Market Transformation
Through Effective Public-Private
Partnerships
As consumers become more educated and familiar with all of the benefits that energy efficiency has to offer, in five years non-ENERGY STAR rated homes will become functionally obsolete.

— Home Appraiser, Melbourne, FL

DID YOU KNOW . . .

For the past 10 years, the U.S. Environmental Protection Agency's (EPA) ENERGY STAR has worked with the housing industry, utilities, states, and consumers to advance energy efficiency. Today, 20 to 40 percent or more of new housing starts have been achieved in a growing number of regional markets.

• Over 360,000 ENERGY STAR qualified homes have been built nationwide.
• More than 2,500 builders are committed to building ENERGY STAR qualified homes.

The ENERGY STAR program has demonstrated how a broad-based partnership under this government-backed consumer label can be used as an effective tool for market transformation. EPA and its partners on track for meeting EPA’s goal of 40 percent market penetration of annual new homes built nationwide. In 2004, non-ENERGY STAR rated homes accounted for nearly 17 percent of annual U.S. greenhouse gas emissions and 15 percent of energy consumption nationwide. By 2012, EPA expects ENERGY STAR in 90 percent of new homes built. Since 1992, ENERGY STAR’s efforts to change our lives for the better and the energy efficiency community are nearing 10 percent market penetration of annual new homes built nationwide.

Recognizing that energy consumed in homes accounts for nearly 17 percent of total U.S. greenhouse gas emissions and 15 percent of energy consumption nationwide, EPA expanded ENERGY STAR in 1995 to include new home construction. Since then, ENERGY STAR’s presence in the building industry has grown dramatically:

• More than 3,300 builders are committed to building ENERGY STAR qualified homes.
• Over 360,000 ENERGY STAR qualified homes have been built nationwide.
• ENERGY STAR is nearing 10 percent market penetration of annual new homes built nationwide.

This growth has ENERGY STAR and its partners on track for meeting EPA’s goal of 80 percent market penetration nationwide by 2012, which would have a cumulative effect of preventing nearly 9 billion metric tons of carbon emissions and saving homeowners over $4 billion in energy bills. Under the ENERGY STAR banner, businesses, organizations, and consumers saved about $50 billion in energy costs in 2004, demonstrating a broad-based partnership under this government-backed consumer label can be used as an effective tool for market transformation. EPA looks forward to another decade of success in partnership with the home building industry, its trade allies, existing energy efficiency community, continuing ENERGY STAR’s efforts to change our lives for the better.

Kathleen Hogan
Director
Climate Protection Partnerships Division
U.S. Environmental Protection Agency

As consumers become more educated and familiar with all of the benefits that energy efficiency has to offer, in five years non-ENERGY STAR rated homes will become functionally obsolete.
TIGHT DUCTS
MORTGAGE
TIGHT CONSTRUCTION
COST
EFFECTIVE INSULATION

Each ⚛

Improved comfort with even temperatures
Improved indoor air quality from tighter

ENERGY
50 states and the District
$35

QUALIFIED HOMES–2004
SHARE OF ENERGY STANDARDS WITH HIGHEST QUALIFIED HOMES
ALASKA 54% IOWA 29% NEVADA 34% RHODE ISLAND 14%
ARIZONA 14% LOUISIANA 13% OHIO 12% TEXAS 27%
CALIFORNIA 13% MASSACHUSETTS 10% OREGON 11% VERMONT 20%
HAWAII 25% NEW JERSEY 23% NEW YORK 13%

The number of ENERGY STAR qualified homes is proving to be an effective force for change as qualified homes approach and exceed 20 percent market penetration in an increasing number of areas. Behind this growth are strong local housing market in a number of large metropolitan areas and states—the result of forming key public-private partnerships with the home building industry. These homes use about 30 percent less energy than they otherwise would and are helping prevent a significant amount of greenhouse gas emissions from entering our air. This shift to more energy-efficient homes has saved Americans an estimated $200 million in energy costs and eliminated nearly 4 billion pounds of greenhouse gas emissions. These figures continue to grow.

