

# APEC Oil and Gas Security Newsletter

## Falling Oil Prices and Its Implication to APEC Economies

by Tetsuo Morikawa

Oil prices are falling again. As of early August, crude oil futures price at CME (NYMEX) was \$39 per barrel, the lowest since mid-April. The direct trigger is increasing rig count and the less-than-expected gasoline demand growth, both in the US. While concerns over continuing oversupply in the US certainly have a significant impact on prices, oversupply is not exclusive in the US. OPEC produced as much as 33.4 million barrels per day in July, the highest ever. Major non-OPEC producers like Russia maintains historical high production level. And the US production that has been decreasing since April 2015 could finally turn upwards in 2017. On the demand side, there are several downside risks. The most obvious one is uncertain macro economy. IMF predicts in its World Economic Outlook published in July that the world GDP growth will be 3.1% in 2016 and 3.4% in 2017, 0.1% less for both years from the previous outlook in April.

What does this all mean to APEC economies? Obviously the implication differs between oil importers and exporters. In the short term, importers can enjoy low prices and exporters will suffer. However, given the magnitude of oil price fluctuations to any economies and long lead time of upstream development, long term perspective is essential. Upstream investment fell by 13% in 2015 and will be even lower in 2016. Underinvestment could result in price spike in the future. Maintaining adequate investment is important to prevent oil market from destabilizing in the years to come. It is meaningful that importers look into upstream invest opportunities too. This low price era is also offering a good opportunity to phase out energy subsidies and develop strategic oil reserves especially in energy-hungry Asian economies.

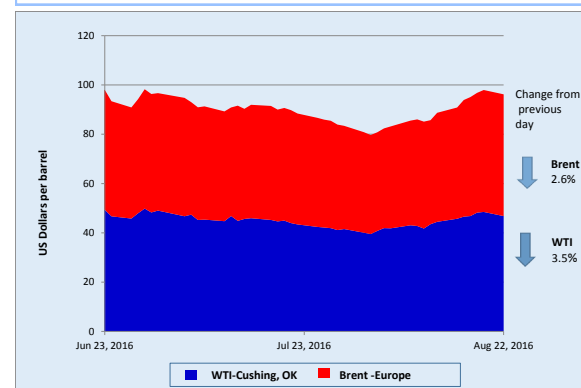
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- Upcoming Event · LNG Producer-Consumer Conference 2016
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- Natural Gas Spot Price (Henry Hub)
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## CRUDE OIL SPOT PRICE



**WTI—USD 46.8 (Aug 22)**

Source : US Energy Information Administration

## Decreasing China's Coal Demand and Gas Security

by Ichiro Kutani

According to the BP statistics published in June, China's coal demand decreased in the last two consecutive years. It decreased by 0.8 percent from 2013 to 2014, and 1.5 percent decrease from 2014 to 2015. It is surprising to see such a decline in spite of growing GDP and electricity demand.

While there may be a need for detail analysis before understanding the phenomenon accurately, it can be initially said that change is progressing in China's fuel choice. It is well known about the increasing air pollution in major metropolitan areas. Urgent action to protect people's health has made the city government to apply stricter restriction for coal usage which is regarded as one of the major causes of such air pollution. One example is to prohibit construction of coal-fired power station within certain area nearby Beijing, its capital city.

Then the question here is, what would be an alternate fuel to coal? The answer is natural gas and renewable energy. China is planning to increase its natural gas use in many sectors. In terms of renewable power generation, China is already holding the third largest capacity after Brazil and USA (2015, IRENA). Such policy direction to prefer lower carbon energy can also be observed in China's 13th Five-Year Plan which was adopted in March 2016.

