August 2017
Issue No. 17

APEC Oil and Gas Security Newsletter

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Middle East Update

The Arab Boycott of Qatar Through the Looking-Glass

Koichiro Tanaka

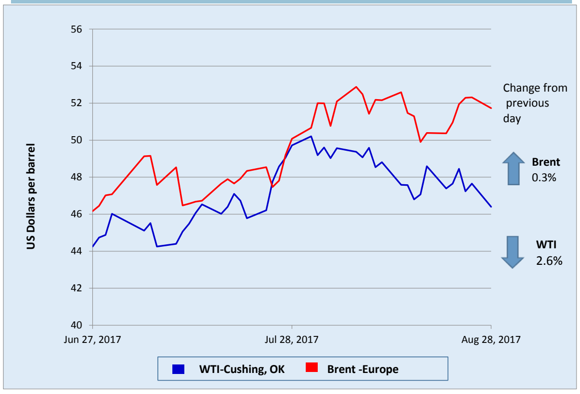
Although the announcement by Bahrain, Saudi Arabia, UAE, and Egypt, to sever their diplomatic and economic ties with a fellow Sunni Arab state Qatar on 5 June caught the entire world by surprise, the resurgence of disputes amongst the nations was not totally unexpected because of the constant row in recent history. Yet, it did once again raise doubts in the minds of Asian economies on the reliability of their dependence on hydrocarbon energy supplies from the incident-prone Persian Gulf region.

As of late August 2017, the immediate negative impact on the energy market emanating from the isolation of Qatar appears to be minimal. Still, there is growing skeptics over an early resolution to this embargo against gas-rich Qatar. Such concern takes root from the general forecast of the LNG market by early 2020s when the supply-demand balance is expected to tighten, and the earlier decision made by Doha to terminate its self-imposed moratorium, in effect since 2005, was supposed to make a meaningful contribution by then.

The current restriction enforced by Qatar's immediate Arab neighbors on land transportation and transit of construction material and merchandises within the Arabian Peninsula will likely cast shadows over the management of Qatar's future projects. The boycott countries' effort to dissuade third parties from investment and involvement in the Qatari market will further narrow the possibility of a timely and successful redevelopment of the North Dome gas field.

Following an initial month of surmounting tension, diplomatic maneuvering of Kuwait, Turkey, as well as the US, with Secretary of State Tillerson shuttling the countries involved, has failed to yield (***next page***)

CRUDE OIL SPOT PRICES



<u>WTI—USD 46.4 (Aug. 28)</u>

Source : US Energy Information Administration

"….it did once again raise doubts in the minds of Asian economies on the reliability of their dependence on hydrocarbon energy supplies from the incident-prone Persian Gulf region."

"…..this was because the market expected more aggressive scheme such as deeper production cut than the current scheme."

The Arab Boycott…

tangible results. The Emir of Qatar, Sheikh Tamim, who opts for dialogue and negotiations, while rejecting the accusations, has made it clear that his country will not cede to the unjustified demands made by Saudi Arabia and others, signaling that the current feud is likely to continue for months, if not years. And, even with an amicable solution at distance, things will never be the same for the GCC and the Arab League who have accused one of its brethren of sponsoring state terrorism. Growing distrust in the region is hard to contain.

Oil Market Update

by Tetsuo Morikawa

Since OPEC and non-OPEC countries decided to extend the production cut on May 25, the oil market has been fairly nervous with increasing complexities especially that US production shows recovery amidst the production cut. WTI price plunged as much as 5% despite the news of production cut extension on May 25th. Apparently, this was because the market expected more aggressive scheme such as deeper production cut than the current scheme. In addition, production recovery and high stock level in the US, and production increases in Nigeria and Libya reinforced downward trend on oil prices for almost a month.

However, the tide turned in the late June. Stock drawdown in the US, drop in the number of rigs, and slowing productivity of shale oil pushed up the price for eight consecutive days from June 22nd to July 3rd.

While the US is the prime driving force to the price, the other side of the coin is obviously the joint production cut by OPEC and non-OPEC countries. The production cut since January this year definitely quickened rebalancing process, but not lowered OECD stock levels down to the five year average that production cut participants are aiming at. For the rest of 2017, the market will focus on the next OPEC meetings in September and November, whether the production cut will be extended again beyond March 2018, and should that be the case, whether deeper cut will be agreed.