In addition, these homes are independently verified to meet ENERGY STAR® guidelines. To qualify their homes for the ENERGY STAR® label, builders incorporate strict energy efficiency guidelines set by the Model Energy Code, or 15% more efficient than homes built to the national energy code, whichever is more rigorous. Homes that earn the ENERGY STAR® label are more energy efficient than those typical elements built into ENERGY STAR qualified homes include:

- Efficient heating and cooling equipment
- High performance windows
- Ventilation for better indoor air quality
- Improved building envelope (insulation, air-sealing)
- Water efficient landscaping

These homes are built to the minimum energy code requirements. Builders sp

BETTER BUILDING PRACTICES AND TECHNOLOGY
QUALIFIED HOME
FOR AN ENERGY STANDARDS
CASH-FLOW
SAMPLE MONTHLY PAYMENTS

• Reduced utility
• Increased cash flow
• Improved comfort
• Lower mortgage
• Reduced moisture and other pollutants
• Improved indoor air quality from tighter construction that limits penetration of moisture and other pollutants from room to room
• Improved moisture control
• Lower operating costs due to energy savings

These homes serve income, and improve air quality and better moisture control.

Optional: Date:

1. Identify
2. Verify
3. Sign

Builder

Environmental Information:

www.energystar.gov

© Energy Star

CAUTION! Not all ENERGY STAR qualified homes are air tight. This report was prepared for the purpose of identifying ENERGY STAR qualified homes. It is intended to be an aid to homeowners and builders in the development of energy efficient homes. It is not intended to be a substitute for a professional home energy audit.

This report was prepared for the purpose of identifying ENERGY STAR qualified homes. It is intended to be an aid to homeowners and builders in the development of energy efficient homes. It is not intended to be a substitute for a professional home energy audit.

This report was prepared for the purpose of identifying ENERGY STAR qualified homes. It is intended to be an aid to homeowners and builders in the development of energy efficient homes. It is not intended to be a substitute for a professional home energy audit.

This report was prepared for the purpose of identifying ENERGY STAR qualified homes. It is intended to be an aid to homeowners and builders in the development of energy efficient homes. It is not intended to be a substitute for a professional home energy audit.

This report was prepared for the purpose of identifying ENERGY STAR qualified homes. It is intended to be an aid to homeowners and builders in the development of energy efficient homes. It is not intended to be a substitute for a professional home energy audit.
DESIGNS OF A DECADE—ENERGY STAR’S IMPACT ON HOME BUILDING

ENERGY STAR qualified homes represent 20 to 40 percent of the new housing market in a number of large metropolitan areas and states—the result of forming key public-private partnerships with the home building industry.

The number of ENERGY STAR qualified homes grew from only 55 in 1995 to more than 300,000 by the end of 2006. Today, some 2,500 home builders spanning each of the 50 states and the District of Columbia have committed to building ENERGY STAR qualified homes. These homes use about 38 percent less energy than they otherwise would and are helping prevent a significant amount of greenhouse gas emissions from entering our air. This shift to more energy efficient homes has saved Americans an estimated $200 million in energy costs and eliminated nearly 4 billion pounds of greenhouse gas emissions. These figures continue to grow.

ENERGY STAR is proving to be an effective force for change as qualified homes approach and exceed 20 percent market penetration in an increasing number of areas. Behind this growth are strong local champions committed to building and selling more energy-efficient homes, utility programs that promote better home energy performance, and large production builders who understand the value of building ENERGY STAR qualified homes.

In addition, these homes are independently verified to meet ENERGY STAR performance guidelines set by the EPA. This results in a whole system of building improvements that make these homes more energy efficient than those built to the minimum energy code requirements.

In addition, these homes are independently verified to meet ENERGY STAR performance guidelines. Typical elements built into ENERGY STAR qualified homes include:

- **EFFICIENT HEATING AND COOLING EQUIPMENT**: Homes that earn the ENERGY STAR label. These energy efficiency improvements deliver impressive performance advantages, such as:
  - Improved comfort with even temperatures from room to room
  - More durability with longer lived equipment and better moisture control
  - Improved indoor air quality from tighter construction that limits penetration of moisture and other pollutants

- **TIGHT CONSTRUCTION**: Refrigeration losses are reduced and moisture and other pollutants are limited.

- **HIGH-PERFORMANCE WINDOWS**: Homes are more rigorous.

- **VERIFIED TO MEET ENERGY STAR REQUIREMENTS**: The need for energy and the associated greenhouse gas emissions are reduced.

- **ADDED INCOME**: The value of homes that earn the ENERGY STAR Label is more rigorous.

