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## **Outlook and Challenges for Japanese and Foreign Gas Situations in 2016 (Summary)**

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### Outlook for natural gas prices in 2016

1. The price for Japan's natural gas imports in September 2015 stood at \$9.6/MMBtu, against the wholesale price of \$2.7/MMBtu in the United States and \$6.2/MMBtu in the United Kingdom. Spot LNG price for Northeast Asia in the month is estimated at \$7-8/MMBtu.
2. Given our crude oil price outlook (\$45-55/bbl for Japanese imports, see Report 1 "Outlook for Japanese and Foreign Oil Situations") and the spot LNG price predicted at \$6-7/MMBtu for 2016, we forecast the average LNG import price for Japan in 2016 at \$6.7-7.4/MMBtu. In the lower crude oil price scenario (\$35-45/bbl for Japanese imports), the average price for Japanese LNG imports will be \$5.3-6.0/MMBtu.
3. In 2014, 89% of pipeline gas and LNG prices for Asia were linked to oil prices. It is desirable for natural gas and LNG prices in Asia reflect gas supply and demand, and market conditions in the region. Over a short term, pricing formulas will be diversified. Over a medium to long term, however, Asian benchmark LNG price will be needed.
4. As for European and U.S. market prices in 2016, gas futures forward curves on December 11 indicate stable low prices between \$1.9/MMBtu and 2.7/MMBtu for the U.S. Henry Hub and between \$4.8/MMBtu and \$5.9/MMBtu for the British NBP.

### International natural gas situation in 2016

5. Backed by robust Asian market demand and high prices over recent years, investment has been brisk in new LNG development projects, which have launched commercial operations one after another. Supported by substantial supply capacity growth, global LNG demand will be raised to 263 million tonnes in 2016. Global LNG supply capacity will expand to 285 million tonnes in 2016 due to commercial

production to be launched under new projects including GLNG, Australia Pacific and Gorgon in Australia and Sabine Pass in the United States. Supply capacity growth will be faster than demand growth, accelerating buyer's market for LNG.

6. In the first eight months of 2015, natural gas demand increased by 5% year on year in OECD Americas and by 8% in OECD Europe. OECD Europe demand seems to have hit bottom at last. But OECD Europe still has the structural problem of weak price competitiveness for natural gas in the power generation sector. While macroeconomic conditions are expected to improve moderately, the 2015 trend is likely to continue into 2016.
7. In the same period of 2015, Northeast Asian gas demand increased by 1% year on year, indicating a rapid growth deceleration. In South Korea, demand plunged by 7% due particularly to a rapid fall in demand for power generation. In Japan and China, gas demand growth decelerated on a drop in demand also for gas for power generation and the weakening price competitiveness of natural gas. Japan's restart of nuclear power plants, expanding renewable energy under political assistance and slack oil prices are exerting downward pressure on natural gas demand growth. Northeast Asian demand is unlikely to rapidly recover in 2016.
8. Although shale gas productivity improvement has led to production growth despite weak gas and oil prices, U.S. natural gas production finally turned downward in August. With five LNG projects with a total capacity of about 69 million tonnes per year, the United States will become the third largest LNG producer by 2020, following Australia with about 86 million tonnes and Qatar with about 77 million tonnes.
9. Russian natural gas exports in the first nine months of 2015 totaled 193 billion cubic meters (about 142 million tonnes), posting a plunge of 11%. As Russia's relations with Turkey have worsened on the shooting down of a Russian military plane following deterioration of its ties with the EU and Ukraine, Russia has growingly been required to shift to Asia. In the Asian market, however, oil and gas price plunges have raised hurdles against costly East Siberian natural gas development. With weak Chinese demand, it is likely that Power of Siberia (planned to launch supply in 2018 with an annual capacity of 38 bcm) and the Altai Pipeline (planned to launch supply in the 2020s with 30 bcm) will be delayed significantly.

#### Pursuing flexible supply in the Asian LNG market

10. Spot LNG transactions in 2015 are projected to slightly decline from the previous year to about 23 million tonnes. While the spot market is required to expand to

increase Asian gas market liquidity, needs for spot LNG cargoes are failing to grow due to weak demand.

11. At LNG Producer Consumer Conference in September 2015 and Multilateral Joint Study on LNG, the improvement of supply flexibility has been cited as one of the challenges for the Asian LNG market. While Japan's restart of nuclear power plants, the expansion of coal and renewable energy power generation, and electricity and power and gas market liberalization, the flexibility of LNG supply is growing more important. In this sense, spot transactions should be expanded.
12. In relation to supply flexibility of LNG destination clause that prohibits LNG buyers from reselling LNG without consent from sellers impedes the improvement of supply flexibility and market liquidity and should be repealed for new FOB (free on board) contracts and relaxed for new DES (delivered ex ship) contracts. Governments as well as market players are required to enhance efforts to relax or repeal the destination clause.

(Note) The EU illegalized destination clause as running counter to competition law, LNG contracts for EU countries exclude the destination clause in principle. At a meeting in 2014, G7 energy ministers agreed to pursue greater natural gas market flexibility including the relaxed destination clause.