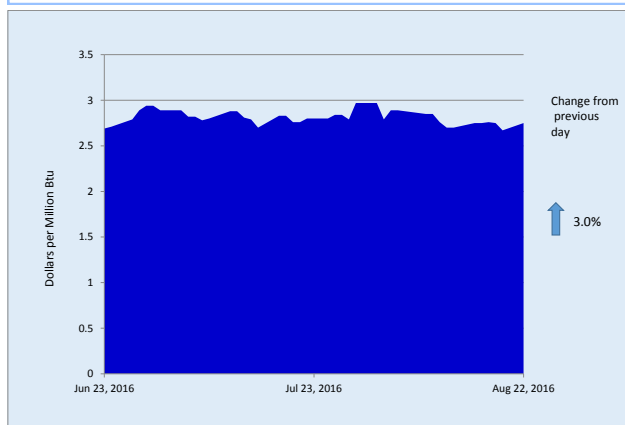
This gradual but big change in China will likely affect the gas/LNG market, especially in the APEC region. Also, China accounted for the 3rd biggest natural gas demand in APEC in 2015 and if its demand increase further in the future, will thus be affecting the supply-demand balance and price. And the growth of natural gas market would mean creating a higher necessity for supply security in APEC. China may be requested to further improve transparency of domestic market which can contribute to stabilizing the market. Besides, concerned economies may jointly formulate the international framework to ensure gas supply security in APEC, and China should be part of it.

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*"...importers can enjoy low prices and exporters will suffer."*

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### NATURAL GAS SPOT PRICE



**Henry Hub—USD 2.75 (Aug 22)**

Source : US Energy Information Administration

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*"..growth of natural gas market would mean creating a higher necessity for supply security in APEC. "*

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## Panama Canal Expansion: How Will It Contribute to Asia Pacific Gas Security?

by Yoshikazu Kobayashi

The long-expected Panama Canal Expansion was finally inaugurated on 26 June and the first LNG tanker, Maran Gas Apollonia, has passed through the expanded canal on July 25. The tanker, term chartered by Shell, loaded LNG from Sabine Pass operated by Cheniere energy and is directed towards Chinese port. Another LNG tanker British Merchant followed Maran Gas Apollonia, also navigated the expanded canal on the following date, July 26.

The expansion significantly increases the number of LNG tankers that can pass the canal and is expected to facilitate LNG exports from Gulf of Mexico to Asia-Pacific. Previously, only 56 of 538 LNG tankers (10.4% of total LNG tankers) could pass the canal. With the expansion, 519 tankers (96.5%) can now navigate the canal. Voyage days from Gulf of Mexico are likewise shortened. Navigation to northeast Asia (Japan, Korea, and China) through Panama Canal, now takes 20 days, compared to 34 days via Cape of Good Hope and 31 days via Suez Canal. Freight cost is also reduced by up to \$0.70/mmbtu compared to the voyage via Cape of Good Hope and by up to \$0.80/mmbtu via Suez Canal.

One of the obvious benefits of the expansion to Asia Pacific LNG market is an expected increase of LNG supply from US. Geographical distance was a big obstacle for US LNG to access the Asia Pacific market. But the hurdle has become much lower, thanks to the new navigation option. Because of its destination flexibility, increased supply of US LNG is more than welcomed in Asia Pacific market. Shortened voyage days and reduced freight cost of US LNG will improve supply resiliency of Asian market in case of emergency as it becomes another supply option which can be diverted to relatively easy with large potential of increased supply.

The expanded canal will also generate more opportunities of arbitrage between Asia Pacific market and Atlantic market leading to the convergence of natural gas prices among regions. Furthermore, a creation of reliable price benchmark based on the liquid LNG trade will eventually enable sound development of the world LNG market. Finally, it is expected that the expanded canal will skillfully handle the increased shipments, maximizing idling vessels, and the canal authority of Panama to set a reasonable tariff in order to maximize the expected benefits from the growing traffic demand.

*“....will improve supply resiliency of Asian market in case of emergency as it becomes another supply option which can be diverted to....”*

### Photo and Photo Story



### The Expanded Panama Canal

The Panama Canal Expansion is the largest project at the Canal since its original construction in 1914. Now, on its 102nd year of operation, the Canal was expanded with the construction of a new set of locks on the Atlantic and Pacific sides of the waterway and the excavation of more than 150 million cubic meters of material, creating a second lane of traffic and doubling the cargo capacity of the waterway.