Stock drawdown at the current pace will not achieve the target of five year average when the current scheme expires in March 2018. Production cut participants desperately need oil price to surge to finance their economies. Additionally, Saudi Arabia, the (***next page***)

Oil Market...

de-facto leader of OPEC, is planning the IPO of Saudi Aramco in 2018, and clearly intends to boost the revenue from the IPO price through higher oil price. In other words, these countries simply cannot afford another price collapse by not agreeing to the production cut extension. So my bet at the moment is that production cut will be extended albeit possible modifications.

In any case, the US shale producers and production cut participants are likely to continue to play tug of war in the coming months, if not years. Without any major contingencies such as financial market crash or oil supply disruption, the market will be rebalanced in 2017, and the price will rise gradually to the $55/bbl range in 2018.

Global LNG Expansion Continues With Some Worries

by Hiroshi Hashimoto

During the first half of 2017, the world witnessed various numbers and events that indicate rapid expansion of the global LNG, as well as the global gas (including pipeline gas), industry.

Big producers around the world are sending out more supply to the market. Australia increased LNG exports by 35% year on year in the first half of 2017 to 27 million tonnes.

The United States' exports of LNG during the first five months of the year amounted to 258 billion cubic feet (bcf), that is equivalent to 5.37 million tonnes, already by big margin surpassing 184 bcf (3.82 million tonnes) for the 12 months in 2016, according to data from DOE (Department of Energy).

Russia's Gazprom claimed that it exported 9.5 billion cubic meters (bcm) or 13.3% more gas to Europe during the first five months of 2017 than the same period a year ago, after hitting a record of 179.3 bcm in 2016 (19.9 bcm or 12.5% more than in 2015).

China continues increasing both production and consumption of natural gas. According to the NDRC (National Development and Reform Commission), during the first half of 2017, the country's cumulative gas production and consumption were 74.3 bcm and 114.6 bcm, which were 10.1% and 15.2% larger year on year, respectively.

Reflecting the relaxed market balance, gas prices around the world stay low. Notably in Asia, spot LNG prices, assessed by several price reporting agencies, stayed in the mid USD 5s / million Btu range since the middle of March, after steadily trending down from a little shy of USD 10 at the beginning of the year.

The low price phenomenon continues posing questions of how to price gas in long-term contracts and how to ensure investment in gas production for future supply, especially in capital-intensive LNG production projects.

In addition to these long-lasting familiar questions, during the past few months there were two notable governmental initiatives that have significant implications on the global LNG market - one each in the largest LNG importing country and in the largest LNG exporting country respectively, in the Asia Pacific region.

Japan's Fair Trade Commission released its findings in the investigation into the industry's practice of restricting destinations of LNG cargoes. Australia's federal government implemented the LNG export licensing regime in response to potential shortage of gas supply in the domestic gas market.

The former's intention is to ensure enough flexibility in the LNG market to facilitate smooth flow of the clean fuel. The latter is to ensure healthy development of the country's LNG industry without jeopardising stable supply of gas in the domestic market. While they are both unprecedented moves by the government, they are both reminders of the very basic of gas security: ensure stable and affordable gas supply to places where it is needed.

"....two notable governmental initiatives that have significant implications...."

Ms Joan MacNaughton

Joan MacNaughton is an influential figure in international energy and climate policy.

She is currently Chair of The Climate Group and of the Energy Academy of Europe. She sits on the Strategic Advisory Board of Engie UK and is a Director of the James Hutton Institute and a member of the Council of Warwick University.

Joan is an Honorary Fellow and Past President of the Energy Institute, a member of the International Advisory Boards of the Energy Institute of University College London; the US Joint Institute for Strategic Energy Analysis and the UK Energy Research Centre. In 2012 she served as Vice Chair of the UN Committee on the Policy Dialogue of the CDM. From 2011 to 2016, she was Executive Chair of the annual assessment of countries' energy policies for the World Energy Council, the 'Trilemma', of which she is now Honorary Chair. She has served on the Board of Governors, Argonne Laboratory at the University of Chicago where she chaired the Budget Committee; the Boards of the Carbon Capture and Storage Association (CCSA), the International Emission Trading Association (IETA), and the Policy, Regulatory and Legal Steering Group of Global CCSI, and for six years was a Non Executive Director of a FTSE 250 company. ***(next page)***

