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Downstream Integration Strategy by Saudi Aramco

by Tetsuo Morikawa

Saudi Deputy Crown Prince Muhammad bin Salman visited China and Japan in early September. Muhammad bin Salman being the key figure of "Saudi Vision 2030" and "National Transformation Program (NTP) 2020" that were released in April and June respectively, his visit attracted wide attention in both countries. During the visit, Saudi signed a number of MOUs with China and Japan on energy, technology, education, culture, and other areas. Both China and Japan expressed support for Saudi to realize its Vision. Few doubts Prince Muhammad is on the fast track to the next Saudi King. Young and vigorous Deputy Crown Prince will remain the central character not only in Saudi but also in the region.

While many question the feasibility of the Vision, Saudi targets in NTP in oil could be regarded even as conservative. Oil production capacity target at 12.5 million barrels per day (mb/d) has been a default line for some time. Refinery capacity target at 3.3 mb/d is not surprising, considering Saudi already holds 2.9 mb/d and at least 0.4 mb/d under construction. In relation with oil importing countries in the APEC region, Saudi Aramco's ownership in downstream assets in importing countries is a traditional approach but still interesting. Saudi Aramco currently owns 2.4 mb/d refinery capacity in the US, China, Korea, and Japan through joint ventures with company like Shell, ExxonMobil, Sinopec, and S-Oil of Korea. It also has access to 6 mb storage capacity in Japan and the capacity could be expanded in the future. All this activities can be termed as "downstream vertical integration" into importing countries for the sake of what exporters call "security of demand", which is in contrast to "upstream vertical integration" and "security of supply" that are more familiar concepts for importers. (*next page*)

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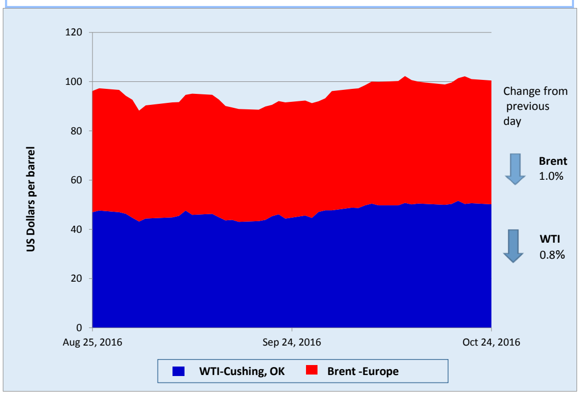
CRUDE OIL SPOT PRICE

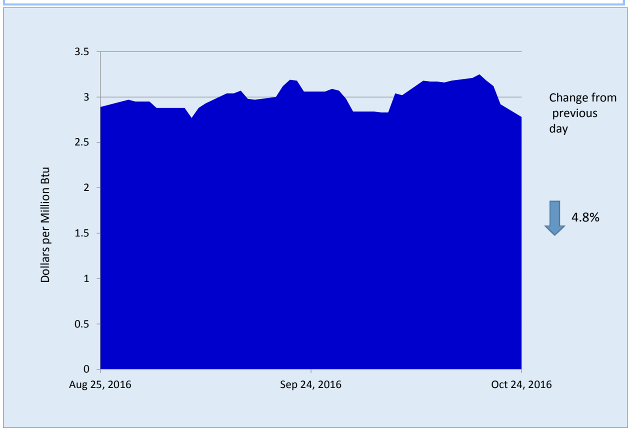


WTI—USD 50.18 (Oct. 24)

Source : US Energy Information Administration

"….for the sake of what exporters call 'security of demand', which is in contrast to 'upstream vertical integration' and 'security of supply' …"

NATURAL GAS SPOT PRICE



Henry Hub—USD 2.78 (Oct. 24)

Source : US Energy Information Administration

"….financing challenges because of economic sanction from western countries against Russia…"

Downstream Integration….

Theoretically, whether vertical integration strategy succeeds depends on market liquidity or competitiveness in the industry. In other words, the more liquid the market and the more competitive the industry is, the more costly and the less successful vertical integration is likely to be. However, in the era of low oil price, Saudi Aramco might be driven more by the desire for security of demand rather than cost.

Contribution of Chinese Money for Energy Investment

by Ichiro Kutani

There are various discussions surrounding China's increasing exposure and rising global economic influence. But one obvious talk of such change in China may be the contribution of Chinese money for energy investment.

One example is the recent investment loan from the China Development Bank (CDB) and Export-Import Bank of China (China Ex-Im) to Yamal LNG project in Russia. The project is known for its large capacity and unique location. While the project had been facing financing challenges because of economic sanction from western countries against Russia, financing support from CDB and the China Ex-Im has changed the situation. Yamal LNG is expected to hold a total export capacity of 16.5 million ton per annum which is larger than the existing Sakhalin 2 LNG. Although many analysts expect LNG glut until around 2020, still, the inflow of new LNG capacity may benefit supply security to most of LNG importers among APEC economies.

