorities. Nothing in this MOU, in and of itself, obligates DOE or EPA to expend appropriations or to enter into any contract, assistance agreement, interagency agreement, or other financial obligation.
- B. This MOU is neither a fiscal nor a funds obligation document. Any endeavor involving reimbursement or contribution of funds between the parties to this MOU will be handled in accordance with applicable laws, regulations, and procedures, and will be subject to separate subsidiary agreements that will be effected in writing by representatives of both parties. Nothing in this MOU authorizes or is intended to obligate the parties to expend, exchange, or reimburse funds, services, or supplies, or transfer or receive anything of value.
- C. This MOU is strictly for internal management purposes for each of the parties. It is not legally enforceable and shall not be construed to create any legal obligation on the part of either party. This MOU shall not be construed to provide a private right or cause of action for or by any person or entity. This document does not create any right or benefit, substantive or procedural, enforceable by law or equity against DOE or EPA, their officers or employees, or any other person. This MOU does not direct or apply to any person outside DOE and EPA.
- D. This MOU in no way restricts either of the parties from participating in any activity with other public or private agencies, organizations or individuals.

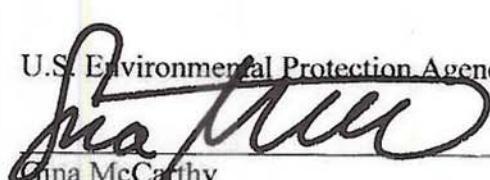
VII. MODIFICATION/DURATION/TERMINATION

This MOU will be effective when signed by all parties. This MOU may be amended at any time by the mutual written consent of the parties. The parties will review this MOU every 5 years to determine whether it should be revised, renewed, or cancelled. This MOU may be terminated by either party at anytime by one party notifying the other party in writing 90 days in advance of the termination date.

VIII. APPROVAL

U.S. Department of Energy

Cathy Zoi

Date 9/30/2009

U.S. Environmental Protection Agency

Gina McCarthy

Date 9/30/2009