Interview with Ms Joan MacNaughton

*In this issue of Newsletter, APERC OGS Secretariat was honoured to interview **Ms Joan MacNaughton**, an expert invited for the APERC Annual Conference to talk about European Energy Security Cooperation post-Brexit. She was also invited as speaker in the IEEJ/APERC Joint Symposium presenting an interesting topic in the session about "Security/Economy and the Role of Fossil Fuels Revisited" .*

APERC—You've played key roles in shaping UK energy policy, does any of these polices involved oil and gas security in UK?

Ms MacNaughton—As Director General of Energy in the UK Government, I was responsible for advising government ministers on all aspects of energy policy including energy security. As regards oil and gas, I led work to engage with those industries with a view among other things to maximising the recovery of oil and gas reserves from the UK Continental Shelf. We succeeded in increasing the number of companies active in the area quite significantly. Nevertheless, the inevitable decline in output from our own supplies led to us becoming a net importer of gas in the middle of the last decade. We were prepared for this having encouraged significant investment in importation infrastructure – large LNG terminals for LNG trains from Qatar and Egypt, as well as pipelines from Norway and the Netherlands. During my tenure we also experienced considerable oil price volatility, necessitating a close dialogue with other importing countries and with OPEC to understand what was happening in the market.

APERC—During your term as the Chair of the Governing Board of the International Energy Agency, you led a review of the IEA's strategy and the emergency response to the supply disruption caused by Hurricane Katrina. Can you share with us briefly your experience in this review?

Ms MacNaughton—The review of strategy was driven by the realisation that, while the IEA had been established essentially as a coordination mechanism to help its member countries be more resilient to oil security risks, new risks to energy security were emerging with the increasing importance of gas in energy supply and with the looming low carbon energy transition. Member countries contributed to analysing these risks and formulating new approaches to future proof the work of the Agency.

In terms of the response to Hurricane Katrina, we activated the emergency response arrangements by which member (***next page***)

countries release oil stocks onto the market to mitigate the impact of a disruption of supply. We also engaged with OPEC and other big producers, who committed to do what they could to help. This swift action helped stabilise the market.

APERC—You were also Chair of the World Energy Trilemma, can you discuss briefly the strategies involved in addressing one of the trilemma; Energy Security; in particular, oil and gas security?

Ms MacNaughton—Our work on the World Energy Trilemma focused on analysing globally available data on the three dimensions of the Trilemma, namely energy security, energy equity (access to modern energy services and affordability), and environmental sustainability. Oil stocks and the degree of import dependence on energy sources were among the data analysed, as a result of which we were able to rank about 130 countries' performance against the three individual dimensions, and in overall terms. The analysis showed that all countries found it difficult to balance the three dimensions completely successfully, but the key finding was that performance in the rankings did not correlate directly with whether a country possessed its own energy resources, nor with geography nor degree of affluence. No, the main driver of performance was the quality of policymaking and its execution.

APERC—The 2016 Brexit has created several opinion on its effect on UK's economy. How about its energy security? Can you share with us your view on its effect to the oil and gas security in UK?

Ms MacNaughton—It is still quite difficult to assess the impact of Brexit: the negotiations of what will be the new relationship between the UK and the European Union are at a formative stage. Overall, I would doubt that Brexit will have much if any impact on oil security, given the global nature and fungibility of the oil market. For gas however, there is an interesting question around whether the UK will remain part of the European Union's single energy market, which covers gas and electricity. This market framework is still evolving but it does include a law governing gas security which will require member countries to assist one another in the event of a supply disruption. If the UK is not a member of this market, and is not covered by that law, you could argue that gas security will be negatively impacted. On the other hand, because of the investment in gas importation infrastructure over the last decade or so, coupled with the remaining production from the UKCS, the UK is currently a net re-exporter of gas to continental Europe, so the impact may not be so material. My own view is that, for reasons both of security and economics, it would make most sense for the UK to remain in the single energy market.

