The global refining industry is faced with a number of financial, operational and market challenges. Understanding today’s key issues can help refiners better prepare for growth opportunities in the future.

Striving for success in turbulent times is nothing new for global refiners. Due to the cyclical nature of their industry, they have seen their share of both the good times and the bad. However, today’s economic crisis is almost unprecedented in scope, severity and probable duration. Some refiners may have to undergo significant reorganization, restructuring or refinancing. Others may not survive.

Today’s conditions offer both opportunities and challenges that should be clearly understood. A first step can be to review the immediate and long-term issues facing the industry.

The current crisis
Traditionally, the global refining industry has been driven by a steady rise in the consumption of transportation fuels. A worldwide increase in disposable income has produced more vehicles on the road, especially in developing economies such as the BRIC countries (Brazil, Russia, India and China). Demand has also been driven by the need for more efficient fuels as well as cleaner fuels to comply with strict environmental standards.

From around 2000 until the current recession, the global refining industry enjoyed healthy profit margins. In summer of 2007, refining margins were over US$20 per barrel in the U.S.¹ In addition, the global demand for petroleum products such as gasoline and diesel fuel grew very quickly in contrast to the supply.

In the U.S. many refineries were running near capacity, particularly during peak summer demand periods. Therefore, refiners announced aggressive plans to expand and upgrade refineries. Refining is capital-intensive – refineries can cost billions of dollars – so heavy investments were made to support the growing demand.

¹ “Refiners pinched as gas price falls faster than oil,” USA Today, November 21, 2008.
Challenges and opportunities for today’s global refining industry

About the KPMG Global Energy Institute (GEI)
The KPMG Global Energy Institute has been established to provide an open forum where industry financial executives can share knowledge, gain insights, and access thought leadership about key industry issues and emerging trends.

Industry financial, tax, risk, and legal executives will find the GEI – and its Web-based portal – to be a valuable resource for insight on emerging trends.

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In 2008, the growing recession began to affect markets everywhere. Refiners had already been suffering throughout the year because soaring oil prices had cut into their margins. After July, 2008, however, the world saw an immediate and severe drop in energy demand, and this brought oil prices down with it. Global crude oil price plunged by more than 65 percent. From an all time high of US$147 per barrel on July 11, 2008, the price fell to below US$50 per barrel on November 20, 2008.

Unfortunately, oil refiners could not benefit from low oil prices since gasoline prices fell even lower because of reduced demand. The average retail gasoline price dropped from a record high of US$4.10 per gallon on July 17, 2008 to US$2.40 per gallon on November 3, 2008, and the Oil Price Information Service (OPIS) expects further drops in gas prices.

On the other hand, diesel prices enjoyed strong gains in 2008, based on heavy consumption by European motorists and Asian power plants. In addition, Hurricanes Ike and Gustav reduced refining capacity, which also helped to raise diesel prices.

The hurricanes also reduced base oil production in the U.S., leading to a price hike in oil-based specialty lubricants.

Long-term issues
It is difficult to predict the future for global refining, especially in the current market. However, we can look at a number of issues that will likely influence the industry throughout the year.

Decreased production
Global refiners have continued to decrease production due to reduced oil consumption in the U.S., Europe and Japan. Even in historically dependable markets such as the BRIC countries, reduced demand for oil has led to significant cutbacks.

Downturns in construction
Lower demand for gasoline, combined with tightening credit markets, has resulted in the delay or cancellation of new refinery construction. A recent survey reported that only 30 refining projects were moving ahead with construction activities – this out of a group of 160 projects announced since 2005 and expected to complete in the next two to seven years.
“Refiners have been through tough times before. They understand the need to be patient – and well prepared for demand recovery.”

Roger Gastrell, KPMG in the U.S.

Reorganizations and shutdowns
As with other industries, continued financial distress has caused refiners to consider mergers, acquisitions and other reorganizations. In addition, many refiners are being forced to restructure their internal processes to reduce costs and increase productivity from existing resources.

