



The Overview of Global Oil Scenario

KEYWORDS

Global Oil Scenario, The Trend in Oil Reserves between 1991 and 2011, Global Exploration & Production Scenario of Oil, Global Refinery Scenario, Indian Oil Scenario.

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ABSTRACT *Oil plays an important role in the global energy balance, accounted for 32% of energy consumption in 2010. This proportion has changed very little in the last 20 years (the figure was 37% in 1990), despite the fact that the total amount of energy consumed worldwide has increased by more than 50% over the same period. This trend has been driven primarily in the last decade by emerging countries. At regular points throughout these two decades, questions have been raised about the growing scarcity of fossil fuel resources and the imminent inevitability of peak oil. The oil and gas sector plays a very important role in the economic and political scenario of the globe. The limited oil and gas reserve along with increasing energy requirement across the globe has led to spiraling of price resulting in supply related concerns for countries around the world.*

Introduction:

The oil crisis in the 1970s and 1980s resulted in long queues outside petrol stations and the sky-rocketing price of oil. In the following years, heated discussions about "peak oil" were based on the expectation of the world running out of oil within a few decades. Now in 2013, the peak oil issue is not making headlines any longer, however since oil is a finite resource this issue will return in the future. Global oil reserves are almost 60% larger today than 20 years ago, and production of oil has gone up by 25%.

If the unconventional oil resources, including oil shale, oil sands, extra heavy oil and natural bitumen are taken into account, the global oil reserves will be four times larger than the current conventional reserves. Oil still remains the premier energy resource with a wide range of possible applications. Its main use however, will be shifting towards transport and the petrochemical sector. In future oil's position at the top of the energy ladder will face a strong challenge from other fuels such as natural gas. The oil resource assessments have increased steadily between 2000 and 2009, and about a half of this increase is due to the reclassification of the Canadian oil sands and the revisions undertaken in major OPEC countries: Iran, Venezuela and Qatar. Compared to the 2010 survey; the proved oil reserves increased by 37% and production by 1%.

Global Oil Scenario:

World oil use is expected to grow from about 80 million barrels per day (mbpd) in 2003 to 98 mbpd in 2015 and 118 mbpd in 2030 as per Energy Information Administration, International Energy Outlook 2006. In the IEO 2006 reference case, world oil prices rise from \$31 per barrel (in real 2004 dollars) in 2003 to \$57 per barrel in 2030, and oil's share of total world energy use falls from 39 % to 33 %. To meet the projected increase in world oil demand, total petroleum supply in 2030 will need to be 38 mbpd higher than the 2003 level of 80 mbpd. Of this, China is projected to consume additional 9.4 mbpd, US 7.5 mbpd and Asia (other than China & India) 6 mbpd. The balance growth is expected in South America, Africa and Middle East. As per the same report India is expected to consume additional 2.2 mbpd. OPEC producers are expected to provide 14.6 mbpd of the increase. Higher oil prices cause a substantial increase in non-OPEC oil production 23.7 mbpd, which represents 62 % of the increase in total world oil supplies over the projection period. In addition, unconventional resources (including biofuels, coal-to-liquids, and gas-to-liquids) are expected to become more

competitive. In 2003, world production of unconventional resources totalled only 1.8 mbpd. Unconventional resource supplies are expected to rise to 11.5 mbpd and would account for nearly 10 % of total world energy supply in 2030.

The Trend in Oil Reserves between 1991 and 2011:

Different sources regularly quoted as benchmarks estimate current global oil reserves at 1,650 billion barrels. Despite high levels of consumption that have been growing by 32 % since 1991 - from 66 Mbd (million barrels per day) in 1991 to 88 Mbd in 2011 - reserves have increased by 60% over the same period, representing a gain of 620 Gb. Given cumulative consumption of the same order (595 Gb), this means that new discoveries and reappraisals have totaled 1,210 Gb since 1991, which is a large amount by any measure. This explains why the reserves-to-production ratio has increased from 43 to 54 years.

The increasing importance of South America, whose contribution to total reserves has risen from 7% to nearly 20%, has reduced the influence of the Middle East on the global oil stage. It is true that this region still contains nearly half of the world's oil reserves, but this represents a significant reduction from the 1990s, when the figure was 64%. On the other hand, one parameter of particular market sensitivity that has changed very little is the dominant role played by OPEC, which still accounts for more than 70% of the world's total reserves.

Global Exploration & Production Scenario of Oil:

E&P activities world over are on the rise with spurt in crude oil and natural gas prices in international market. Consequently, increase in demand-supply gap in E&P services and availability of technical manpower, are new challenges for E&P companies. Few issues of importance in the current international petroleum scenario are discussed below:

1. Deep-water exploration in the world: World over oil companies are venturing in this frontier area, particularly in Gulf of Mexico, North Sea and Western Offshore Africa.

