



Highlights of [GAO-05-414T](#), a testimony to Darrell Issa, Chairman, Energy and Resources Subcommittee, Committee on Government Reform, House of Representatives

Why GAO Did This Study

Plentiful, relatively inexpensive energy has been the backbone of much of modern America's economic prosperity and the activities that essentially define our way of life. The energy systems that have made this possible, however, are showing increasing signs of strain and instability, and the consequences of our energy choices on the natural environment are becoming more apparent. The reliable energy mainstay of the 20th century seems less guaranteed in the 21st century.

As a nation, we have witnessed profound growth in the use of energy over the past 50 years—nearly tripling our energy use in that time. Although the United States accounts for only 5 percent of the world's population, we now consume about 25 percent of the energy used each year worldwide. Looking into the future, the Energy Information Administration (EIA) estimates that U.S. energy demand could increase by about another 30 percent over the next 20 years.

To aid the subcommittee as it evaluates U.S. energy policies, GAO agreed to provide its views on energy supplies and energy demand as well as observations that have emerged from its energy work.

This testimony is based on GAO's published work in this area, conducted in accordance with generally accepted government auditing standards, and on EIA's Annual Energy Review, 2003 and its Annual Energy Outlook, 2005.

MEETING ENERGY DEMAND IN THE 21ST CENTURY

Many Challenges and Key Questions

What GAO Found

America's demand for energy has, in recent decades, outpaced its ability to supply energy. As a result, the country has witnessed rapid price increases and volatility in some markets, such as gasoline, and reliability problems in others, such as electricity, where the blackout in 2003 left millions in the dark. Given these recent and sometimes persistent problems, as well as concerns about the impacts of energy consumption on air, water, and other natural resources, there is a growing sense that action is needed.

Today, fossil fuels (coal, oil, and natural gas) provide about 86 percent of our total energy consumption, with the rest coming from nonfossil sources such as nuclear (8 percent) and renewables, such as hydroelectric energy and wind power (6 percent). Overall, the majority of the nation's energy consumption is met by domestic production. However, imports of some fuels have risen. For example, over the past 20 years, imports—primarily oil and natural gas—have doubled, and in 2003 these imports comprised about one-third of total domestic energy consumption. Imports are expected to increase still further in order to meet future domestic consumption. In light of the current and expected levels of imports, the United States is, and will increasingly be, subject to global market conditions, with the transportation sector especially affected. Global markets may face future difficulties in meeting the growing energy demands of developed nations while also meeting the demands of the developing world, particularly considering the explosive growth in some economies, such as China's and India's. If world supplies for some fuels do not keep pace with world demand, energy prices could rise sharply.

GAO believes that a fundamental reexamination of the nation's energy base and related policies is needed and that federal leadership will be important in this effort. To help frame such a reexamination, we offer three broad crosscutting observations. First, regarding demand, the amount of energy that needs to be supplied is not fate, but our choice. Consumers, whether businesses or individuals, choose to use energy because they want the services that energy provides, such as automated manufacturing and advanced computer technologies. Accordingly, consumers can play an important role in using energy wisely, if encouraged to adjust their usage in response to changes in prices or other factors. Second, all of the major fuel sources—traditional and renewable—face environmental, economic, or other constraints or trade-offs in meeting projected demand. Consequently, all energy sources will be important in meeting expected consumer demand in the next 20 years and beyond. Third, whatever federal policies are chosen, providing clear and consistent signals to energy markets, including consumers, suppliers, and the investment community, will help them succeed. Such signals help consumers to make reasoned choices about energy purchases and give energy suppliers and the investment community confidence that policies will be sustained, reducing investment risk.