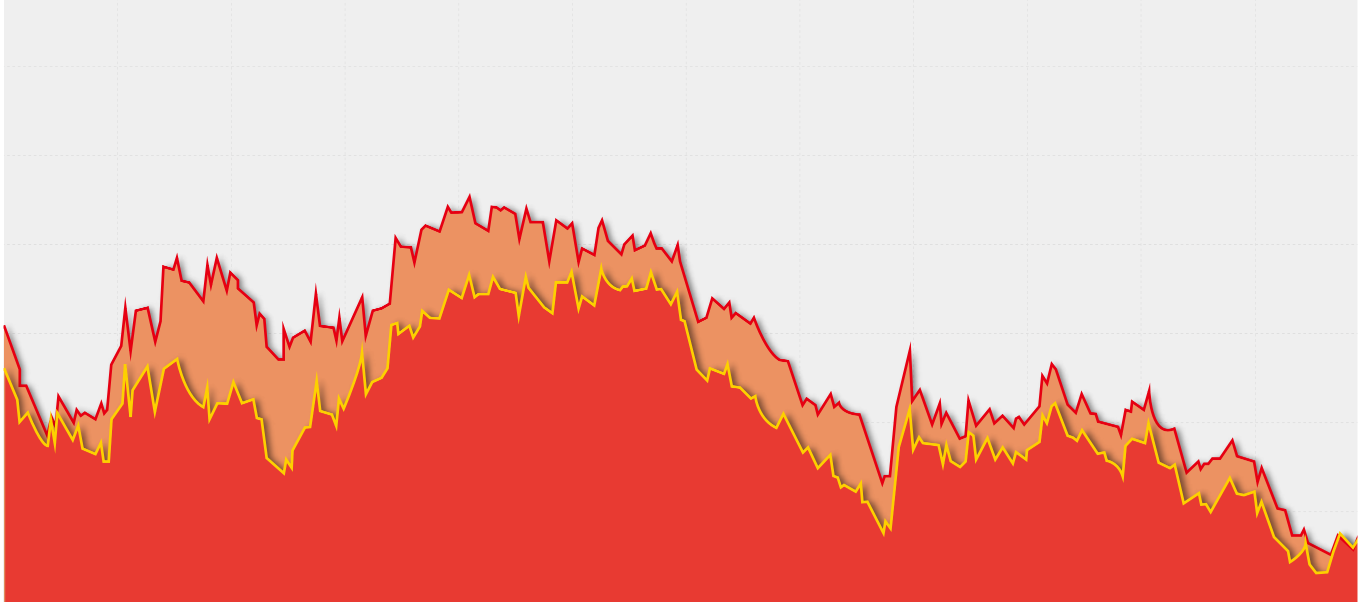

2015 Industry Review

Growth rate of world's primary energy consumption

0.7%

Growth rate of China's primary energy consumption

-0.5%

In 2015, a profound post-crisis recovery of the world economy continued with a slowdown growth rate. Major economies continued their divergent performance. Emerging economies continued the slowdown growth, while developed countries witnessed a moderate revival. Global energy consumption growth continued to slow down. In 2015, global primary energy consumption increased by 0.7% year-on-year, with a rising contribution from non-fossil energy. In China, the rate was -0.5%, the first negative growth for the past three decades, as a result of the nation's steady but slowing economy.

In 2015, the global oil supply became more ample, bringing oil prices down to the lowest level during the global financial crisis. Stimulated by low prices and the recovery of developed economies, global oil demand picked up by 1.7 million bbl/d to 94.40 million bbl/d. However, the supply increased by 2.6 million bbl/d to 96.10 million bbl/d as OPEC members raised their output to maintain their market share and the United States demonstrated resilience in its production of unconventional oil and gas. This drove the global oil supply to exceed demand by 1.7 million bbl/d, the highest level since 2000. WTI and Brent crude prices annually averaged at USD 48.76 and USD 53.60 per barrel, down by 47.52% and 46.11% year-on-year, respectively. In 2015, China's apparent oil consumption mildly rose to 543 million tons, 25 million tons more than in 2014, with the dependence on foreign oil exceeding 60% for the first time.

In 2015, the world consumed 3.48 trillion cubic meters of natural gas, representing a growth of 2.7% year-on-year, 2.3% higher than that in 2014. Gas demand was driven by Europe and the United States, which, together with the Middle East, showed significant increases in consumption, compared to the Asia-Pacific region, where consumption growth dropped to 1.2%. The gas price plummeted by 39.7% to USD 2.62/MMBtu in terms of Henry Hub year-round average and by 13.8% to USD 6.63/MMBtu in terms of the NBP year-round average. China's gas consumption registered the lowest growth for the past decade, leading to overall excess supply.

