

Saving Energy Improves Americans' Health and the Environment

Energy efficiency is good for you—and for the air you breathe, the water you drink, and the community in which you live. Saving energy reduces air and water pollution and conserves natural resources, which in turn creates a healthier living environment for people everywhere. At the same time, efficiency also saves money and creates jobs.

EFFICIENCY CLEANS THE AIR

Texas reduced smog-forming nitrogen oxide pollution by about 2,000,000 pounds in 2013—the equivalent of the emissions from more than 100,000 cars—using efficiency programs, energy codes for buildings, and air conditioner efficiency standards.

Burning fuels like coal and oil causes air pollution, including nitrogen oxides, sulfur dioxide, soot, mercury, and lead. Power plants, industrial plants, and automakers spend lots of money on technologies to try to capture that pollution before it is released into the air. Energy efficiency reduces the need to burn the fuels to begin with, reducing pollution while saving money.

EFFICIENCY IMPROVES HEALTH

By 2030 better air quality due to new car fuel economy standards is expected to save 100 to 300 lives each year, avoid 14,000 lost work days, and have other health benefits, worth \$1 billion to \$2.5 billion.

The air pollution caused by burning fuels contributes to lung cancer and asthma, heart attacks and heart disease, and in some cases stroke and poorer brain development. By reducing air pollution, energy efficiency improves public health. Moreover, communities designed to encourage walking and biking instead of driving can counter the obesity epidemic by promoting active lifestyles for their residents, while also reducing pollution from vehicles.

EFFICIENCY BENEFITS HOME SAFETY AND COMFORT

Home energy upgrades, if done right, improve ventilation and indoor air quality. The money saved through upgrades also allows low-income residents to better heat and cool their homes and to afford health care. While contractors are in the homes, they can also remove lead paint and mold, repair leaks, install smoke alarms, and make other safety improvements. Thus, home upgrades can improve the health of residents.

EFFICIENCY MAKES THE CLIMATE MORE STABLE

The consulting firm McKinsey & Company found the United States could cut carbon dioxide emissions by more than 1 billion

A HOME INTERVENTION IS A HEALTH INTERVENTION: THE RUIZ FAMILY

Chilly drafts, an ill-fitted window, leaky pipes, damaged walls, a moldy basement, pest infestations, and high electric bills.

These were the nightmarish conditions in which Melissa Ruiz found herself. Melissa was a single mom who had purchased a home in North Philadelphia. Three years later, the electrical and plumbing systems in the aging home started failing. Mold and pests followed. Poor insulation drove up Melissa's heating and cooling bills. Melissa's daughter was now experiencing severe asthma symptoms daily. Eventually, after another trip to the Emergency Department at St. Christopher's Hospital for Children, the family was referred to the Healthy Homes Healthy Kids (HHHK) program of the Philadelphia Department of Public Health.

HHHK collaborated with the nonprofit Green and Healthy Homes Initiative (GHHI) and city agencies to repair Melissa's house. After a comprehensive environmental assessment, they sealed air leaks, insulated the basement, and repaired the windows to make the whole house more efficient and weatherproof. They fixed plumbing leaks and faulty electrical wiring. They removed the pest infestation, broken rain gutters, and the mold hazard. Since the intervention, Melissa's utility bills have decreased and her daughter's symptoms have improved. They have not been back to the emergency room. Melissa said the repairs made their home "healthier and safer for my daughter and my whole family." Since 2012 HHHK has fixed up 177 homes of children with severe asthma in Philadelphia.



tons a year through energy efficiency while saving more than \$1 trillion.

Energy efficiency can make big reductions in greenhouse gas emissions and other pollution while saving consumers money and achieving other benefits—a no-regrets strategy. Making electricity, heating a home, driving a car, and running industrial plants all contribute to carbon dioxide pollution. Energy and fuel savings mean carbon savings.

LIVABLE COMMUNITIES ARE EFFICIENT COMMUNITIES

Well-designed communities provide a variety of transportation options including walking, bicycling, buses, and trains, as well as cars, and provide local shopping, restaurants, and other services for residents. They also provide green and efficient housing and workplace options. Residents have more choice and more control; they also waste less time and less energy. Communities like Greensburg, Kansas and Seattle have been remaking themselves to serve residents better and more efficiently.

SMART TRANSPORTATION PROVIDES CHOICES

New technologies such as smart phone apps to show transit, ride share, or parking options give consumers more choices and reduce traffic congestion. Better computer controls for engines and driving also cut fuel use and pollution from cars.

SAVING ENERGY HELPS MEET POLLUTION CAPS

Texas has received credit toward required smog reductions for building energy codes and efficiency programs, Louisiana for energy improvements to municipal buildings in Shreveport, and Washington, DC, for better traffic lights. When the Northeast states decided to cap carbon dioxide emissions from power plants,

they cut the cost by setting aside at least 25% of the payments from power plants to go to energy efficiency and renewable energy projects, which reduce emissions.

SAVING ENERGY HELPS CHILDREN, ELDERLY, AND MINORITIES

Children, the elderly, and people with chronic illnesses are especially at risk from air pollution, and minorities are more likely to live near major polluters. These groups are most in need of the health benefits from energy efficiency as well as the dollar savings.

A FEW POLICIES THAT HELP THE ENVIRONMENT AND PUBLIC HEALTH

- Energy efficiency is often the cheapest way to meet city and state sustainability and climate goals, and efficiency can help meet regional air and water quality targets as well.
- Since 2011 federal standards for car and truck fuel economy and rules limiting tailpipe greenhouse gas emissions have worked together to cut both oil use and pollution.
- Thoughtful planning and design are helping residents revitalize cities, suburbs, and small towns. Lively downtowns, more services and transportation options, and greener homes and buildings make communities even better places to live.

For more information, please see aceee.org/portal/national-policy or contact Suzanne Watson at (202) 507-4006 or swatson@aceee.org



ENERGY-EFFICIENT AND HURRICANE-PROOF: UF HEALTH SHANDS CANCER HOSPITAL

Both cancer and hurricanes can wreak havoc with our lives. Medical facilities need a reliable energy supply to protect our health, even in emergencies. In addition, large energy bills can strain the finances of a facility throughout the year.

When University of Florida health administrators began planning for the new Shands Cancer Hospital in Gainesville, Florida, they opted for a smarter approach. In 2009 the hospital opened with a state-of-the-art onsite power plant in partnership with Gainesville Regional Utilities (GRU). The South Energy Center is a combined-heat-and power plant. While regular power plants just dump waste heat into their surroundings, this on-site plant captures the hot exhaust from the turbine and uses it to produce steam. The hospital uses the steam to heat and cool the building and provide hot water, sterilization, and cooking.

Housed in a steel and concrete structure, the plant is also built to withstand major hurricanes and other natural disasters, and to fully power the hospital even when the grid goes down. In addition, the new hospital building was designed to reduce energy use, and it was awarded LEED Gold certification for its environmentally friendly design and construction.

Shands Cancer Hospital is powered by a secure and resilient system that saves energy. As Brad Pollitt of UF Health said, “Our partnership with GRU has resulted in very creative, forward-thinking solutions to energy challenges.”