



Highlights of [GAO-08-14](#), a report to congressional requesters

## Why GAO Did This Study

To better understand how changes in domestic and international petroleum products markets have affected prices, GAO was asked to evaluate trends in (1) the international trade of petroleum products, (2) refining capacity and intensity of refining capacity use internationally and in the United States, (3) international and domestic crude oil and petroleum product inventories, and (4) domestic petroleum supply infrastructure.

To address these objectives, we reviewed numerous studies, evaluated data, and spoke to many industry officials and experts and agency officials.

## What GAO Recommends

GAO is making recommendations aimed at improving the functioning of petroleum product markets, including that the Secretaries of Transportation and Energy coordinate with other agencies to (1) encourage more uniform biofuel and petroleum product blending practices, (2) conduct a study of infrastructure system adequacy, and (3) evaluate the assignment of a lead agency to coordinate permitting of infrastructure construction.

In commenting on the report, the Federal Energy Regulatory Commission generally agreed with the report's findings and recommendations, while the Departments of Energy and Transportation neither fully agreed nor disagreed.

To view the full product, including the scope and methodology, click on [GAO-08-14](#). For more information, contact Mark Gaffigan at (202) 512-3841, [gaffiganm@gao.gov](mailto:gaffiganm@gao.gov).

## ENERGY MARKETS

### Increasing Globalization of Petroleum Products Markets, Tightening Refining Demand and Supply Balance, and Other Trends Have Implications for U.S. Energy Supply, Prices, and Price Volatility

#### What GAO Found

International trade in petroleum products has expanded over the past two decades, making markets for gasoline and other petroleum products increasingly global in nature. Recent plans and mandates in the United States and other countries to greatly expand the use of biofuels blended with petroleum products—for example, ethanol blended with gasoline and biodiesel blended with petroleum diesel—may have the unintended effect of reducing opportunities for trade because blending different levels of biofuels with petroleum blending stocks will require changes to these blending stocks and thereby reduce their fungibility.

For most of the past 25 years, there has been excess refining capacity globally, but this excess has shrunk considerably in recent years as demand has increased faster than capacity growth, causing refineries to run closer to their production capacity, and contributing to recent increases in petroleum product prices, price volatility, and refining profits. However, experts say it is unclear whether or for how long the current market tightness will continue, in part because of uncertainties about how much additional refining capacity will actually be built in the face of rising construction costs and initiatives that may reduce future demand for petroleum products such as through the blending of large volumes of biofuels into the transportation fuels markets.

When measured as average days of consumption, inventories of petroleum products and crude oil in the United States indicate a general decline over the past 20 years. A number of factors have contributed to this decrease in the United States, including reductions in crude oil production and the number of refineries as well as efforts to reduce inventory holding costs by applying advances in technology. Lower operating costs associated with lower inventories may have translated into lower consumer prices during normal periods. However, lower than normal inventories can lead to higher or more volatile prices in the event of supply disruptions or surges in demand.

The nation's petroleum product supply infrastructure is constrained in key areas and is likely to become increasingly constrained, unless timely investments are made. A constrained supply infrastructure can exacerbate price effects and price volatility due to a supply disruption. However, no central source of data tracks system bottlenecks. While there is widespread recognition that a study is needed to fully identify the extent of infrastructure inadequacy and the impact on prices, to date, no such analysis has been undertaken, though such a study was mandated by Congress in 2006 with a June 2008 deadline. Significant infrastructure expansion plans in the private sector could alleviate the stresses. However, a complex permitting and siting process involving as many as 11 federal agencies and numerous state and local stakeholders has slowed or impeded the expansion and construction of new pipelines. Unlike in the case of natural gas pipelines, no central federal agency acts to coordinate this permitting process.