

## Outlook for the International Oil and Gas Markets Summary

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### I. Issues and interests

Under the economic policies of the Abe administration established at the end of 2012, the long-struggling Japanese economy is at last showing signs of picking up. However, the rapid weakening of the yen under these economic policies is causing the cost of energy imports to soar. Depending on whether the nuclear power plants are able to be restarted from this summer onwards, the soaring cost of energy imports could hamper the solid recovery of the economy. Elsewhere, there is good news in the US which is enjoying a shale gas revolution, including the granting of a government license to export LNG to Japan. On the other hand, in the Middle East and North Africa, there are signs of worsening political instability in many countries in the region, most evidently in Egypt, which could seriously affect the international energy situation through heightened geopolitical concerns. Based on these issues and interests, this report summarizes the international oil and natural gas situations which will continue to have a significant impact on the Japanese economy.

### II. Near-term international oil situation and forecast of oil prices

1. International oil prices (Brent, Dubai) have gradually declined from the level at the beginning of this year, and are currently in the low \$100/bbl range. This drop is due to the easing of the supply and demand balance since last year. In particular, production is increasing far faster than initially expected in North America, and the momentum seems unstoppable in the US where the shale revolution is strengthening and oil production has grown the fastest ever: by 1 million B/D year-on-year for 2012. Further, the production of Canadian oil sands is also increasing steadily, albeit less dramatically than shale gas. The combined production of the US and Canada alone is expected to grow by 1.1 million B/D in 2013. Meanwhile, on the demand side, global oil demand is expected to grow by only 0.8 million B/D year-on-year in 2013 as demand softens in emerging countries, including China. Due to these factors, the supply-demand balance of oil is likely to ease further from the latter half of 2013 to 2014.
2. With the supply and demand situation easing, in the crude oil futures market, there is a notable increase in open interest and net long positions attributed to non-commercials. This increase is caused by the continuation of monetary easing policies in various countries, including the

Quantitative Easing program 3 (QE3) of the US, and the geopolitical risks peculiar to the crude oil market that have firmly anchored the interest of a wide variety of investors to the market. While Iran's nuclear program has apparently been factored into the market, Iran is continuing to enrich uranium and the situation remains uncertain. Countries such as Iraq, with an increasing number of major terrorist attacks, and Libya, where armed attacks on petroleum infrastructure continue, could also experience major disruptions in crude oil supply if the situation worsens. Further, countless other factors in the Middle East could potentially destabilize the entire region, with direct or serious effects on the supply and demand of oil. Such factors include the situation in Syria which remains mired in civil war with no solution in sight, and Egypt where the military has dismissed the president and has in effect taken control of the country.

3. The focus of attention from the near-term monetary perspective is the direction of the various monetary policies, particularly the impact of "tapering" or discontinuation of the US's QE3. With speculation as to the timing of such tapering or discontinuation already affecting various commodities futures markets, the situation surrounding the strategy for terminating QE3, such as the impact of currency exchange rates and inflation expectations, could cause crude oil prices to fall.
4. Based on the factors above, we predict the crude oil prices for the latter half of 2013 (July through December) at \$100/bbl for Brent, \$98/bbl for Dubai, and \$95/bbl for WTI, and for 2014 at \$95/bbl for Brent, \$93/bbl for Dubai and \$90/bbl for WTI. Needless to say, these price levels may differ significantly depending on various factors affecting the international crude oil market in the future. Factors that could cause prices to fall include a greater slowdown of emerging economies, particularly China, and European economies than expected, and faster tapering or discontinuation of QE3 in the US than expected. On the other hand, the greatest factors that could cause prices to soar are geopolitical. If production and exports from Libya and Iraq drop due to a deterioration of domestic politics, or if anti-government rallies such as those in Egypt and Turkey spread to the entire Middle East and North Africa like the "Arab Spring" in 2011, international crude oil prices are likely to surge again.