2. Pursuing development and production from established/ageing fields: Technological innovations are made to reduce E&P costs and increase recovery. Identification of cutting-edge technology is a key to developing ageing fields.

3. Privatization of energy sector in developing regions like East Asia and Pacific, Latin America, CIS, South Asia: Such opportunities need to be assessed as these regions are

historically, ideologically, politically and culturally, similar to India.

4. Strategic alliances to reduce/share risks in marginal field exploration and development: Companies have already entered into such alliances in acreages in India. The experience can be extended to preferred partners in overseas ventures.

5. End-product marketing by oil companies engaged in E&P: Major oil companies are vertically integrated with all the three sectors of petroleum industry - upstream, downstream and marketing.

6. Information technology for strategic advantage: Prodigious growth in information technology is being utilized by multi-disciplinary teams for Data-warehousing/interpretation etc. and seamless online connectivity for timely quality decision-making.

7. R&D: Efforts in R&D are focused towards continuous improvement in efficiency and cost-effectiveness of E&P techniques besides attaining a technological edge over competitors and solving new technological challenges.

Global Refinery Scenario:

Global refinery scenario particularly that of Asia is turning attractive. In Europe, there has been no substantive addition in the refining capacities. At a number of places refineries are being closed down because of environmental concerns and uneconomic size. In the US, refining capacity has increased marginally. In Central Asia, the refineries are old and require a huge dose of investment. The only area, which has seen a spurt in refining capacity, is the Middle East, India and China.

The world refining capacity at the end of 2010 is expected to be about 94 mbpd and around 102 mbpd in 2012. The significant expansion of capacity forecast for China and India would have the effect of pulling the locus of world refining more toward the Asia-Pacific region. Thus, there appears to be an excellent opportunity for capacity augmentation in the Asia Pacific region. Asia, including India and China, are projected to account for half the incremental consumption.

Indian Oil Scenario:

For more than 60 years after its discovery in 1890, the Digboi oil field in Assam, in the northeast of the country, provided India with its only commercial oil production: this field was still producing in 2009, albeit at a very low level. Since 1960 numerous onshore discoveries have been made in the western, eastern and southern parts of India; the outstanding find was, however, made in offshore waters in 1974, when the Mumbai High oil and gas field was discovered. In 2008-2009 offshore fields provided 66% of national oil output. Total production of oil (including gas-plant liquids) has fluctuated in recent years within a range of 36-38 million tonnes

per annum. In 2008, India produced 34.0 million tonnes of crude oil, plus about 2 million tonnes of natural gasoline and a similar tonnage of gas-plant LPGs, all of which was used internally. Cairn Energy has made 25 discoveries in Rajasthan (in India's northwest). Initial attention is being concentrated on the Mangala, Bhagyam and Aishwariya (MBA) oil fields. An eventual peak rate of 2,40,000 b/d is envisaged, subject to Government approval and additional investment.

India was the fourth largest consumer of oil and petroleum products after the United States, China, and Japan in 2011. It was also the fourth largest importer of oil and petroleum products. The high degree of dependence on imported crude oil has led Indian energy companies to attempt to diversify their supply sources. To this end, Indian national oil companies (NOCs) have purchased equity stakes in overseas oil and gas fields in South America, Africa, and the Caspian Sea region to acquire reserves and production capability. However, the majority of imports continue to come from the Middle East, where Indian companies have little direct access to investment. According to the Oil & Gas Journal, India had 5.5 billion barrels of proved oil reserves at the end of 2012. About 53 percent of reserves are from onshore resources, while 47 percent are offshore reserves. Most reserves are found in the western part of India, particularly western offshore, Gujarat, and Rajasthan. The Assam-Arakan basin in the northeast part of the country is also an important oil-producing region and contains more than 10 percent of the country's reserves.

India has at present 18 refineries with refining capacity at 132.47 MMTPA. The refining capacity is expected to reach 148.97 MMTPA against the consumption of about 114 MMTPA thereby resulting into surplus of refining capacity. India's export performance has also been very impressive. Thus, the Ministry and companies are taking initiative for exploiting the potential for an export hub in India for petroleum products based on the export opportunities available in South East and East Asian countries.

Conclusion:

Oil is a mature global industry which offers the market participants opportunities for good economic returns. The balance between returns on capital and host countries' interests is a delicate matter. A number of countries, for political reasons, have limited the access of international companies. The report provides an overview on the global scenario covering aspects like reserves in crude and natural gas, production and the consumption of the same, contribution of Organization of Petroleum Exporting Countries (OPEC), effect of UN sanctions particularly on Iraq (Iraq is the third largest player in West Asia) over capacity situation in Asian region etc. The current scenario prevailing in the domestic industry has been comprehensively covered with specific emphasis on government regulations, demand supply aspects, pricing in the industry etc,