



Highlights of [GAO-07-283](#), a report to congressional requesters

## Why GAO Did This Study

The U.S. economy depends heavily on oil, particularly in the transportation sector. World oil production has been running at near capacity to meet demand, pushing prices upward. Concerns about meeting increasing demand with finite resources have renewed interest in an old question: How long can the oil supply expand before reaching a maximum level of production—a peak—from which it can only decline?

GAO (1) examined when oil production could peak, (2) assessed the potential for transportation technologies to mitigate the consequences of a peak in oil production, and (3) examined federal agency efforts that could reduce uncertainty about the timing of a peak or mitigate the consequences. To address these objectives, GAO reviewed studies, convened an expert panel, and consulted agency officials.

## What GAO Recommends

To better prepare for a peak in oil production, GAO recommends that the Secretary of Energy work with other agencies to establish a strategy to coordinate and prioritize federal agency efforts to reduce uncertainty about the likely timing of a peak and to advise Congress on how best to mitigate consequences. In commenting on a draft of the report, the Departments of Energy and the Interior generally agreed with the report and recommendations.

[www.gao.gov/cgi-bin/getrpt?GAO-07-283](http://www.gao.gov/cgi-bin/getrpt?GAO-07-283).

To view the full product, including the scope and methodology, click on the link above. For more information, contact Jim Wells at (202) 512-3841 or [wellsj@gao.gov](mailto:wellsj@gao.gov).

## CRUDE OIL

# Uncertainty about Future Oil Supply Makes It Important to Develop a Strategy for Addressing a Peak and Decline in Oil Production

## What GAO Found

Most studies estimate that oil production will peak sometime between now and 2040. This range of estimates is wide because the timing of the peak depends on multiple, uncertain factors that will help determine how quickly the oil remaining in the ground is used, including the amount of oil still in the ground; how much of that oil can ultimately be produced given technological, cost, and environmental challenges as well as potentially unfavorable political and investment conditions in some countries where oil is located; and future global demand for oil. Demand for oil will, in turn, be influenced by global economic growth and may be affected by government policies on the environment and climate change and consumer choices about conservation.

In the United States, alternative fuels and transportation technologies face challenges that could impede their ability to mitigate the consequences of a peak and decline in oil production, unless sufficient time and effort are brought to bear. For example, although corn ethanol production is technically feasible, it is more expensive to produce than gasoline and will require costly investments in infrastructure, such as pipelines and storage tanks, before it can become widely available as a primary fuel. Key alternative technologies currently supply the equivalent of only about 1 percent of U.S. consumption of petroleum products, and the Department of Energy (DOE) projects that even by 2015, they could displace only the equivalent of 4 percent of projected U.S. annual consumption. In such circumstances, an imminent peak and sharp decline in oil production could cause a worldwide recession. If the peak is delayed, however, these technologies have a greater potential to mitigate the consequences. DOE projects that the technologies could displace up to 34 percent of U.S. consumption in the 2025 through 2030 time frame, if the challenges are met. The level of effort dedicated to overcoming challenges will depend in part on sustained high oil prices to encourage sufficient investment in and demand for alternatives.

Federal agency efforts that could reduce uncertainty about the timing of peak oil production or mitigate its consequences are spread across multiple agencies and are generally not focused explicitly on peak oil. Federally sponsored studies have expressed concern over the potential for a peak, and agency officials have identified actions that could be taken to address this issue. For example, DOE and United States Geological Survey officials said uncertainty about the peak's timing could be reduced through better information about worldwide demand and supply, and agency officials said they could step up efforts to promote alternative fuels and transportation technologies. However, there is no coordinated federal strategy for reducing uncertainty about the peak's timing or mitigating its consequences.