



American Council for an Energy-Efficient Economy
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Energy Efficiency Progress and Potential

One of a Series of ACEEE Fact Sheets

- Total primary energy use per capita in the United States in 2000 was almost identical to that in 1973. Over the same 27-year period economic output (GDP) per capita increased 74 percent.
- National energy intensity (energy use per unit of GDP) fell 42 percent between 1973 and 2000. About three-quarters of this decline is attributable to real energy efficiency improvements and about one-quarter is due to structural changes and fuel switching.
- If the United States had not dramatically reduced its energy intensity over the past 27 years, energy use in 2000 would have equaled about 171 quadrillion Btus instead of the 99 quadrillion Btus actually consumed. Consumers and businesses would have spent at least \$430 billion more on energy purchases in 2000 had this 72 quadrillion Btus of savings not occurred.
- The energy intensity of the U.S. economy declined significantly during the past four years after stagnating from the mid-80s to mid-90s. Between 1996 and 2000, GDP increased 19 percent while primary energy use increased just 5 percent. Thus the energy intensity of the economy dropped over 3% per year during 1996-2000.
- Physical indicators of energy efficiency improvement in the U.S. over the past 27 years include:
 - The average rated fuel economy of new cars increased from 16 mpg in 1975 to 28 mpg by 1987. The average rated fuel economy of cars and light trucks combined increased from 15 mpg in 1975 to 26 mpg by 1987. But the average rated fuel economy of cars and light trucks fell to 24 mpg in 1999-2000.
 - The average electricity use of new refrigerators declined from 1725 kWh/yr in 1972 to 685 kWh/yr by 1999. At the same time, new refrigerators became larger and had more features. The average energy efficiency of new refrigerators nearly tripled during 1972-99.
 - The average efficiency rating of new central air conditioners increased 56% from 7.0 SEER in 1976 to 10.9 SEER in 1998.
 - Sales of energy-efficient compact fluorescent lamps (CFLs) increased nearly five-fold from 1990 to 1999; 82 million CFLs were sold in North America in 1999.
 - The primary energy intensity of steel production (energy use per ton of output) fell about 25% between 1975 and 1994.
 - The primary energy intensity of paper and pulp production (energy use per ton of output) fell 27% during 1970-94.

- Even though the United States is much more energy-efficient today than it was 25 years ago, there is still enormous potential for cost-effective energy savings. Some newer energy-efficiency measures have barely begun to be adopted. And other efficiency measures will be developed and commercialized in coming years, thereby adding to our “energy efficiency resource”.
- The U.S. Department of Energy estimates that increasing energy efficiency throughout the economy could cut national energy use by 10% or more in 2010 and about 20% in 2020, with net economic benefits for consumers and businesses.
- ACEEE estimates that adopting a comprehensive set of policies for advancing energy efficiency could lower national energy use by 18 percent in 2010 and 33 percent in 2020. These policies, along with policies to advance renewable energy, could dramatically lower U.S. carbon dioxide emissions while saving consumers and business \$500 billion net during 2000-2020.
- Adopting tougher fuel economy standards and other policies for increasing the efficiency of new vehicles could save 1.5 million barrels of oil per day (MBD) by 2010, 4.7 MBD by 2020, and 67 billion barrels of oil over the next 40 years. This is 10-20 times greater than the potential oil supply from the Arctic National Wildlife Refuge.
- Adopting a national system benefit trust fund for the electric sector could greatly expand state and utility electricity conservation programs, saving as much as 130 TWh (3.5% of projected electricity demand) in 2005, 340 TWh (9% of projected demand) in 2010, and 750 TWh (17% of projected demand) in 2020. The latter value is equivalent to the electricity supplied by over 250 large (500 MW) power plants.