

**Testimony on the Environmental Protection
Agency's Energy Star Programs**

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The Polyisocyanurate Insulation Manufacturers Association (PIMA) is pleased to testify on EPA's fiscal year 2008 appropriations for the Energy Star programs. These programs have proven to be highly successful in preventing pollution caused by energy production and generation. PIMA urges Congress to continue its strong bipartisan support for these programs and to increase funding to \$70 million (\$20 million above the fiscal year 2006 appropriations).

PIMA is the trade association for manufacturers of rigid polyiso foam insulation, a product that is used in over 60 percent of new commercial roof construction, in 30 percent of new residential construction that uses insulated sheathing, and in most re-insulation of existing commercial building roofs. PIMA members have a nationwide presence with 31 polyiso manufacturing facilities in 16 states and Canada. PIMA and its members are strong supporters of federal programs and policies that promote cost-effective improvements in the energy efficiency of buildings, both residential and commercial.

The voluntary Energy Star programs are innovative and effective policies that have been established to address critical environmental problems. Instead of burdening taxpayers with expensive subsidies or burdening industry with cumbersome regulatory mandates, the Energy Star programs remove market barriers to early acceptance of energy efficient technology. EPA is the necessary catalyst in this ongoing market transformation process that allows our economy to work efficiently while becoming less energy intense. We believe that EPA should be applauded for its creative and economically sound thinking in finding solutions to environmental problems.

Energy Star, along with EPA's other voluntary climate protection programs, are all the more essential considering they represent the most important and reliable tools under the current administration's policy portfolio for addressing the dangers posed by climate change. The administration is relying on these programs to achieve a significant portion of its February 2002 pledge of reducing greenhouse gas intensity by 18 percent by 2012.

This testimony focuses on the individual Energy Star programs that PIMA members participate in: Energy Star Homes; Energy Star Home Sealing; Energy Star Buildings; and Energy Star Roofs.

As part of the country's efforts to prevent air pollution and reduce the emissions of global warming gases, EPA launched the Energy Star Homes program in 1995. Household energy use is a major source of U.S. carbon dioxide (CO₂) emissions, accounting for about 20 percent of total emissions. Home energy use is a significant cause of other air pollutants as well, such as sulfur dioxide, nitrogen oxides, and particulate matter. The Energy Star Homes program reduces energy use and prevents pollution by encouraging builders and developers to construct energy-efficient homes. Energy improvements result from the use of improved insulation, tighter ducts, high efficiency heating and air conditioning, and high performance windows.

In general, Energy Star homes are new homes that are at least 15 to 20 percent more energy-efficient, depending on climate zone, than a comparable home built to the 2004 International Residential Code (IRC). Although the value of these homes is greater than those that are less energy efficient (*i.e.*, a higher sticker price), Energy Star homes actually cost less to own and operate on a monthly basis than comparable homes that are not as energy efficient. This is because the savings from lower monthly energy bills is greater than the small increase to a person's monthly mortgage payment due to the extra energy saving features. In addition, some banks provide favorable mortgages for energy-efficient homes, lowering monthly payments even more. The average annual net savings for a person owning an energy star home is \$300.

As of the end of 2006, more than 700,000 new homes have earned the Energy Star designation (approximately 174,000 new homes in 2006 alone), "locking in" financial savings for homeowners of more than \$170 million annually. In 2006, Energy Star homes achieved market penetrations as high as 60 percent in some key areas of the country and 12 percent nationally. Also, more than 3,000 homebuilders have joined the program, including 60% of the top 100 U.S. builders, according to the EPA. The long-term goal of the program is a 60% market penetration nationwide by 2012 (*i.e.*, 860,000 new energy star homes). This would result in a cumulative carbon emission reduction of 9 million metric tons and energy savings to homeowners of over \$4 billion.

The Energy Star Label for Buildings program is designed to facilitate comparisons of commercial building energy performance and recognize the most efficient and cost effective buildings in the country. This program considers and hopes to influence the design, construction, and energy efficient operation of buildings. It is essentially a benchmarking tool, with the Energy Star label being awarded to the top performers. According to EPA, these buildings use about 35% less energy than average buildings. Moreover, approximately 400 of the top performing energy star buildings use 50% less energy. Through January of this year, 3,200 buildings have earned the Energy Star designation, saving \$600 million annually in energy costs and reducing greenhouse gas emissions equal to the emissions from almost 900,000 vehicles.

The Energy Star Home Sealing program is aimed at energy use in the existing housing stock. Manufacturers of insulation, windows and other products work together to educate contractors, retail sales people and consumers about R-values and the proper use of home envelope components. This program had its start in 1996 as the Energy Star Insulation program, but in 2002 evolved into a program that adopted more of a systems approach that considers the entire building envelope and a broader range of products.

Another Energy Star program that we would like to highlight is the Energy Star Roofs program, which awards the Energy Star label for roof products based on their solar reflectance. In the development of this program, PIMA applauds EPA for its willingness to examine other methodologies for determining cool roofs, including the use of high thermal performance and ballasted stone systems. This allows architects and designers to use the appropriate roof system that works best in each climate zone and for different building types.

The Importance of a Well Funded Energy Star Program

Unfortunately, the market for energy efficient products and services does not always work as well as it should. Even though in most areas of the country it costs less to own and operate a home that is more energy efficient, this is rarely a determining criterion in designing and building homes. We believe that if it were not for building energy codes, there would be little incentive for builders to construct even minimally energy-efficient homes. The construction and marketing of new homes, which is largely controlled by the builder, is dominated by concerns over construction costs, with little thought given to energy costs. Also, the typical consumer assumes his or her new home uses the latest in building technologies, including energy-efficient technologies. Without an independent, widely accepted labeling system, such as EPA's Energy Star labels, it is too difficult for the average consumer to evaluate the energy efficiency of a new home.

Those builders with an interest in building and marketing energy-efficient homes, like most builders, are small businesses that do not have the resources to obtain unbiased information on the latest energy-efficient products and construction methods and to package an effective marketing strategy for selling energy-efficient homes. Without the information and marketing tools that are made available through the Energy Star program it might be too risky for a homebuilder to make the types of investments needed to change old habits and to build and sell energy-efficient homes.

To create the market for energy-efficient homes there has to be an organized effort to educate consumers and to teach builders how to change their old ways of approaching consumers. Because of the critical importance of reducing air pollution and greenhouse gas emissions (including energy-related CO₂ emissions), it is clearly an appropriate role for the federal government to plant the seeds of a new, more sustainable, market. As the market is transformed, it will become less dependent on EPA's efforts and the Agency will be able to reduce its support for those products and to reallocate its resources to other programs.

EPA's Assistance in the Area of Model Building Energy Codes

There currently exists something of a vacuum in terms of federal support for the development and promotion of more stringent building energy codes. Although the Department of Energy (DOE) should have primary responsibility for this task, DOE has not consistently supported positive changes to the model building energy codes and, in at least one case, has undercut other people's efforts to strengthen them. We are concerned that opportunities to improve model building energy codes will be lost due to a lack of federal support. An example is the current proposal to increase the commercial building roof and wall insulation levels for the first time in 18 years. This proposal is slowly making its way through the ASHRAE code development process, but without any visible involvement from DOE.

PIMA would like to take this opportunity to urge your support for EPA, under the Climate Protection program, to partner with DOE and become more involved in the development of the model building energy codes. Buildings represent 39% of the energy consumed in this country. If this energy use is going to be reduced, then it is clear to me that codes are the most effective and efficient method to realize that result.