

# Industry Braces for an Uncertain Year

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Oil and gas companies are still adjusting to the sharp price volatility, collapse in credit markets, and global economic downturn of the past few months. But many analysts and forecasters believe that the medium- to long-term outlook for the oil industry has not changed, and that the need for more production, more people, and more research and development (R&D) remains.

Given the sharp swings in oil prices the past several months and the unknown depth of the economic recession, the outlook for the oil industry this year is anything but certain. The oil market is still digesting Organization of the Petroleum Exporting Countries' (OPEC's) 4 million BOPD in production cuts since last September, the organization's steepest cuts in years. Even if OPEC member countries' compliance with the cuts fall short, a considerable amount of supply will have been taken out of the market. Whether it is enough to make up for the erosion

in global demand in the short term is unclear.

The price volatility of the past year has been unprecedented, with oil prices rising to USD 147/bbl before collapsing to under USD 40/bbl. Many OPEC members, including Saudi Arabia, have a target price this year of USD 75/bbl. Standard & Poor's and Moody's, largely watched investment ratings agencies, are currently using WTI price assumptions of USD 55/bbl and USD 50/bbl for this year, respectively.

Oil forecasters, including the International Energy Agency (IEA), the US Department of Energy's Energy Information Administration, and others predict sharp declines in oil demand this year. The consultancy Cambridge Energy Research Associates (CERA) forecasts a 660,000 BOPD decline in demand in 2009, following a 300,000 BOPD drop in 2008, the largest demand fall since the recession of the early 1980s.

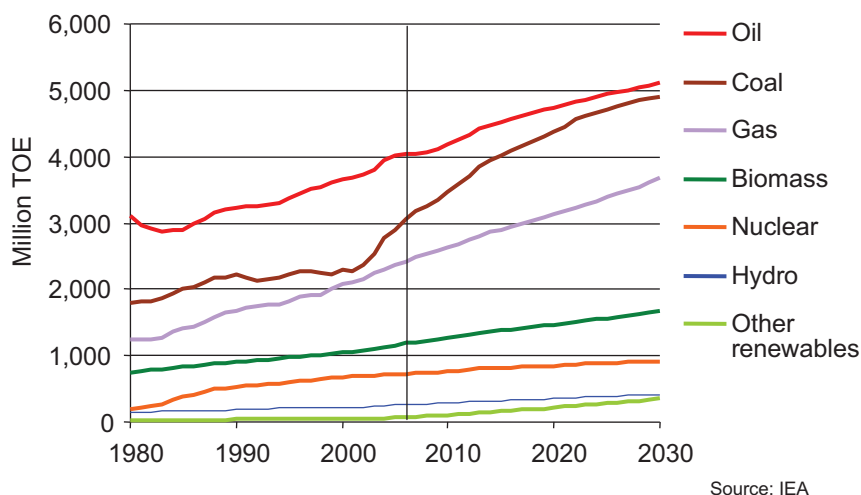
## The Long-Term View

But in its latest World Energy Outlook, the IEA believes the current economic storm has not changed the market's long-term outlook. It sees world energy use growing more slowly to 2030 than it projected last year, but still expanding by 45% between 2006 and 2030, with an average growth rate of 1.6% per year (Figs. 1 and 2). Fossil fuels will account for 80% of the globe's energy mix in 2030 with oil the dominant fuel. China and India will account for more than half of incremental energy demand to 2030, the IEA predicts, with the Middle East also becoming a key consumption center.

"This is a very cyclical industry, and we should not forget that," Adam Sieminski, Chief Energy Economist for Deutsche Bank Global Markets Commodities Research said at the recent Deloitte Oil and Gas conference in Houston. "And when it is really bad, like it is now, it is not going to stay bad forever."

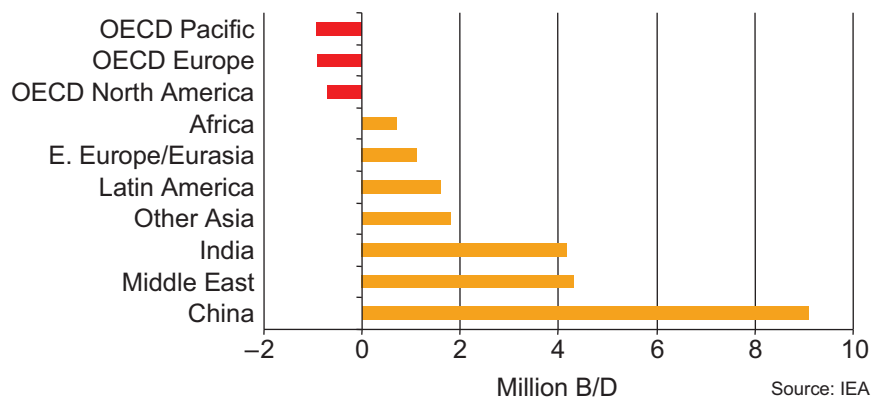
Recalling early 2008, Sieminski noted that a prime focus of economists was to determine how high oil prices needed to go to be considered so expensive that buyers would start to show significant purchasing resistance. His calculations placed that figure between USD 130 and 150/bbl. "My concern, back in March [2008] was that if [oil] got to USD 150 [bbl], it would be a shock to the economy, and it was," he said.