### III. Near-term international gas situation

1. The global demand for natural gas grew steadily by 2% in 2012. However, there are significant regional differences. In the US, demand increased by 3% year-on-year as the price of natural gas became more competitive thanks to the shale gas revolution. In Asia, demand increased by 6% propped up by economic growth and the shift to natural gas (including replacing nuclear power in Japan). On the other hand, demand dropped by 5% year-on-year in Europe where the economy remains sluggish and natural gas is losing price-competitiveness as a fuel for generating power compared with coal and renewable energies, which are backed by subsidies including the feed-in tariff system.
2. In terms of supply, production is growing in areas other than Europe and the CIS although the situation differs by country. In North America, production is increasing in the US but is

decreasing in Canada which is losing the US market. In Africa, production is growing again in Nigeria and Libya after output was cut, but remains sluggish in Algeria due to the slow European economy and in Egypt where new gas development projects are delayed.

3. The demand for LNG dropped 2% to 236.31 million tonnes in 2012. This drop was caused by the supply and demand situation of natural gas described above. Specifically, in terms of demand, the most important factor was a 26% drop in exports to Europe and North America due to the sluggish economy and an oversupply of natural gas in those areas. Due to weak demand, as much as 2.7 million tonnes of LNG were re-exported from Europe and the US. In terms of supply, exports from countries such as Algeria, Egypt and Yemen decreased due to weak demand in Europe, increase in domestic demand, and worsening public security. On the other hand, imports by Asian countries grew by as much as 9% year-on-year to 167.18 million tonnes. In 2013, Singapore and Malaysia began importing LNG and newly became importing countries.
4. In terms of the supply of LNG, various projects are under way to meet the increasing demand in Asia. For example, the LNG project currently under construction in Australia has a total liquefaction capacity of approximately 60 million tonnes/year. However, the project is starting to show signs of delay as labor and equipment costs threaten to go over budget.
5. In North America, a large number of applications are being made for licenses to export LNG, with the total liquefaction capacity of such applications exceeding 200 million tonnes. Regarding LNG exports to non-FTA countries, the DOE granted a license to the Freeport project in May 2013, and the Cameron and Cove Point projects are also expected to be licensed within this year. At the moment, commitments by Japanese companies to purchase from LNG projects in the US have reached 14.7 million tonnes/year, and when the contract volume for South Korea and India is added, as much as 21.7 million tonnes/year of LNG are about to become available.
6. The liquefaction capacities of Russia, which is currently seeking access to Asian markets due to the struggling European market, and Mozambique, which is expected to become a new source of LNG supply, are currently 35 million tonnes/year and 20 million tonnes/year in total, respectively. These projects are driven by the strong demand and high prices of LNG in Asian markets and the oversupply situation in North America.
7. In 2013, the global demand for LNG is expected to drop from 2012 levels to approximately 233 million tonnes due to weak demand for natural gas in Europe and the shortage of source gas in some exporting countries. In 2014, the demand is expected to increase to approximately 250 million tonnes as demand recovers in Europe while it remains solid in Asia. Even considering the shortage of source gas, there is sufficient supply to meet the global demand for both 2013 and 2014, which is 244 million tonnes and 254 million tonnes, respectively.
8. The average import price of natural gas for 2012 was 17 USD/1 million BTU for Japan, 9.3 USD/1 million BTU for the UK, and 2.8 USD/1 million BTU for the US. The total LNG import of Japan for 2012 increased by 15% year-on-year to 6. 211.9 trillion yen due to the soaring LNG prices (dollar-based) and the weaker yen in addition to the increase in import volume. The continuing high demand for LNG and its high price are posing serious problems in terms of the macro-economy and the outflow of national wealth.

9. The Asia premium for LNG is a structural problem caused by differences in demand, pricing, and market liquidity between the markets. The supply-demand balance of LNG is likely to ease towards the latter half of the current decade if the new projects start as planned. The export of American LNG will have a major impact on the Asian market, as vast amounts of LNG, whose prices are not linked to oil prices, will flow into Asia, bringing diversity to the pricing system. This is expected to reduce the Asia premium by easing the supply-demand balance and improving market liquidity. Furthermore, changes in the import prices of existing LNG projects associated with changes in crude oil prices must be closely monitored.

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