ENERGY STAR qualified homes include:

- **EFFECTIVE INSULATION**: The number of ENERGY STAR rated homes exceeds all others.

- **TIGHT DUCTS**: Greater environmental protection by reducing the need for energy and the associated greenhouse gas emissions.

- **EFFECTIVE INSULATION**: Reduced energy and water heating than homes built to the Model Energy Code, or 15 percent more efficient than the state energy code, whichever is more rigorous.

To qualify their homes for the ENERGY STAR label, builders incorporate energy-efficient features such as:

- Better home energy performance
- Large production builders who understand the value of building ENERGY STAR qualified homes
- Utility programs that promote better home energy performance
- Strong local champions committed to building and selling more energy-efficient homes

These homes deliver significant performance advantages, such as:

- Improved comfort with even temperatures from room to room
- More durability with longer lived equipment and better moisture control
- Improved indoor air quality from tighter construction that limits penetration of moisture and other pollutants

These homes use about 38 percent less energy than they otherwise would and are helping prevent a significant amount of greenhouse gas emissions from entering our air. This shift to more energy efficient homes has saved Americans an estimated $200 million in energy costs and eliminated nearly 4 billion pounds of greenhouse gas emissions. These figures continue to grow.

ENERGY STAR is proving to be an effective force for change as qualified homes approach and exceed 20 percent market penetration in an increasing number of areas. Behind this growth are strong local champions committed to building and selling more energy-efficient homes, utility programs that promote better home energy performance, and large production builders who understand the value of building ENERGY STAR qualified homes.
Building energy-efficient homes that cost less to own and help protect the environment is good business.

The number of ENERGY STAR qualified homes built annually has nearly doubled in each of the past 5 years. Such impressive growth indicates that homebuilders correlate building energy-efficient homes with higher profit margins. Constructing ENERGY STAR qualified homes allows builders to:

INCREASE REVENUE—Built-in energy-saving features enhance a home’s value and can raise builders’ revenues; energy savings may make additional upgrades affordable to buyers, further increasing revenue.

EARN RECOGNITION—Builders gain distinction as leaders in energy-efficient construction and environmental stewardship while increasing consumer awareness and preference for ENERGY STAR qualified homes.

ENHANCE CUSTOMER SATISFACTION—Energy-efficient features give added value and comfort to customers.

REDUCE LIABILITY—Better built, energy-efficient homes can reduce customer call backs and complaints.

IMPLEMENT A PROVEN MARKETING PLATFORM—Builders gain access to proven marketing tools and information from experts in the building and selling of ENERGY STAR qualified homes.

Evidence that ENERGY STAR adds value for home builders in the form of enhanced customer satisfaction is found in a J.D. Power home builder study released in 2004. The study shows that, on average, builders who are ENERGY STAR partners receive higher homebuyer satisfaction ratings than those who are not. Another study shows that corporate social responsibility is a concern among 80 percent of the general population. Most consumers will either avoid or patronize a business on the basis of its commitment to socially responsible business practices. Builders, therefore, can use their status as ENERGY STAR partners to their marketing advantage.

As one of the nation’s fastest growing cities, and a city with substantial energy demands for air-conditioning powered by coal-fired power plants, Las Vegas presented a great opportunity for reducing greenhouse gas emissions through the construction of ENERGY STAR qualified homes. This provided the incentive and encouragement for a group of large production builders looking for additional market recognition and a competitive advantage, along with an infrastructure capable of meeting the demand for third-party verification of ENERGY STAR qualified homes. More importantly, Las Vegas had great local champions committed to helping the environment, including the local gas utility having industry marketing coordinators, and builders themselves who were extremely effective in working together to implement large-scale consumer marketing initiatives. As a result of the group effort, consumer awareness of ENERGY STAR qualified homes reached 80 percent in 2004, and 72 percent of a random sample of Las Vegas residents said they would consider buying an ENERGY STAR qualified home. Today, eight of the top ten Las Vegas-based home builders are ENERGY STAR partners.
SUCCESS THROUGH EFFECTIVE PARTNERSHIPS

Each of the top 10 home builders in the nation partner with EPA.

When ENERGY STAR qualified homes became available in 1995, the nation’s 100 largest builders accounted for 17 percent of all housing starts. By 2002, the top 100 largest builders accounted for nearly 50 percent of all starts. Today, they account for 58 percent. Much of the growth of ENERGY STAR qualified homes can be attributed to successful partnering with these large builders. In fact, among the nation’s largest builders, ENERGY STAR qualified homes are offered by one or more divisions of each of the top 10 builders, 23 of the top 25 builders, and nearly 50 percent of the top 100.

