

2014 World Energy Situation as Indicated by BP Statistical Review

Ken Koyama, PhD

Chief Economist, Managing Director

The Institute of Energy Economics, Japan

On June 10, BP released the “BP Statistical Review of World Energy 2015”. As explained in three of my past reports (Nos. 94, 135 and 177), the BP Statistical Review is one of the most representative annual statistics on international energy supply and demand in the world. Energy experts in the world refer to the statistics which covers the latest data comprehensively. The following looks back on the features of the 2014 international energy market based on the BP Statistical Review.

First, primary energy demand in the world clearly decelerated growth in 2014. The demand in the year totaled 12.93 billion tons of oil equivalent (TOE), limiting growth from the previous year to 0.9%. The growth was the lowest in the period from 2000, excluding 2009 when primary energy demand declined 1.6% as the world economy plunged into a recession on the Lehman Shock. Energy demand in the member countries of the Organization for Economic Cooperation and Development (OECD) dropped by 0.9%, contributing to decelerating overall demand growth, while non-OECD countries’ demand increased by 2.4%. Particularly, the European Union’s energy demand posted a sharp fall of 3.9%. The slowdown or slump in global energy demand became a basic factor to ease the international energy supply-demand balance.

Second, fossil fuel demand which accounts for 86% of total primary energy demand decelerated growth, while non-fossil energy demand (nuclear, and hydro and other renewable energy sources) posted growth exceeding the average of total primary energy at 0.9% rise. Particularly, renewable energy demand scored a substantial increase of 12%. Oil, coal and gas demand growth fell to 0.8%, 0.4% and 0.4%, respectively. The growth deceleration became one of the key factors to ease the supply-demand balance and weaken prices in the fossil fuel markets.

Third, 2014 may be remembered as the year when energy demand growth clearly decelerated in China, the largest energy consumer in the world. China’s primary energy demand in 2014 totaled 2.97 TOE, accounting for 23% of the global total. But its growth from the previous year dropped to 2.6%, the lowest in 16 years. In China that is going in the direction of a “New Normal” with economic growth slowing down, energy demand growth decelerated for the third straight year from

8.4% in 2011. While non-fossil energy sources logged double-digit demand growth rates, coal demand growth slowed to only 0.1%. The coal demand growth deceleration had a great impact on overall energy demand as coal is China's largest energy source accounting for 66% of total energy demand. Structural oversupply in the economy led coal demand to slow down in major industrial sectors including steel, power generation and construction. China's energy demand slowdown greatly affected the global supply and demand environment not only for coal but also for oil and natural gas, contributing to weakening the fossil fuel markets.

Fourth, the supply side remarkably featured a substantial increase in U.S. oil and gas output. U.S. oil output in 2014 totaled 11.64 million barrels per day (bpd), posting a steep increase of 1.58 million bpd or 15.9% from the previous year. As a result, the United States replaced Saudi Arabia with production at 11.51 million bpd as the world's largest oil producing country. The 2014 U.S. oil output surpassed the past peak of 11.3 million bpd reached in 1970, setting a new record for the first time in 44 years.

As a matter of course, a substantial expansion in shale oil output was behind the sharp U.S. oil production growth. The diffusion of advanced technologies and high crude oil prices until the first half of 2014 supported the continuation of great shale oil output growth. The United States scored an annual oil production expansion of more than 1 million bpd for the third straight year from 2012, setting an unprecedented record in the history of the international oil market. U.S. oil output growth from 2012 to 2014 totaled 3.78 million bpd, rivaling 3.71 million bpd in 2014 output by the United Arab Emirates, the second largest oil producer in the Organization of the Oil Exporting Countries. The change effectively represented an emergence of a "big new oil producer equivalent to the size of UAE" within the United States over the past three years. The sharp U.S. oil output growth became a major supply and demand factor bringing about the crude oil price plunge since the second half of 2014.

U.S. natural gas output in 2014 also scored a substantial increase of 6.1% from the previous year to 728.3 billion cubic meters, growing for the ninth straight year since it began to increase in 2006 as a result of the shale gas revolution preceding the shale oil output expansion. The United States replaced Russia as the world's largest gas producer in 2009 and maintained the position until 2014. In contrast, gas output in Russia as the world's second largest gas producer in 2014 decreased by 4.3 percent from the previous year. The United States was thus the world's largest oil and gas producer in 2014, symbolizing the great impact of the shale revolution.

As mentioned above, the EU posted a 3.9% decrease in primary energy demand. The direct cause of the decline was clearly the prolonged recession. Among energy sources, renewable energy logged a firm increase of 8.2% in demand, supported by policy measures including the feed-in-tariff system introduced ahead of other regions. In contrast, fossil fuels posted demand declines.

Particularly, gas demand logged a sharp drop of 11.6%, attracting much attention. The EU's gas demand shrank for the fourth straight year. Factors behind the shrinking gas demand include an overall energy demand fall amid the recession, renewable energy demand growth under policy support and the presence of coal with greater price competitiveness. The EU situation indicates that demand can decline substantially even for clean, useful gas if it is affected by an economic slump and loses competitiveness against rival fuels. The EU experience provides interesting implications to the world and Japan.

Contact: report@tky.iej.or.jp

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