

# The Varied Effects of OIL PRICES on the PETROLEUM INDUSTRY

By Dr. Jesse Yoder

(Middle East). The prices of these different crude oils tend to rise and fall together, and they are usually fairly close to each other. For instance, on January 9, 2003, February Brent sold for \$29.67 a barrel, while U.S. light, sweet crude was priced at \$32.04 per barrel.

Oil prices are affected by many factors, including overall supply and demand for oil, demand for gasoline, freight rates and competition among oil producers. One of the most important factors is OPEC (Organization of Petroleum Exporting Companies).

## OPEC's Role in Oil Prices

OPEC was created at the Baghdad Conference in Iraq in September 1960. The founding members were Iraq, Iran, Kuwait, Saudi Arabia and Venezuela. Eight other countries joined later, including Algeria and Nigeria. The purpose of OPEC is to limit supplies in hopes of keeping oil prices high. OPEC controls prices by meeting regularly to set production levels in hopes of maintaining prices. OPEC's target price for oil is between \$22 and \$28 per barrel.

Supply and demand is the most fundamental factor affecting the price of oil. While prices spent much of 2002 within this range, the strike in Venezuela has created a gap in the oil supply. As a result, the price of oil has hovered in the range of \$30 per barrel since early December 2002. Many analysts also estimate that the prospects of a war with Iraq will add \$4 or \$5 a barrel to the price of crude. A war with Iraq could also create a gap in supply, if oil from Iraq is cut off.

Oil prices fluctuate for many other reasons, including the following.

- Israeli/Palestinian conflict
- The political situations in Venezuela and Argentina
- Concerns with the Trans-Alaska pipeline
- Cutbacks in OPEC production
- Economic growth

## The Effects of Oil Prices on Petroleum Companies

High and low oil prices have different effects on different sectors of the petroleum industry and on the econo-

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**S**uppliers who want to sell into any industry are affected by the health of the companies in that industry. This is clearly true in the petroleum industry, which is heavily influenced by the price of oil. But high and low oil prices do not have a uniform effect on petroleum companies. For example, high oil prices encourage development of oil fields that are too expensive to develop at lower prices. On the other hand, lower oil prices can improve profit margins for refiners. This article examines the impact of high and low oil prices on petroleum companies and the effects on instrumentation companies.

Crude oil is unprocessed oil that comes out of the ground. There are many types of crude oil that vary in color and viscosity. Some crude oil is relatively clear, while other oils are black. Some crude oils have the viscosity of water, while others are nearly solid. What crude oils have in common is that they contain hydrocarbons, which are molecules of hydrogen and

carbon of different lengths. There are hundreds of different hydrocarbons mixed together in crude oil. In order to be useful, these different hydrocarbons need to be separated out. This happens during the refining process.

Different hydrocarbons have different boiling points, so they are separated out by distillation. Some of the products that are refined from crude oil include gasoline, kerosene, lubricating oil and naphtha. Besides distillation, some plants use chemical processing to break some of the longer carbon chains into shorter ones. For example, this process can be used to turn diesel fuel into gasoline.

## The Price of Oil

In fact, there is no such thing as "the price of oil." There are many kinds of oil, from many different countries. However, the prices of certain crudes are often quoted when giving the price of oil. These include West Texas Intermediate (WTI-USA), Brent (Europe and Africa) and Dubai and Oman

my. High oil prices encourage oil exploration and production. For example, it is not financially viable to develop certain oil fields when the price is below \$30 per barrel. Higher oil prices make it possible to do exploration and production at more locations than is possible with lower prices. This benefits the oil production companies.

While higher oil prices benefit oil production companies, low oil prices benefit refiners by reducing the cost of their raw material. Lower production costs will eventually be passed along to consumers. Low oil prices give a boost to the economy by giving people more money to spend.

Higher oil prices act like a tax on the economy. Because most people have to buy gas, heating oil and the myriad of other products made using hydrocarbon-based products, higher oil prices leave consumers with less to spend. The oil crisis of the 1970s is an example of the effects of high oil prices.

High oil prices also have a major impact on industries that rely heavily on

oil. These include the airline and trucking industries. In the airline industries, high oil prices result in higher operating costs and higher fares. Increases in transportation costs can result in higher prices, as companies pass along their higher costs to consumers.

OPEC's lower limit of \$22 per barrel exists because OPEC members need to generate a certain amount of revenue. The upper limit exists because, if oil exceeds this limit, economic growth slows which in turn can depress demand for crude oil. Lower prices can be caused by oversupply, which can also occur if economic activity slows and capacity does not.


### Selling into the Petroleum Industry

Instrumentation companies that want to sell into the petroleum industry are advised to look at several factors.

- The general health of the refining and oil production industries.
- The health of particular companies that need instrumentation for

oil exploration or for refining.

- New projects that require instrumentation.

Engineers and managers who work in the petroleum industry can look at the price of oil as a factor in determining the health of their industry. The specific impact, however, depends on which sector of the industry they work in. 

### About the Author

*Dr. Jesse Yoder is president of Flow Research, which he founded in 1998. He has been a writer and analyst in process control since 1986. Dr. Yoder has written over 40 market studies and is currently completing a 12-volume series of studies on the worldwide flowmeter market. Included in this series is The World Market for Flowmeters, which includes all flow technologies. Flow Research ([www.flowresearch.com](http://www.flowresearch.com)) offers a quarterly update service called the Worldflow Monitoring Service. You can contact Dr. Yoder at 781 245-3200, or [jesse@flowresearch.com](mailto:jesse@flowresearch.com).*