Another interesting initiative of China is the "One-Belt One-Road" (OBOR) Initiative. This is to enhance connectivity of on-shore and off-shore routes from China to Europe which include large investment plans for transportation and energy infrastructure along the routes. There are many countries trying to boost their national economies but are struggling to have sufficient finance. For those countries, money flowing from China's financial institutions may be an opportunity for them to start taking off to further growth. Though the targeted region of the OBOR initiative is not directly link to APEC. But because oil and gas are global commodities in nature, the political and social stability of the subjected region may indirectly benefit the oil and gas security of APEC economies. As one of the underlining elements of political and social stability of those countries are their firm economic growths.

In such way, the increasing flow of money from China for global investment may contribute to the security of APEC economies.

Mexico's Energy Sector Reform: Will the Country Evolve to a Major Oil and Gas Supplier?

by Yoshikazu Kobayashi

In 2013, Mexican Congress passed the bill to amend the country's constitutional law in order to allow foreign companies to explore and produce oil and gas in the country. It had been pointed out for a long time that the country's upstream sector needs foreign investments to reverse the declining trend of the country's oil and gas reserves and production, and revive its ailing hydrocarbon sector. Mexico's breakthrough decision to open up its upstream sector was welcomed with a high expectation that the country will evolve into another major oil and gas supplier to the Asia Pacific region.

Mexico's upstream sector, in fact, has not performed very well in the last decade. Its oil reserves and gas reserves have declined by 20.9% and 20.5%, respectively. Its oil production has also shrunk by 31.3% while its natural gas production barely maintained the same level as ten years ago. PEMEX, Mexico's national oil company and the sole operator of oil and gas development in the country, has accumulated the debt of USD 8.2 billion, and the Mexican government provided emergency rescue finance to the company this April. Weak balance sheet of the company caused by heavy tax burden restricted the company's investment in upstream sector, and the insufficient investment accelerates the oil and gas production decline, which further worsens the company's financial status.

Mexico is geographically located in an advantaged position to capture growing oil and gas demand in Asia Pacific region. Navigation days from Mexico to Asian oil importing countries are much shorter than from Middle East. Increased production and crude oil exports will bring both economic and security benefits to Asian and South American countries along the Pacific Ocean.

The reform of the country's upstream sector brings pain. Political leadership by President Pena Nieto to initiate the current reform should therefore be highly regarded. Asia Pacific countries should continue to support the president to pursue this very important reform for the regional energy security.

"….restricted the company's investment in upstream sector, and the insufficient investment accelerates the oil and gas production decline,…"

Photo and Photo Story

Bab El-Mandeb Strait

The Bab El-Mandeb Strait

*The **Bab el-Mandeb Strait** is a chokepoint between the Horn of Africa and the Middle East, and it is a strategic link between the Mediterranean Sea and the Indian Ocean. The strait is located between Yemen, Djibouti, and Eritrea, and connects the Red Sea with the Gulf of Aden and the Arabian Sea. Most exports from the Persian Gulf that transit the Suez Canal and SUMED Pipeline also pass through Bab el-Mandeb.*

*See related story on page 6, the **Middle East Update***

Photo and Photo Story courtesy of EIA

Professor Jonathan Stern *is a Distinguished Research Fellow at the Natural Gas Research Programme at the Oxford Institute for Energy Studies; he was previously Director and Chairman of the Programme. He is Honorary Professor at the Centre for Energy, Petroleum & Mineral Law & Policy, University of Dundee; Visiting Professor at Imperial College's Centre for Environmental Policy in London; Fellow of the Energy Delta Institute at Groningen in the Netherlands; and Distinguished Research Fellow of the Institute of Energy Economics, Japan. Professor Stern has worked as an academic and consultant on energy and natural gas issues for nearly 40 years. He is the author and editor of several books and many shorter works on natural gas markets in different regions of the world including on Russia, Asia and the Middle East and North Africa, as well as international gas pricing. He is the author of two chapters in the book published in September 2016, LNG Markets in Transition: the great reconfiguration, eds. Anne-Sophie Corbeau and David Ledesma. His current research is on the future of gas in decarbonising European energy markets.*

Interview with Prof Jonathan Stern

As one of IEEJ's Distinguished Research Fellow, Prof Stern has been invited as Guest Speaker to numerous fora organized and hosted by IEEJ. One of which was the IEEJ 50th/APERC 20th Anniversary Joint Symposium held last March 2016. APERC Secretariat was honored to have him for the APEC OGS Newsletter Interview with the Expert.

APERC—You have conducted research and written books about natural gas in Russia and Asia in the past, can you explain briefly the current and future role of Russia in the gas supply security of the APEC region?

Prof Stern—The current role of Russia in the gas supply security of the APEC region is modest. Russia has one LNG export project and – as yet – no pipeline exports. Starting in 2017, the Yamal LNG project will deliver around half of its cargoes to Asia, and although this will expand Russia's role, the country will still not become a significant gas exporter to APEC countries. However, during the 2020s this role will expand as the Power of Siberia pipeline is completed which will be commissioned (we think) around 2021 and will eventually deliver 38 Bcm of gas to China. Around the same time, we may see the third train of Sakhalin LNG commissioned. Should this happen – and especially if the Altai pipeline to China and additional LNG projects are also completed – by the early 2030s, Russia could become a much more significant supplier of gas to the Asian region.