Photo and story courtesy of the Panama Canal Authority



*In this issue of the Newsletter, we are honoured to have an excerpt of Dr. Gürkan Kumbaroğlu's Message in the 3rd Quarter 2016 Issue of IAEE Energy Forum. The IAEE Energy Forum Newsletter is issued four times a year and gives an account of IAEE Affiliate/Chapter activities and provides special reports and energy information from around the world. The Newsletter also contains articles on a wide range of applied/topical energy economics issues, as well as notes and special notices of interest to members. Further, the publication lists a calendar of upcoming conferences/seminars/ trade shows as well as recently published books of interest to energy economists (IAEE, 2016).*

*It's Editor, Mr. David Williams, kindly allowed APEC OGS Newsletter to re-issue Dr. Gürkan Kumbaroğlu's Message in this issue.*

**Dr. Gürkan Kumbaroğlu** is President of the International Association for Energy Economics (IAEE), and also President of the Turkish Association for Energy Economics. He is the Founding Director and Chairman of the Board of the Energy Policy Research Center at Boğaziçi University in Istanbul, Turkey. He has been a visiting researcher and professor at the Swiss Federal Institute of Technology ETH Zurich, the Lawrence Berkeley National Laboratory, RWTH Aachen University, the University of Sao Paulo, the Chinese Academy of Sciences, the University of Campinas, and the University of Port Harcourt.

Professor Kumbaroğlu is a member of the Academic Advisory Board of the *Turkish Association of Distribution System Operators*, and of the *Istanbul Chamber of Industry*. He is also a member of the Faculty Advisory Board of the *Florence Online School of Regulation*, and of the *China University of Petroleum in Beijing*.

Professor Kumbaroğlu is an Editorial Board member of the journals *Sustainability*, *Innovative Energy Policies*, and *Journal of Self-Governance and Management Economics*. He has received several international awards, published numerous articles and book chapters on energy and environmental policy.

### **Message from Dr. Gürkan Kumbaroğlu, Ph.D.**

*The following excerpt was Dr. Kumbaroğlu's thoughts on shale revolution in the United States with its implied production turnaround.*

"The first international shipment of LNG from the Lower 48 states, liquefied natural gas extracted from shale formations, left the export terminal in Louisiana on February 24 destined for Brazil. The first American shale gas shipment to Europe arrived in Portugal recently. In fact, Portugal and Iberia account for nearly half of all LNG imports to Europe and, in my opinion, emerge as an ideal location to become a gas hub in the southwest corner of Europe. However, pipeline links to the rest of Europe are underdeveloped and infrastructure investments are needed to supply the rest of Europe with American gas via Portugal and Iberia. These investments to establish missing cross-border links between the Iberian Peninsula and the rest of the EU energy market will contribute to building a single internal market where energy flows freely without any fragmentation. We will see American LNG exports grow rapidly with terminal capacities increasing over the next years. American shale gas presents a new source featuring diversification of supply for buyers and contributing to competition in the gas markets. As such, consumers benefit from cheaper gas prices while countries benefit from enhanced supply security.

Similar to the case of gas, the decline in oil prices has been a result of global oversupply resulting primarily from **(next page)**

## Message.....

unconventional oil production in the U.S. coupled with weak global demand. Low prices have reduced profitability and investment in the sector, which has led to a decline in the number of rigs drilling for oil in the U.S. The drop-off in drilling has had little effect on U.S. crude production so far and U.S. stockpiles of crude oil still stand near the highest level in more than 80 years, but it is expected that the decline in production will continue. This may lead to a temporary increase in prices. Temporary because, as prices go up, investment in oil rig drilling and hence production will increase again leading to a downward pressure on prices. Also, there are good prospects for increased supply outside the U.S. Canadian oil sands production will return. After the lifting of sanctions, if the agreement terms are not violated, Iranian oil production shall return to world markets as well. Moreover, there are significant shale reserves worldwide, e.g., China and Argentina possessing reserves comparable to the U.S. All these facts keep expectations of an oil price rise limited, and major oil producing countries like Saudi Arabia feel the need to adapt to an era of lower oil prices.” (<http://www.iaee.org/en/publications/newsletter.aspx>)



APERC also asked about his thoughts on the difference in energy security issues between Europe and the APEC region , and his response was:

**Dr. Kumbaroğlu**—The importance of energy trade and investment frameworks as well as diverse and competitive markets for energy security are common issues, both in Europe and the APEC region. In my opinion, a key difference is the fact that Europe has a unified legislation through the European Union and better possibility to coordinate common interest. The ability to act on the grounds of common interest even though it may be against the interest of individual member states is particularly advantageous for the creation of competitive, diversified, flexible and integrated energy markets to ensure commercially viable and sustainable supply. The creation of such markets is an essential issue for the APEC region as well, especially for natural gas as it plays an increasingly important role in the Asia-Pacific region.



