

## **Investment Cuts on Oil Price Plunge and Their Impacts over 2 Different Cycles**

Ken Koyama, PhD  
Chief Economist, Managing Director  
The Institute of Energy Economics, Japan

The crude oil price plunge since the second half of the last year has caused investment cuts in the oil and gas upstream sector. The investment cuts could have impacts over short and medium to long-term cycles, depending on their respective characteristics. I briefly discussed this point in my 218th special bulletin on "A Japanese Perspective on the International Energy Landscape." Here, I would like to elaborate on the point.

The focus of attention among short-term impacts may be those on U.S. shale oil production and future production's reaction to these impacts. In response to the oil price plunge, the number of oil drilling rigs in operation in the United States nosedived by nearly 60% from the peak of 1,609 last October to less than 700 in May. Interestingly, however, U.S. oil output during the nosedive was continuing to increase until recently. This was because oil production centered on rigs for highly productive (low-cost, highly efficient) oilfields. It was also because production was economically justifiable as far as crude oil prices remained above a short-term marginal production cost that was considerably low.

But declining drilling operations have gradually begun to affect production as the natural depletion of shale oil resources is relatively faster than that of conventional resources. U.S. oil output peaked out and began to decline in April. The new development prompted crude oil prices to turn up. The benchmark West Texas Intermediate crude futures price then rose back above \$60 per barrel. Meanwhile, the crude oil price plunge has led oil producers to promote the reduction of costs, bringing about an overall production cost drop. On the other hand, there are many shale oil wells that have been drilled while having yet to be completed for producing oil. Crude oil prices' rally above certain levels may prompt producers to complete these wells for oil production, leading to a production increase after some time lag. In such case, a certain price recovery may cause the resumption of investment and bring about an oil supply increase, working to restrain price hikes. In some sense, U.S. shale oil producers may eventually have some automatic price adjustment function through supply changes responding to price fluctuations, though unlike Saudi Arabia that intentionally and strategically adjusts oil supply over a very short term in response to oil price fluctuations.

Next, medium to long-term impacts come as oil producing countries and international oil companies fundamentally revise their large investment projects for increasing oil output to cancel or delay investment for the purpose of cutting costs in response to oil price drops.

In this regard, Financial Times carried an interesting story on May 19. The newspaper reported an analysis of international oil companies' investment cuts responding to the oil price plunge, indicating that investment cuts would total \$118 billion as the price plunge affects 26 large-scale oil production projects in 13 countries. It also gave another estimate based on 120 oil companies' capital spending plans for the year 2015, suggesting that the year's capital spending would fall by 25% or some \$130 billion from the previous year.

The newspaper cited factors behind actual and expected investment cuts as including projects' deteriorated profitability under the oil price plunge, uncertainties about future demand (sales outlets) and expectations on future cost drops (and an oil price recovery). It also pointed out that major projects subject to investment cuts include large Canadian and Australian "green field" projects featuring massive initial investment.

The Financial Times presented an analysis indicating that the abovementioned investment cuts estimated at \$118 billion could delay a production increase of 1.5 million barrels per day for two years (could lead the planned production increase to fail to be realized). The investment cuts are thus expected to help tighten the supply-demand balance over a medium to long term.

The newspaper also provided a view that international oil companies could further accelerate their published investment cuts depending on future developments. The view warned that capital spending worth \$750 billion could be reconsidered at a crude oil price of \$60/barrel, exposing 10.5 million bpd in oil output to medium to long-term risks.

As indicated by the abovementioned descriptions on short-term impacts, U.S. shale oil production could turn up depending on future oil prices. Given that U.S. shale oil output had widely been expected even before the oil price plunge to peak out in the first half of the 2020s, however, it is difficult at present to estimate how long U.S. shale oil output could continue increasing. Under such situation, we must pay attention to the fact that the oil price plunge has led to substantial cuts in international oil sector investment. This is because the oil price plunge over a medium to long-term cycle is feared to cause the problem that "a deeper trough could be followed by a higher peak."

The international oil market or the overall international energy market has been cyclic in some sense. While the demand side's reaction to price changes is unignorable, energy investment is fundamentally destined to bring about supply after some lead time so that price changes' impacts on investment and supply become a key factor for determining the magnitude of cyclic fluctuations. It is fundamentally desirable for many stakeholders that the prices of energy and other necessities that

can become strategic occasionally are stable. Actually, however, such stability cannot be guaranteed in most cases. Rather, we must take note of the fact that history has been full of instability and cyclicity.

Contact: [report@tky.ieej.or.jp](mailto:report@tky.ieej.or.jp)

The back issues are available at the following URL

[http://eneken.ieej.or.jp/en/special\\_bulletin.html](http://eneken.ieej.or.jp/en/special_bulletin.html)