

Saving Energy Helps American Businesses and Creates Jobs

Energy efficiency lets businesses improve their bottom lines by using less energy, and thus lowering costs, in their factories, offices, and stores. Smarter energy use makes businesses more competitive, provides investment opportunities, creates jobs, and promotes economic growth.

EFFICIENCY MAKES INDUSTRY COMPETITIVE

PepsiCo has saved more than \$375 million since 2010 by reducing energy use, water use, packaging, and waste.

US industry has doubled production since 1980 but uses the same amount of energy.

Reducing energy waste lowers operating costs and thus makes businesses more competitive. Often projects to increase energy efficiency help businesses in other ways too: New industrial processes can improve product quality and reduce other waste, new lighting can better display goods, and more efficient supply chains can be more reliable.

EFFICIENCY PROVIDES INVESTMENT OPPORTUNITIES

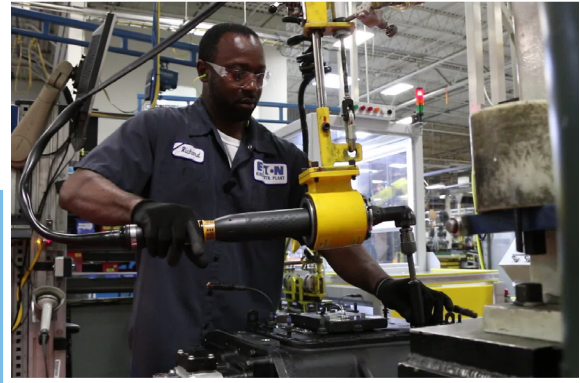
The Boral Bricks factory in Muskogee, Oklahoma, with help from Oklahoma State University, made \$79,000 in efficiency investments, yielding \$63,000 in savings each year. The Pennex aluminum foundry in Wellsville, Pennsylvania, with help from Lehigh University, invested \$138,000 and got \$255,000 in annual savings (partly from increased productivity).

Energy efficiency provides business opportunities for US plants that manufacture efficient products, for local contractors trained to upgrade homes and commercial buildings, for high-tech start-ups that analyze energy use information, and for many other companies. Some companies pay the initial cost to help clients reduce energy waste (\$6 billion nationwide in 2013) and are paid back out of the energy savings.

EFFICIENCY CREATES JOBS

More than 800,000 people in the United States had jobs related to energy and resource efficiency as of 2010. Energy efficiency could add more than one million additional jobs around the country by 2050.

Energy efficiency investments create jobs in two ways. First, the investment itself creates jobs. Often, as in construction work for a building upgrade, these projects create local jobs that cannot be outsourced. Second, the energy savings due to the investment create more jobs for years afterward as people spend the money they save on energy bills.



LOGGING FUEL SAVINGS: FROM A NORTH CAROLINA PLANT TO MICHIGAN ROADS

Jim Hansen's work week begins each Monday around 6 a.m. with a 200-mile ride up to Northern Michigan from his home to collect some 100,000 pounds of logs. That same day Hansen typically travels another 200 miles to deliver the wood to mills in Southeastern and central Michigan. The next day he does it again.

For businesses like Hansen's, fuel economy is crucial, as every gallon of diesel saved equates to revenue to reinvest in operations. After consulting with a fellow logger, Hansen decided to invest in a new Eaton UltraShift PLUS automated transmission for his new Western Star truck.

Eaton produces the transmission at its Kings Mountain, North Carolina facility. About 400 people work at the plant making transmissions that save fuel through lighter materials, fewer parts, better integration with the powertrain, and smarter shifting. The facility's efficient operation also saves energy. It is one of Eaton's centers of excellence.

Hansen now averages about 4.1 miles per gallon with his truck, which he says is very good for a heavy hauler, and his fuel savings have helped him get a larger truck that can carry more logs and allow his business to grow. "My previous truck . . . gave me a million miles of reliable performance," Hansen says. "But this new UltraShift PLUS has just made my job so much easier."

SMART BUILDINGS AND FACTORIES SAVE MONEY

The Empire State Building in New York City saved \$7.5 million over the first three years of an energy project that included new digital controls for energy-using equipment and a web-based system for real-time energy management by tenants.

Companies spend almost \$200 million each year on energy used in commercial buildings and more than \$200 million a year on industrial energy. New sensors, controls, and computing provide the opportunity for substantial energy savings and better performance through sophisticated energy management in both large and small buildings. Smart buildings provide light, heating, and air-conditioning only when and where they are needed. Smart factories optimize manufacturing processes to ensure better quality and reduce waste. But this energy revolution is still in its infancy.

ENERGY USE COMPARISONS INFORM BUSINESSES

Communities from Atlanta to Seattle are asking owners of commercial buildings to monitor their energy use and let potential buyers, tenants, and sometimes the general public know how they compare with other, similar buildings. This lets buyers and tenants know the true cost of operating in the building, and it helps current owners root out energy waste.

EFFICIENT TRUCKS AND EQUIPMENT LOWER COSTS

The average long-haul truck uses more than \$75,000 in diesel fuel per year (as of 2013). For the first time, fuel economy standards for new trucks ranging from large pickups to tractor-trailers are now reducing fuel use in the United States. These standards have wide support from the trucking industry because they lower costs. The second round should increase those savings to more than 35%, saving about \$170 billion in fuel costs. Similarly,

manufacturers are supporting efficiency standards for motors, pumps, and air conditioners for commercial buildings that will save businesses billions of dollars.

SAVING ENERGY HELPS SMALL BUSINESSES

Small businesses, such as restaurants, shops, and small factories, spend a lot of money on utility bills, but they generally cannot afford full-time energy managers. They need help to cut costs and be competitive. The US Department of Energy's Industrial Assessment Centers provide such help by training students at 23 universities around the country to do energy reviews for smaller manufacturers. And Small Business Administration loans can be used for energy efficiency improvements. In addition, many small businesses are built on opportunities in building and renovating homes, running efficiency programs, providing analysis and consulting, and doing other energy efficiency work.

A FEW POLICIES THAT HELP BUSINESSES SAVE ENERGY AND CREATE JOBS

- Research and technical assistance from utilities and universities help businesses become more competitive by increasing their productivity.
- A dozen cities across the nation have policies on tracking commercial building energy use that help root out energy waste.
- Fuel economy standards for trucks reduce the cost of shipping.



AN RX FOR ENERGY SAVINGS: WALGREENS IN EVANSTON

As you drive on Chicago Avenue in Evanston, Illinois, the new Walgreens store is hard to miss. Two steely windmills stand tall, like sentries, on either side of the building. Gleaming and spinning, these windmills supplement solar panels on the roof to power the entire store. The improvements inside the store are harder to see, but customers can spot plaques that tell them how the store is unique and efficient. A screen at the front displays energy savings statistics.

This Walgreens store was designed to be the first “net zero” retail store in the country—that is, to produce 100% of the energy it consumes. Due in part to weather, the store has not quite met that goal since its opening in November 2013. But the total annual energy cost in 2014 was what the previous store paid every two months.

Typically, a Walgreens store in Chicago consumes

425,000 kilowatt-hours of electricity a year. There was just not enough space to produce so much energy at the Evanston site. But energy-efficient technology and design provide the store with heating, lighting, and refrigeration at a much lower rate of energy use. The design includes an innovative geothermal heat pump for heating and cooling, efficient lighting (including greater use of natural light), occupancy sensors, a building energy management system, and low-flow water fixtures.

The Evanston Walgreens store also provides educational tours for businesses, students, and academics to help them learn how to cut energy use too.