Manufactured homes built to the HUD-code represent the largest segment of affordable homes built in the nation. Today, approximately 70 percent of all manufactured housing plants have been qualified to produce homes earning the ENERGY STAR. Manufacturers have voluntarily transformed existing production lines to improve the energy performance of manufactured homes, knowing that ENERGY STAR qualified manufactured homes represent business opportunities among lower income home owners looking to save on their energy bills.

When EPA first introduced the ENERGY STAR label for homes, the Home Energy Rating System (HERS) industry was positioned to become the primary source of third-party verification for ENERGY STAR qualified homes and recruitment of ENERGY STAR builder partners. However, the HERS industry was not yet fully equipped to support a national program. The U.S. Department of Energy’s Building America Program stepped in and lent much needed technical support. Building America deployed a set of cooperative research teams working directly with the nation’s leading builders to develop energy efficiency innovations. These teams have successfully engaged many builders in using ENERGY STAR as a marketing platform for bringing innovations to market. This early support fueled ENERGY STAR’s initial momentum while allowing the HERS industry time to mature. Today, the HERS industry is widely developed across the country, offering building industry design and field support services as a value-added private sector service provider. Thus, Building America and ENERGY STAR dovetailed perfectly to help transform the building industry to energy-efficient building practices.

MANUFACTURED HOMES EMBRACE ENERGY STAR

Manufactured homes built to the HUD-code represent the largest segment of affordable homes built in the nation. Today, approximately 70 percent of all manufactured housing plants have been qualified to produce homes earning the ENERGY STAR. Manufacturers have voluntarily transformed existing production lines to improve the energy performance of manufactured homes, knowing that ENERGY STAR qualified manufactured homes represent business opportunities among lower income home owners looking to save on their energy bills.

MANUFACTURED HOMES EMBRACE ENERGY STAR

Manufactured homes built to the HUD-code represent the largest segment of affordable homes built in the nation. Today, approximately 70 percent of all manufactured housing plants have been qualified to produce homes earning the ENERGY STAR. Manufacturers have voluntarily transformed existing production lines to improve the energy performance of manufactured homes, knowing that ENERGY STAR qualified manufactured homes represent business opportunities among lower income home owners looking to save on their energy bills.

MANUFACTURED HOMES EMBRACE ENERGY STAR

Manufactured homes built to the HUD-code represent the largest segment of affordable homes built in the nation. Today, approximately 70 percent of all manufactured housing plants have been qualified to produce homes earning the ENERGY STAR. Manufacturers have voluntarily transformed existing production lines to improve the energy performance of manufactured homes, knowing that ENERGY STAR qualified manufactured homes represent business opportunities among lower income home owners looking to save on their energy bills.

MANUFACTURED HOMES EMBRACE ENERGY STAR

Manufactured homes built to the HUD-code represent the largest segment of affordable homes built in the nation. Today, approximately 70 percent of all manufactured housing plants have been qualified to produce homes earning the ENERGY STAR. Manufacturers have voluntarily transformed existing production lines to improve the energy performance of manufactured homes, knowing that ENERGY STAR qualified manufactured homes represent business opportunities among lower income home owners looking to save on their energy bills.

MANUFACTURED HOMES EMBRACE ENERGY STAR

Manufactured homes built to the HUD-code represent the largest segment of affordable homes built in the nation. Today, approximately 70 percent of all manufactured housing plants have been qualified to produce homes earning the ENERGY STAR. Manufacturers have voluntarily transformed existing production lines to improve the energy performance of manufactured homes, knowing that ENERGY STAR qualified manufactured homes represent business opportunities among lower income home owners looking to save on their energy bills.

MANUFACTURED HOMES EMBRACE ENERGY STAR

Manufactured homes built to the HUD-code represent the largest segment of affordable homes built in the nation. Today, approximately 70 percent of all manufactured housing plants have been qualified to produce homes earning the ENERGY STAR. Manufacturers have voluntarily transformed existing production lines to improve the energy performance of manufactured homes, knowing that ENERGY STAR qualified manufactured homes represent business opportunities among lower income home owners looking to save on their energy bills.

