

Market Outlook

Despite steady economic growth in developed countries in 2017, uncertain factors, including volatile oil prices, have been increasing: thorough analyses on domestic and overseas markets will be needed. SK innovation analyzes a variety of factors that impact our business operations and implement measures to adapt to a changing environment and secure a competitive advantage.

— E&P Business

Industrial Trends

A surge in oil production from unconventional sources in the U.S.A. and low international oil prices have led to many changes within the E&P sector. Most companies are reducing or postponing investments in high-cost projects such as deep-water, LNG, arctic, and oil sands, and restructuring their asset portfolios based on profitability. Furthermore, investment in unconventional resources in the U.S.A. is expected to increase due to rising oil prices and the restructuring of the U.S.A. tax system.

Oil Price Trends

Oil prices (Dubai Crude Oil), which were above USD 100 per barrel and reached USD 115 in June 2014, have declined and dropped to USD 26 per barrel in January 2016. Since then, the prices begun to recover and averaged USD 64 per barrel in December 2017.

— Battery & Materials Business

Mid- and Large-Size Battery Business Trend

The mid- and large-sized battery business is producing and selling large capacity lithium-ion batteries for electric vehicles and ESS (Energy Storage System). With the technological development of electric vehicles and improved economical efficiency, as well as new regulatory demands regarding the environmental impact of automobiles, the electric vehicle market is expected to rapidly expand.

Materials Business Trends

The LiBS (Lithium-ion Battery Separator) is a core materials for lithium-ion batteries: it prevents direct contact between the anode and cathode of the battery, and also provides a passage for the lithium-ions. Its market is growing steadily along with the battery market.

Manufactured by combining copper foil and polyimide, FCCL (Flexible Copper Clad Laminate) is a key materials in flexible circuit boards. The demand is increasing due to the growing market for smart devices and smaller, better-performing IT devices.

— Chemical Business

Basic Chemical Business Trend

The basic chemical business has high entry barriers compared to other industries because it requires high initial investment and technological expertise and is subject to economies of scale. It is sensitive to the global supply and demand and economic conditions, as well as oil prices, due to the nature of the industry and dependence on naphtha for producing basic materials.

In addition, the increase in low-cost unconventional resources such as shale gas and coal is expected to play a major role in changing market conditions.

Chemical Materials Business Trend

The profitability of the chemical materials business depends on oil prices as well as the economy of other industries as it supplies products to such industries as automobiles, electronics, construction, pharmaceuticals, and textiles. Chemical companies that started in the domestic market have shifted their focus to the export business, and growth is and therefore closely related to the global economy, especially China, due to strong demand. We are expanding our business in emerging markets such as South America, Southeast Asia and India.

As petrochemical products are mainly based on universal products, price is the most important factor in the market, and it is essential to realize economies of scale, improve processes, and reduce costs through efficiency. Product development and production technologies are considered key to success, as companies focus on new product development and differentiation to increase product value.

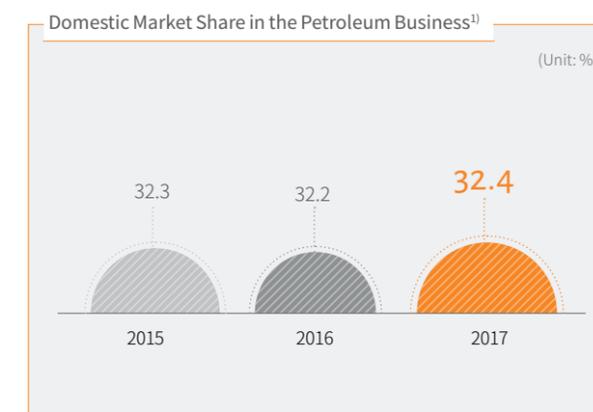
— Petroleum Business

Characteristics of Petroleum Business

The value chain of the petroleum business consists of crude oil import → production → transportation and storage → sales, and the crude oil stage accounts for the largest portion of petroleum product costs. As we have to import from the Middle East, their sales policy and exchange rates have a huge impact on our business.

Petroleum Product Consumption Trends

The domestic demand for major petroleum products declined by 2.3% from the previous year, and the demand for transportation fuel such as gasoline, diesel, and jet fuel increased in December 2017.



Note 1) Based on the domestic sales of light oil provided by the Korea Natural Oil Corporation's Petroleum Information System (Types of oil: gasoline, diesel, kerosene, jet fuel)

— Lubricant Business

Base Oil Business Trend

The key markets for our base oil products include Europe (EU), North America (U.S.A., Canada) and Japan, all of which have high demand for high-quality lubricants for automobiles, due to strict regulatory requirements in terms of fuel consumption and environmental impact. Other emerging markets such as China and major developing countries are also growing rapidly.

The base oil business is closely related to the automobile and machinery industries, which affects the demand for lubricants. When it comes to engine oil, which comprises the largest portion of demand, it has a high correlation with the distance traveled by automobiles and ships in the transportation industry. In general, demand is subject to the laws of supply and demand, the economic cycle, and growth rates.

Lubricant Business Trend

In the lubricant business, our major markets include Korea, China, the U.S.A., Russia, Pakistan, and India, with a focus on high-quality motor fuel. As a result of regression analysis over the past 20 years, lubricant demand growth tends to fall to 3.5% of GDP growth, which means that demand for lubricants is directly proportional to the economy.

Engine oil, which accounts for the largest portion of demand, has a high correlation with the distance traveled by automobiles and ships in the transportation industry. As a result, the industry positively correlates with economic growth rates. Low operation rates in the manufacturing industry in hot and cold weather cause its overall sales to decline, and demand picks up in the spring and autumn seasons when people change their engine oil after vacations. Other factors that may affect the demand include the domestic economy in the automobile and shipbuilding industries, market penetration of electric vehicles, and extended lifecycles from improved fuel efficiency and high product quality.