Taking the same measurement factors late in the year, Sieminski shifted the question to, "How low oil has to be—when you adjust it for a lot of different [historical] factors—to be cheap?" His calculations came out between USD 30 and 40/bbl. But oil prices would have trouble staying that low, he said. "Why wouldn't it stay there? Because oil's



Source: IEA

**Fig. 1—World energy demand will expand by 45% between now and 2030.**



**Fig. 2—Growth in global oil demand to 2030 will come primarily from non-OECD countries.**

share of GDP [gross domestic product] at that point would be so low that it would be a bargain,” he said. “In the way out of the global recession, energy is really helpful.”

Sieminski noted that his own company forecasts average per-barrel global crude oil prices of USD 47.50 in 2009, USD 55 in 2010, and USD 80 in 2011.

Assessing the longer-term future, Sieminski said that the world is not running out of oil. “The problem is not under the ground but above the ground,” he said. “It is getting access, to be able to deploy capital in the areas that have oil and gas reserves, that is the problem. It is really more of a political issue.”

The industry has seen commodity prices collapse before, such as oil in the mid-1980s, and witnessed banking and financial crises in various places, said Richard Adkerson, Cochairman of McMoRan Exploration, a Louisiana-based independent. “But this is across the board. It is affecting the global economy in all aspects. Both the speed with which it happened and the breadth of its impact put this situation [on a level] where we do not have experience to go by.”

Adkerson described his company’s petroleum and minerals businesses as possessing “assets that we can manage through these times of low commodity prices.” Reserves that can generate production are “real assets,” he noted, providing cash flow to fund capital spending. McMoRan and companies similarly situated, Adkerson said, now are adjusting capital spending to stay within their cash flows and position themselves for an eventual recovery in

commodity prices. “But we can’t say when that is going to be,” he said.

### Fundamentals Unchanged

Many analysts see no change in current energy industry trends. “Whether you look at it from the perspective of declining reserves, rising costs, or flat to declining production, I think you cannot help but recognize the one inescapable trend that energy is truly moving [from the developed] to the emerging markets,” said Thomas Langford, Managing Director, Investment Banking Division, Morgan Stanley. The capital markets certainly have recognized that trend in recent years, which has fed conventional wisdom that the international oil companies (IOCs) were, in many respects, “losing their logic for leadership,” Langford said. That perception was rather consistent until oil prices peaked in July 2008, but since then, Langford said, “It seems that the market is saying, maybe, not so fast. Perhaps, we have discounted the international oil companies [IOCs] prematurely.”

While the financial crisis and collapse of oil prices have adversely affected all branches of the E&P business, Langford said, IOCs have performed twice as well as national oil companies (NOCs) since the downturn, in terms of the value placed by the market on a dollar of company earnings or cash flow. The performance of independents has followed a middle course between that of the other two sectors. Langford raised the question whether the improving valuation of IOCs relative to NOCs might continue, as opposed to being a short-term reflection of the financial- and commodity-market collapse. He

suggested the trend could continue in 2009 and possibly beyond. Some of the factors favoring IOCs, he said, include

- A “reasonably good” reserve replacement record, reflecting the application of new or improved recovery technologies in mature fields

- A growing number of large, more-complex projects, including unconventional resource developments, that are much more significant financially to IOCs than NOCs

- Capital deficits now faced by independents, especially affecting high-cost shale plays, which could provide opportunities for IOCs.

The performance of the oil market over the past several years has prompted observations that prices no longer obey a cycle, whether postulated as an endless era of high prices or, most recently, a permanent condition of low prices. But Amy Myers Jaffe, Wallace S. Wilson Fellow in Energy Studies at the James A. Baker III Institute for Public Policy at Rice University, emphasizes the continued relevance of market cycles. “At this point, we are squarely within the cycle,” she said.

Jaffe pointed to a number of major challenges facing the E&P sector as it looks to the future. Although NOCs likely will control an even greater portion of oil production over the next 2 decades than today, many NOCs have stagnant or falling production reflecting a number of problems, including civil unrest, government interference, corruption, inefficiency, and the diversion of capital to social spending. Combined with a lack of spending by the largest IOCs, petroleum supply might fail to materialize in the needed volumes and time frame. Added to this prospect are the uncertainties about climate policy and the problems now besetting global credit markets, both dampening investment.

While the number of vehicles on the road is projected to grow phenomenally in countries such as China, Jaffe noted that China now has only 26 million vehicles while the US has 250 million. Thus, US motor fuel use will continue to have much more impact than Chinese consumption on the global oil market for many years to come, emphasizing how important any trend in US fuel demand is to the worldwide market.

For the Arab Gulf states, it is in their economic and geopolitical interest to protect their dollar asset holdings and keep a global recession as shallow and short as possible, which will maintain their geopolitical influence through their power in the oil market as they help stabilize the global financial crisis, Jaffe said. In economic terms, this will slow down a shift to more fuel-efficient cars, discourage massive investment in alternative energy, and ensure long-term demand for oil.