Small, inefficient refineries – or those that cannot process cheaper and heavier crudes – are likely to suffer the most. At least 10 percent of refineries in the US are expected to shut down, according to Francisco Blanch, head of commodities research at Merrill Lynch.8

Growing importance of national oil companies (NOCs)
The nationalization of oil refineries by local governments remains a major issue. NOCs control over 70 percent of the world’s oil reserves. In the latest Energy Intelligence Top 100 Ranking of the World’s Oil Companies, nearly half of the positions are occupied by NOCs.9

Despite their growing importance, many NOCs are vulnerable to geopolitical issues. Approximately two-thirds of the world’s oil reserves are located in the Middle East where the political situation remains uncertain. NOCs in South America, Africa and Central Asia operate under similar circumstances. This geopolitical uncertainty can result in both upside and downside risks involving business agreements, development, trade and prices.

In addition, NOCs have been affected along with the rest of the industry from the economic crisis. Although they can sometimes seek new government funding to increase their financial stability, many smaller countries are under growing financial pressure themselves. However, it is important to note that a large number of refining projects had the backing of either the local government or large national oil companies.10

8 “Refiners pinched as gas price falls faster than oil,” USA Today, November 21, 2008.
9 “The Energy Intelligence Top 100: Ranking The World’s Oil Companies,” Energy Intelligence.
A large number of environmental laws are in place or being proposed, and they will continue to exert a tremendous influence over refiners.

Global warming
Global warming has been linked to the increase in the number and severity of storms and hurricanes. Severe weather, in turn, has seriously disrupted the ability of the refining industry, especially in areas like the Gulf of Mexico. When Hurricanes Katrina and Rita crossed the Gulf in 2005, about 100 offshore oil drilling platforms and nearly 600 oil and natural gas pipelines were destroyed. This event led to a sudden drop in production and a spike in gas prices at the pump. Three years later, production had still not returned to 2005 levels. In 2008, even the threat of a hurricane striking the oil and gas infrastructure in the Gulf led to immediate production cuts and short-term price hikes in the U.S.13

Regulatory pressures
A large number of environmental laws are in place or being proposed, and they will continue to exert a tremendous influence over refiners and the energy industry as a whole.

For example, the European Union (EU) is working to make renewables 20 percent of total energy demand by the year 2020. The EU has also announced the goal of reducing CO$_2$ emissions by at least 20 percent by 2020. To support these goals, the EU has implemented the Emission
Trading Scheme (ETS) that will act as a market mechanism for buying and selling CO2 emission credits. Industry representatives and Member State governments have raised concerns that the ETS could make EU producers less competitive since the measure imposes costs that are not shared by non-European producers.

In the U.S., new carbon emission regulations proposed by the Obama administration will have a significant impact if passed into law. These regulations would affect not only the oil and gas industry but also related industries such as automotive and chemicals.

The growth of alternative energy such as wind, hydroelectric and solar is another issue driven by government regulations and incentives. Even though alternatives currently represent a fairly small percentage of overall energy consumption, their growing presence will add increased uncertainty about the future of the global refining industry.

**Opportunities for global refining**

Clearly, the months ahead will remain challenging for many refiners, and opportunities might seem limited. But consider these encouraging facts:

The last time a completely new refinery went operational in the U.S. was in 1976. In fact, from 1981 to 2008, the number of US refineries declined by over 50 percent. During the same period, capacity declined by only 6 percent, from 18.6 million bpd in 1981 to 17.4 million bpd in 2008. Nevertheless, the period saw a 20 percent increase in U.S. demand for refined oil products, much of it met by importing refined products.12

Actually, the U.S. may soon be desperate for new refineries, and opportunities can possibly emerge for investment and development. Older refineries cannot refine the heavier and cheaper crudes that are becoming more common as reserves of sweet crude are depleted. Old refineries also have more difficulty complying with environmental standards. In addition, other parts of the world such as China and India will require more refining capacity as their economies grow.

At some point, the industry could see a recovery in both oil demand and oil prices. If global refiners maintain their investment levels, they can be positioned to take advantage of better times in the future.13

**Facing the challenges**

KPMG firms can provide global refiners with extensive support for strategic risk management, helping them reduce risks in terms of finance, reorganizations, project management, customer relations, competitive threats, investments in new facilities and other business-critical areas.

We also believe that the information, strategies, and preferred practices gained from appropriate risk management can help these companies uncover new business opportunities and improve bottom-line performance in today’s uncertain energy markets.

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