Ms Joan MacNaughton

From 2002, as Director General of Energy, Joan played a key role in shaping UK energy policy. In that role she led a major change programme and made a significant contribution to international energy policy, including overseeing the energy agenda during the UK Presidency of the EU and leading the work on the Clean Energy Action Plan agreed at the G8 Gleneagles Summit. From 2004 to 2006, she was Chair of the Governing Board of the International Energy Agency, leading a review of the IEA's strategy and leading the emergency response to the supply disruption caused by Hurricane Katrina.

From 2007 to 2011, Joan set up and then led Alstom's department for clean power advocacy, and until December 2012 acted as Global Adviser on Sustainable Policies for the company.

From 2007 to 2013 she was Senior Research Fellow at the Oxford Institute for Energy Studies, and has lectured at the LSE, UCL and many other institutions.

She is a Distinguished Fellow of the Institute of Energy Economics of Japan and of the Global Federation of Competitiveness Councils, and a Fellow of IETA. In 2006 she was made a Companion of the Order of the Bath by HM The Queen. She is married to Sir Bill Jeffrey, and is also known as Lady Jeffrey.

Source: https://www.theclimategroup.org/person/joan-macnaughton-cb-hon-fei

Anti-Nuclear Policy in Northeast Asia and LNG Security

by Ichiro Kutani

The new Korean President Mr. Moon Jae-in's administration has started in May 2017. If we were to summarise various news reports, the president is pursuing the reduction of nuclear power and coal power and plan to increase renewable energy and natural gas power. During the ceremony marking the permanent shutdown of old Kori number 1 reactor in June, he stated that he will completely revise Korea's nuclear policy. Looking into another economy in Northeast Asia, the leader of Chinese Taipei Ms. Tsai Ing-wen has also indicated her policy to abolish nuclear power plant in Chinese Taipei before 2025. And a revised power business law was passed in the parliament in January 2017 which clearly defines elimination of nuclear power by that year.

It may be highly probable that, at least in short- to mid-term, elimination of nuclear power will result in increase of LNG demand in both economies as experienced by Japan after the Great East Japan Earthquake in 2011. Korea is world's 2nd largest and Chinese Taipei is 5th largest LNG importer which together consumed a total of 63.4 billion cubic meter (Bcm) or 18% of LNG imports in 2016. This amount was a little larger than China and India's combined imports of about 17% of global LNG demand. If for example, both economies have replaced nuclear power generation in 2016 with gas-fired power generation (assuming 55% of thermal efficiency and 45MJ/m3 of natural gas heat content), they would have imported approximately an additional 0.30 Bcm (23 million tons) of LNG.

Of course, gas-fired power generation is not the only option here, thus, LNG import requirement may be smaller than estimated. However, we could say without a doubt that, increase in LNG import reduces energy self-sufficiency of economy, and thus, poses security concern. The increase use of renewable energy which both administration are aiming, can mitigate this concern, but the effort has just started and still needs to watch its progress.

Meanwhile, we should pay attention on the effect of the increasing LNG demand to the international market. Fortunately, we are observing a relaxed LNG supply-demand balance at the moment, and we are also seeing many new planned liquefaction projects. At the same time however, besides Korea and Chinese Taipei, it seems China is also trying to increase its natural gas share in their energy portfolio along with many other emerging LNG importing economies in Asia. We cannot deny then, that the change of balance in the future depends on the timing of both demand increase and investment for new liquefaction capacity.

"….increase in LNG import reduces energy self-sufficiency of economy, and thus, poses security concern."

Upcoming Event●

LNG Producer-Consumer Conference 2018

The Ministry of Economy, Trade and Industry (METI) is pleased to announce that the LNG Producer-Consumer Conference 2017 will be held on Wednesday, 18th October, jointly hosted by the Asia Pacific Energy Research Centre (APERC). The conference will provide the participants with a venue for sharing the latest trends in the global liquefied natural gas (LNG) market and discussing opportunities and challenges with a view to developing global LNG market.

As the environment surrounding LNG industry has been undergoing a dramatic transformation, Conference 2017 will provide an opportunity to promote active dialogue among LNG producers, consumers and other stakeholders with a view to deepening shared understandings of market trends and to developing global LNG market.

For registration and other queries, you may email the Secretariat of LNG Producer-Consumer Conference 2017 in lngreg@convention.co.jp.

NATURAL GAS SPOT PRICES

Henry Hub—USD 2.95 (Aug. 28)

Source : US Energy Information Administration

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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