Global capital expenditure in the oil and gas sector kept plunging while the investment efficiency on exploration declined due to the decreasing scale of new discoveries and new reserves. Globally, the discoveries, mostly of gas, were concentrated in deep and ultra-deep water in Africa, especially in the Mediterranean Sea off the Egyptian coast, as well as offshore Angola and Mauritania. Despite subdued exploration, global oil and gas output increased in 2015 to 4.28 billion tons and 3.67 trillion cubic meters, up 2.8% and 2.4% year-on-year, respectively. With low oil prices, the exploration and development of shale oil and gas was no longer such an attractive prospect in the United States, and the value of reserves kept shrinking.

> In 2015, the oil industry entered into the "winter time", and maintained the trend of oversupply of oil, oil products and gas in the market, and falling oil and gas prices. While China's economic growth is slowing down under pressure, its oil consumption experienced a mild rise, oil products supply became ampler, and gas supply was surplus with consumption registering its lowest growth over the past decade.

In 2015, China's oil and gas reserves maintained steady growth and major breakthroughs were made in the exploration and development of unconventional oil and gas. Despite declining upstream investment, 50 important discoveries were made in 2015 due to the inertia of high reserve growth period, adding more than 1 billion tons of oil and 1 trillion cubic meters of gas to the reserves in place. Exploration of unconventional oil and gas proved over 100 million tons of shale oil and tight oil reserves; and 437.3 billion cubic meters of shale gas in place in Fuling, Changning, and Weiyuan areas. Oil and gas output maintained modest growth, with crude oil production increasing 2% year-on-year, a higher growth rate than in 2014. Gas output rose by 3.5% year-on-year, lower than in the previous years.

Global crude processing capacity grew at a slower pace, while crude runs registered a record high. Global capacity increased to 4,833Mt/a in 2015, with net growth of 26Mt/a, much lower than in 2014, due to China's large-scale elimination of outdated production capacity. Globally, 79.40 million barrels of crude were processed per day, up 2.7% year-on-year. The average utilization rate of refineries was around 84%, approximately 1 percentage point higher than in 2014. Due to consistently low oil prices, refineries around the world enjoyed much increased gross margins. The most impressive increase occurred in northwestern Europe, where the cracking margin against Brent oil was boosted by 125%. Global ethylene capacity steadily increased by 6.17Mt/a to 159Mt/a, but failed to reverse the tight supply as demand grew by 4.9 million tons.

2015 saw the first decline in China's refining capacity, by 10.37Mt/a to 710Mt/a. However, overcapacity still prevailed. In 2015, crude runs were 522 million tons, up 3.8% year-on-year. The average utilization rate of refineries around the country was 75.4%, slightly higher than in 2014. Ethylene production capacity kept increasing to 22Mt/a, up 1.6Mt/a or 7.8% year-on-year, primarily driven by coal (methanol)-based olefins.

In 2015, the world witnessed ample supply of major oil products and steady growth in the trading of refined products. Global supply of refined products reached 82.72 million bbl/d, exceeding demand of 81.77 million bbl/d by 0.95 million bbl/d. In contrast with the generally balanced supply and demand of gasoline and naphtha, supplies of diesel, jet fuel, and residual fuel were in surplus. Inventories of refined products increased in three major markets, the United States, Europe and Singapore. Global trade of refined products showed changes, which include: the United States further increased its exports, the Middle East became a net diesel exporter for the first time, and supplies of gasoline, kerosene and diesel remained in surplus in the Asia-Pacific region. In China, the supply of refined products became more ample as overall demand maintained mild growth in contrast to the steady increase in production. The diesel-to-gasoline consumption ratio continued to decline, as a result of sluggish demand for diesel and surging demand for gasoline, while demand for kerosene grew even faster. In 2015, China apparently consumed 318 million tons of refined products, up 5.3% year-on-year.

In 2015, growth in China's gas demand significantly slowed down due to the slackening economy, mild climate, and uncompetitive gas price. Apparent consumption in the year was 191 billion cubic meters, up 3.7% year-on-year. A higher percentage, or 32.7%, of gas consumption was met by imports of 62.4 billion cubic meters, up 4.7% year-on-year, of which 56.7% and 43.3% were pipeline gas and LNG, respectively. In 2015, an additional 2,700km of trunk lines and branches were built for gas transportation. The utilization rate of LNG terminals dropped from 48.7% in 2014 down to 47.4%, reflecting their apparent overcapacity.

In 2016, the petroleum industry will continue to face daunting tasks due to the slow recovery of the global economy. Global oil prices will be unlikely to rebound as the market will find it hard to digest its oversupply. Since new LNG capacity will be brought on-stream as planned, the surplus of gas in the market will keep growing, holding the price at a low level. The United States, being a new oil and gas exporter, is likely to become more influential on the international market. Mergers and acquisition will be active in the industry. In China, the growth in demand for oil will slow down while that for gas will revive, with overall ample supply. More players in the refining and sales markets will aggravate competition. Reform program on the petroleum sector will facilitate the market-oriented process of the industry.

Source: *Report on Oil & Gas Industry Development in 2015* by CNPC ETRI