

GAO Highlights

Highlights of [GAO-14-836](#), a report to the Ranking Member, Committee on Energy and Natural Resources, U.S. Senate

Why GAO Did This Study

Federal energy policy since the 1970s has focused primarily on ensuring a secure supply of energy while protecting the environment. The federal government supports and intervenes in U.S. energy production and consumption in various ways, such as providing tax incentives, grants, and other support to promote domestic production of energy, as well as setting standards and requirements.

GAO was asked to provide information on federal activities and their influence on U.S. energy production and consumption over the past decade. This report provides information on U.S. production and consumption of fossil, nuclear, and renewable energy from 2000 through 2013 and major factors, including federal activities, that influenced energy production and consumption levels. It also provides information on other federal activities that may have influenced aspects of U.S. energy production and consumption from 2000 through 2013 but were not targeted at a specific energy source, as well as information on federal research and development.

GAO analyzed DOE historical data on energy production and consumption, reviewed studies and reports from federal agencies and governmental organizations on federal energy-related activities, and analyzed data on federal spending programs and tax incentives, among other things.

GAO is not making recommendations in this report. DOE, the Department of the Treasury, and the U.S. Department of Agriculture reviewed a draft of this report and provided technical comments that GAO incorporated as appropriate.

View [GAO-14-836](#). For more information, contact Frank Rusco at (202) 512-3841 or ruscof@gao.gov.

September 2014

ENERGY POLICY

Information on Federal and Other Factors Influencing U.S. Energy Production and Consumption from 2000 through 2013

What GAO Found

According to the studies and reports GAO reviewed, several major factors, including federal activities, influenced U.S. production and consumption of fossil, nuclear, and renewable energy from 2000 through 2013. Examples of these factors include the following:

- **Fossil energy.** Advances in drilling technologies enabled economic production of natural gas and crude oil from shale and similar geological formations. These advances led to increases in domestic production of natural gas and crude oil beginning around 2008 and contributed to declines in domestic prices of natural gas, as well as lower prices for crude oil in some regions of the United States. Some federal activities also may have influenced these trends. For example, the federal government limited oil producers' liability associated with some oil spills, lowering the producers' costs for liability insurance. In addition, the federal government provided tax incentives encouraging production for oil and gas producers, resulting in billions of dollars in estimated federal revenue losses. Moreover, partly because of lower natural gas prices, domestic coal production decreased in recent years as utilities switched from coal to natural gas for electricity generation.
- **Nuclear energy.** Declining prices for a competing energy source—natural gas—may have led to decreases in the production and consumption of nuclear energy in recent years. Federal activities may have also influenced this trend. For example, the Department of Energy (DOE) announced plans to terminate its work to license a disposal facility for certain nuclear power plant waste in 2009, creating uncertainty about how this waste would be managed. This uncertainty may have provided a disincentive for some nuclear power operators to stay in the market or expand capacity because of the cost of storing nuclear waste.
- **Renewable energy.** Federal tax credits for ethanol and federal policies requiring the use of ethanol in transportation fuels were major factors influencing an 8-fold increase in the production and consumption of ethanol from 2000 to 2013. In addition, state policies requiring the use of renewable energy in electricity production, as well as federal outlays and tax credits for renewable energy producers, were major factors influencing a 30-fold increase and a 19-fold increase in production and consumption of electricity from wind and solar energy, respectively, from 2000 to 2013.

According to the studies and reports GAO reviewed, other federal activities may have influenced aspects of U.S. energy production and consumption from 2000 through 2013 but were not targeted at a specific energy source. For example, the federal government strengthened energy efficiency standards for vehicle fuel economy and consumer products such as appliances and lighting, provided electricity and transmission services to customers through its power marketing administrations and the Tennessee Valley Authority, and spent billions of dollars helping low-income households cover heating and cooling costs. In addition, the federal government supported research and development targeting a wide range of energy-related technologies at government-owned laboratories and through funding to universities and other research entities.