MANUFACTURED HOMES EMBRACE ENERGY STAR

Manufactured homes built to the HUD-code represent the largest segment of affordable homes built in the nation. Today, approximately 70 percent of all manufactured housing plants have been qualified to produce homes earning the ENERGY STAR. Manufacturers have voluntarily transformed existing production lines to improve the energy performance of manufactured homes, knowing that ENERGY STAR qualified manufactured homes represent business opportunities among lower income home owners looking to save on their energy bills.

MANUFACTURED HOMES EMBRACE ENERGY STAR

Manufactured homes built to the HUD-code represent the largest segment of affordable homes built in the nation. Today, approximately 70 percent of all manufactured housing plants have been qualified to produce homes earning the ENERGY STAR. Manufacturers have voluntarily transformed existing production lines to improve the energy performance of manufactured homes, knowing that ENERGY STAR qualified manufactured homes represent business opportunities among lower income home owners looking to save on their energy bills.

MANUFACTURED HOMES EMBRACE ENERGY STAR

Manufactured homes built to the HUD-code represent the largest segment of affordable homes built in the nation. Today, approximately 70 percent of all manufactured housing plants have been qualified to produce homes earning the ENERGY STAR. Manufacturers have voluntarily transformed existing production lines to improve the energy performance of manufactured homes, knowing that ENERGY STAR qualified manufactured homes represent business opportunities among lower income home owners looking to save on their energy bills.

MANUFACTURED HOMES EMBRACE ENERGY STAR

Manufactured homes built to the HUD-code represent the largest segment of affordable homes built in the nation. Today, approximately 70 percent of all manufactured housing plants have been qualified to produce homes earning the ENERGY STAR. Manufacturers have voluntarily transformed existing production lines to improve the energy performance of manufactured homes, knowing that ENERGY STAR qualified manufactured homes represent business opportunities among lower income home owners looking to save on their energy bills.

MANUFACTURED HOMES EMBRACE ENERGY STAR

Manufactured homes built to the HUD-code represent the largest segment of affordable homes built in the nation. Today, approximately 70 percent of all manufactured housing plants have been qualified to produce homes earning the ENERGY STAR. Manufacturers have voluntarily transformed existing production lines to improve the energy performance of manufactured homes, knowing that ENERGY STAR qualified manufactured homes represent business opportunities among lower income home owners looking to save on their energy bills.

MANUFACTURED HOMES EMBRACE ENERGY STAR

Manufactured homes built to the HUD-code represent the largest segment of affordable homes built in the nation. Today, approximately 70 percent of all manufactured housing plants have been qualified to produce homes earning the ENERGY STAR. Manufacturers have voluntarily transformed existing production lines to improve the energy performance of manufactured homes, knowing that ENERGY STAR qualified manufactured homes represent business opportunities among lower income home owners looking to save on their energy bills.
EPA will build on its success by focusing on new offerings that bring value to builders and consumers.

To ensure that ENERGY STAR remains the symbol of truly energy-efficient homes, EPA will continue applying proven strategies to expand into new areas and form new partnerships. EPA intends to bring ENERGY STAR into new regional housing markets and continue its growth in specialized housing sectors such as military housing and affordable housing. EPA will strengthen its ties to other federal housing programs such as DOE’s Building America and HUD’s Path. EPA will seek new opportunities to support local program champions and improve value for builders by strengthening energy efficiency guidelines, exploring new marketing tools, promoting ENERGY STAR qualified lighting and appliance packages, and offering an added specification for indoor air quality features. This growth strategy will build on EPA’s strong ENERGY STAR partnerships within the home building industry to further reduce greenhouse gas emissions resulting from home energy use and offer homeowners more energy-efficient, healthier homes.
We wish to thank all of our ENERGY STAR partners and supporters for their contributions to building and marketing homes that protect the environment, educating the public on the benefits of energy efficiency, and improving air quality.

• More than 2,500 ENERGY STAR Builder Partners
• 65 HERS Provider/Rater Partners
• 64 Utility/State Energy Efficiency Partners
• Residential Energy Services Network
• U.S. DOE Building America Program
• U.S. Department of Housing and Urban Development
• National Association of State Energy Offices
• Building Science Community/Associations
• Energy and Environmental Building Association
• National Association of Home Builders
• Manufactured Housing Institute
• Manufactured Housing Research Alliance