APERC—In your studies and researches what were the most common gas supply security issues you have encountered; market volatility, natural calamities, or geopolitical instability?

Prof Stern—The most surprising outcome of research on natural gas security is the finding that the most serious incidents around the world have been caused by industrial accidents and not, as many people believe, by geopolitical instability. This is because most of the problems caused by industrial accidents – generally failure of infrastructure (fields, pipelines, processing plants and storages) are not widely reported. Mostly the consequences are higher prices for a short period of time, rather than absolute supply failures, which tend to be difficult to identify in general market price movements. (*next page*)

Interview ...

APERC—On a lighter side, as a professor which area do you enjoy teaching most?

I have come to enjoy teaching the pricing of fossil fuels, especially natural gas. The reason is that all of us are taught in our first economics lesson that the price of a product should be a function of the supply and demand for that product in the country where it is being sold. As far as energy is concerned – but especially natural gas – that only started to be true in North American in the 1990s; and in Europe in the 2010s. For most of the rest of the world it is still not the case, and it is great fun to explain the history of why this happened, why non-market pricing of gas remains in many countries, and why it is so difficult to change.

APERC—And finally, what new insights does your book on LNG Markets in Transition – which you have just launched - provide for our readers?

Prof Stern—The sub-title of the book is `The Great Reconfiguration' and it refers to the fact that, for many decades, the LNG industry resembled a `cosy club' of a few companies, where everybody knew each other and it was very difficult and expensive to become a member. That is changing fundamentally as more countries are starting to import, export and ship LNG. The new world of LNG will be one of greater commoditisation, shorter term contracts, spot cargoes and spot prices. It is not correct (yet) to refer to a `global' gas market but because of LNG, gas markets have broken out of their regional paradigm and prices have become regionally connected. For this reason, the 2011-14 period of huge differentials between regional gas prices – which gave rise to the `Asian premium' – is not likely to be repeated.

"....most serious incidents around the world have been caused by industrial accidents and not, as many people believe, by geopolitical instability. "

Photo and Photo Story

Prof Jonathan Stern (*2nd from left, panellist table*) together with the other distinguished guests during the IEEJ 50th/APERC 20th Anniversary Joint Symposium held last March 2016 in Tokyo, Japan. Prof Stern presented the *Asian LNG Market Development 2025: pricing and contractual challenges.*

Middle East Update

Long Way to Achieve Peace in Arabia Felix

by Junji Kawashima

Yemen has been under attack by the Saudi-led coalition since March 2015. The surroundings of its capital Sana'a is controlled by the Yemeni anti-government alliance of a local armed group "Houthis" and the former president who stepped down in 2011 following the "Arab Spring." Local power struggle in Yemen overlapped the sectarian rivalry between Shi'ite Iran and Sunni Saudi Arabia, and has turned from civil war to regional conflict. This turbulence threatens the safety of maritime navigation through the Bab el-Mandeb Strait where a UAE vessel was hit by a missile belonging to the Yemeni opposition in early October. Furthermore, it could backfire over the security of the intervening neighbours, especially oil-rich Saudi Arabia.

Bab el-Mandeb is a narrow strait linking the Red Sea with the Gulf of Aden where Yemen is strategically located, through which an estimated four percent of global oil supply passing through it. The strait is a strategic route for Persian Gulf oil, natural gas, and petroleum product shipments to Europe and North America, as well as European and North African oil exports to Asia.

Egypt and Saudi Arabia fear a Houthi takeover would threaten free passage through the strait.

Though what is now Yemen was called "Arabia Felix" (Happy Arabia) in ancient time, it is a long way to achieve peace in this area.

Upcoming Event •

LNG Producer-Consumer Conference 2016

The LNG Producer-Consumer Conference 2016 to be held in Tokyo is fast approaching. Barely a month to go and the preparation is in full blast.

These years' environment surrounding LNG has changed drastically, particularly in the Asia Pacific region, and the LNG transaction is thus, expected to still grow in the future.

There will be a high level participation including Ministers, business leaders and experts from major LNG producer and consumer countries. As in the previous, the forum will serve as a venue to form a network of government officials and businessmen in the APEC economies and experts from international/ regional organizations.

For registration and other information, please email the Secretariat of LNG Producer-Consumer Conference 2016 (lngreg@convention.co.jp). Registration should be completed by 31 October 2016.

Asia Pacific Energy Research Centre

The Asia Pacific Energy Research Centre (APERC) was established in July 1996 in Tokyo following the directive of APEC Economic Leaders in the Osaka Action Agenda. The primary objective of APERC is to conduct researches to foster understanding among APEC members of regional energy outlook, market developments and policy.

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