

Energy Efficiency: Getting Energy Smart

We have a choice: We can continue with business-as-usual energy use, or we can use energy smarter and waste less by investing in efficiency measures, policies, and programs. Energy efficiency can give us more control over how and when we consume energy, while maintaining the same comfort, convenience, and quality of life. For example, energy-efficient smart dishwashers are cheaper to run and can be programmed to operate at times when electricity is less expensive. Automatic lighting in refrigerated display cases saves millions of dollars in energy bills a year and keeps grocery costs down. Smart manufacturing controls optimize energy use in production processes, facilities, and even entire supply chains.

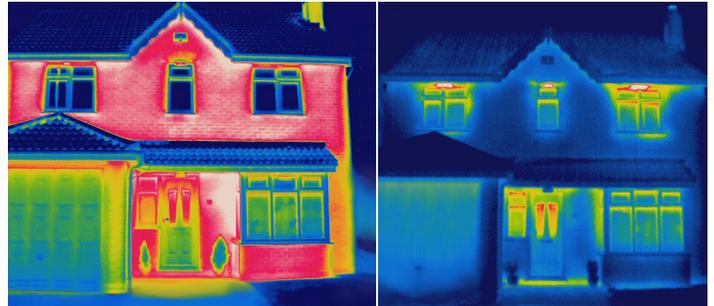
WHAT IS ENERGY EFFICIENCY?

Energy efficiency is using less energy to meet your energy needs. Increasing energy efficiency saves families money, improves business bottom lines, and creates jobs.

Energy efficiency makes our homes more affordable and our businesses more competitive—and we've barely begun to scratch the surface.

ENERGY SAVINGS ARE AVAILABLE EVERYWHERE

Consumers and businesses can invest in energy efficiency to reduce costs and improve their homes, factories, and offices. We all can reduce energy waste and save money by investing in products such as fuel-efficient vehicles, services like home energy upgrades, and processes like streamlined manufacturing operations. When we spend the money we've saved at the gas pump and on lower utility bills, it creates economic growth, jobs, and opportunity.



Thermal images showing a home before and after improved insulation. Image courtesy of <http://www.heatseekers.co.uk/>

Our Homes Homes that are built right waste less energy. Homeowners who invest in energy efficiency have more control over their energy costs, increase their comfort, and add to their home's value. New homes can be built smart from the start by installing energy-efficient equipment and appliances including smart thermostats. Owners of existing homes can invest in energy improvements by adding or replacing insulation and sealing leaky ducts, attics, and windows. Efficient heating and air conditioning systems, water heating systems, and appliances also slash energy bills. On average, owners of existing homes can readily save 25–30 percent on their energy bills through cost-effective efficiency improvements.

Our Businesses The nation's businesses, small and large, need to use energy efficiently to succeed in an increasingly competitive global economy. Businesses can become healthier, more competitive, and less vulnerable to volatile energy prices by investing in efficient lighting, heating and cooling systems, sensors, controls, motors, and other energy-saving technologies. Energy efficiency investments ripple out through the economy, increasing productivity and improving product quality.

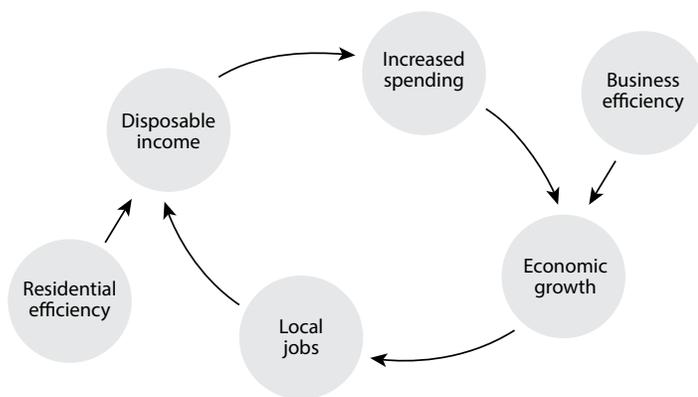
Our Cars and Trucks The transportation sector keeps

people and goods moving, but we waste a lot of energy converting transportation fuels into movement. While gasoline prices have dropped from the historically high levels of recent years, transportation fuel remains a major expense for households and businesses, and the price outlook going forward is unclear. Policies to improve vehicle efficiency and facilitate alternative modes of transport can reduce our financial risks. We can gain more control over our fuel costs through high-efficiency vehicle technologies such as downsized turbocharged engines, advanced transmissions, better aerodynamics, and hybrid-electric powertrains.

ENERGY-SAVING INVESTMENTS CREATE LOCAL JOBS

The economic benefits of energy efficiency go far beyond lower energy bills. Efficiency also promotes economic development and creates jobs. When home and business owners invest in lowering their energy costs, they support jobs in manufacturing, construction, and other sectors. Building, installing, and maintaining energy-efficient technologies and equipment create locally based jobs that can't be exported. When businesses and households save money on energy, they spend or reinvest that money elsewhere in the economy, driving more economic growth and job creation.

HOW ENERGY EFFICIENCY CREATES JOBS



NEW TECHNOLOGIES MEAN MORE ENERGY SAVINGS

There still is great potential for increasing energy efficiency around the country and in every economic sector. Most of our past efficiency gains have come from improvements in individual products, appliances, and equipment, and these will continue to play an

important role. Looking ahead, a broader approach would dramatically increase energy efficiency and related benefits.

New technologies such as smart devices connected to our homes and businesses help us gather, understand, and act on energy information to improve performance and save money. If we were to take full advantage of currently available information and communications technologies, we could reduce energy use by 12–22 percent and realize hundreds of billions of dollars in energy savings and productivity gains. Future technologies promise even greater savings. We can also realize significant efficiency gains by optimizing entire systems (such as heating, cooling, and ventilation) rather than just operating individual pieces of equipment. Energy is wasted when the pieces of a system do not work well together.

ENERGY EFFICIENCY IS KEY TO AN ALL-OF-THE-ABOVE ENERGY STRATEGY

When we invest in energy efficiency, we give consumers and businesses more choices and control over how and when they use their resources. While energy efficiency alone cannot meet all of America's energy needs, managing energy demand is just as important to our economy as ensuring energy supply. By combining the traditional American values of independence and good management with the innovative spirit that makes us the technological center of the world, energy efficiency stands out among the best strategies to protect our economic growth and quality of life for future generations.

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