Population trends and their effect on energy also appear inevitable. World population is projected to reach 9 billion people by 2050 from a current level of 6.5 billion, and with this trend will come a sizable increase in the number of people moving out of poverty into a condition of greater wealth, which will help drive energy demand, said Olivier Lazare, Vice President of New Business Development—Americas, Shell International Exploration & Production. Any falloff in energy investment because of the current financial crisis will lead shortly to a “rude awakening,” as supplies become strained during a recovery in the economy and energy demand, Lazare said. The industry and his own company need to continue to invest in renewable and alternative energy, but he emphasizes the need for continued investment in nonrenewable hydrocarbon energy to meet long-term economic growth needs. Lazare said that the process is like “running an escalator that is going down, and you are trying to go up. Typically, for every dollar that you put in growth, you need to spend two or three dollars just to actually compensate for the ongoing declines.”

“At minimum for the next 30 years, it is very, very likely that the energy picture of the entire world is going to be dominated by hydrocarbon-type energy,” says Mark Papa, Chairman and Chief Executive Officer of EOG Resources. “You will certainly see dramatic growth in the renewables, but even by 2030, they are still going to be a very, very small part of the picture.”

With little likelihood for significant global oil supply growth over the next 20 years, according to Papa, the outlook “is pretty spooky,” he said. “There is a pretty good chance, we believe, that global oil demand is going to outstrip

global oil supply. We believe that could well happen within 5 years. Now, with this massive economic dislocation we have seen right now, what we have is, perhaps, a 1- or 2-year hiatus before the day of reckoning is going to quite get there, but if you just look at some of the trends, [they] certainly would indicate that we are likely to have higher oil prices in the long run than we have today.”

### Project Delays

The drop in commodity prices has made some projects that had high price thresholds untenable, at least in the short term. Several companies have announced project delays in Canada’s oil sands region, including Shell, Petro-Canada, StatoilHydro, Nexen, and Suncor. Recent rig count tallies by Baker Hughes show sharp drops in North American activity in general. “If we keep West Texas spot prices below USD 60/bbl over the next few months, then we are going to see investments delayed, put off, even canceled,” said Simon Wardell, an analyst with IHS Global Insight. “[But] you set yourself up for another problem in the future by going way too low.”

Global E&P spending is projected to decline by 12% this year, reversing 6 years of growth, according to Barclay’s Capital Resources’ semiannual spending forecast. “Budgets are being cut in response to the significant decline in commodity prices, constrained cash flow, and the tight credit markets,” the survey of 357 oil and gas companies says. Among the companies, 74% said E&P spending will be equal to or less than their total cash flow in 2009. Only 26% of the operators expect 2009 spending to exceed cash flow, compared with 43% last year.

The sharpest spending declines will be in the US and Canada, and among Russian companies. E&P budgets outside of North America will decline by 6%, ending a 9-year upturn. Latin American spending is forecast to be modestly lower.

Industry analysts worry that, while some project delays are inevitable given the recent drop in oil prices, significant projects delays and cancellations as well as cutbacks in R&D would be a mistake. The fall in oil prices in the 1980s was a major reason why R&D

spending shifted from operators to service companies.

“Our research shows that there was a decline in R&D funding on the part of the oil and gas operating sector, and at the same time there was a corresponding increase on the part of the service sector,” says Jud Jacobs, Manager of the Upstream Technology Group for CERA. “I think that directionally this is correct, and still holds true today.”

Several drivers caused this shift, he said, including the precipitous drop in oil prices in the mid-1980s and the industry consolidation from the mid-1990s to 2004. The third major factor toward lower funding among E&P firms was summarized by Jacobs as, “Scale matters. During the time from the mid-1980s to today—and primarily for the midsize oil companies—we see that successful R&D functions must have a critical mass of manpower and equipment in order to be sustainable. If these companies are not able to generate a strong business case justifying the creation of the kinds of laboratories and facilities that could have a significant impact on R&D advancements—which is a major capital expense—then they would simply close their R&D function.”

Given the current market decline, Jacobs conjectures that research investment will trend with a company’s E&P plans. “What I suspect is that the companies that are slashing their E&P budgets will be the same ones that cut their R&D budgets. Conversely, those companies that say they will make modest E&P budget cuts will probably make modest R&D cuts, or perhaps none at all.”

Low oil prices also can contribute to industry consolidation. The last collapse in oil prices, which occurred in the late 1990s, led to a rash of merger and acquisition (M&A) activity, including such megamergers as BP’s takeovers of Arco and Amoco and Exxon’s purchase of Mobil. IOCs, particularly those with healthy balance sheets and steady cash flow from valuable assets, appear to be in better shape than smaller firms and independents to weather the current economic storm. IOCs with large amounts of cash may be in a position to purchase another company or partner with an NOC in need of capital. The poor credit market could dampen other M&A activity, analysts believe. **JPT**