*“...may be against the interest of individual member states is particularly advantageous for the creation of competitive, diversified, flexible and integrated energy markets ...”*

## Photo and Photo Story



**Dr. Gürkan Kumbaroğlu with Dr. Einar Hope  
General Conference Chair, IAEE Bergen Conference.**

Photo taken during the awarding ceremony at IAEE Bergen Conference dinner reception.

*IAEE Conference attract delegates from the most influential government, corporate and academic energy decision-making institutions. Conference programs address critical issues of vital concern and importance to governments and industries and provide a forum where policy issues are presented, considered and discussed at both formal sessions and informal social functions.*

*International Conference is usually hosted by an active Affiliate of the Association; IEJ is an affiliate of IAEE.*

**Photo and story courtesy of IAEE**

## Middle East Update

### Rising Saudi Crude Burn Eats Into Exports

by Yasuhiko Nagata

When the heat builds up and people test to the limits their air-conditioners, the crude burn for power generation rises in the Kingdom of Saudi Arabia (KSA). Despite crude output remaining at record levels, Saudi crude exports fell to a six-month low in last April at 7,444 thousand barrels per day (b/d) from 7,541 thousand b/d in March. The key driver of the lower exports was a seasonal rise in crude burn, which hit an all-time record of 501 thousand b/d in April.

The total oil burn including fuel oil in 2016 is on track to set a new annual record of 1.06 million b/d. In KSA, the sources of electricity generation consist of crude burn (25%), fuel oil (24%) and natural gas (51%), and 70% of electricity consumption comes from space cooling during the summer time.

As KSA is increasingly consuming crude domestically, with the startups of new refineries and the rising direct crude burn as well, crude exports are expected to decline further. If this happens, several APEC economies which are dependent on importing crude from KSA, specifically, Japan (34%), China (16%) and South Korea (35%) among others will more likely be affected.

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*“...several APEC economies .....will more likely be affected. “*

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## IEA 8th Emergency Response Exercise

by Michael Sinocruz

The IEA 8<sup>th</sup> Emergency Response Exercise (ERE) was held on 29-30 June 2016 at the Organization for Economic Cooperation and Development (OECD) Headquarters in Paris. The 8<sup>th</sup> ERE was well attended by government representatives in charge of oil supply security from IEA members and partner countries, oil companies, and international organizations/institutions.

Almost 50% of global oil demand is consumed by the IEA members, and thus vulnerable to oil shocks. Such was the primary reason for the establishment of IEA in 1974 in the wake of the 1973 oil crisis to respond and cope with the physical disruption in oil supply. The IEA supply security policy aims at having uninterrupted energy supply at reasonable price. It was emphasized during the exercise that the IEA 90-day oil stockpiling policy based on net imports does not only intend to fill in the supply gap, but also to provide ample time for the implementation of demand management and fuel switching. To date, three coordinated IEA stock releases were implemented - during the 1991 Iraq invasion of Kuwait; 2005 Hurricane Katrina; and, the 2011 Libya Civil War. According to IEA, collective response from IEA member countries (stocks drawdown) is only necessary when global oil market is affected by political turmoil (except in the case of Hurricane Katrina). The IEA's emergency response system covers the emergency exercise, emergency response review, and broadening of energy security concept by moving beyond oil security. It was stressed that in the event of supply disruptions, measures should be carried out within 15 days.

Three hypothetical supply scenarios were presented during the exercise and discussed in seven breakout groups. Discussions of the scenarios by breakout groups include: assessment of the degree of supply, whether severe, moderate or negligible; the need to initiate IEA collective action, its advantages and disadvantages; the need for IEA to pursue international cooperation with partner countries to address the supply (*next page*)

## IEA 8th ....

disruption; and, the key points to be highlighted in a press statement explaining IEA decisions for these scenarios.

In the last IEA Ministerial Meeting in November 2015, the IEA Executive Director laid down three pillars to broaden IEA scope in a transformed global energy landscape, namely: (1) open the doors for emerging economies; (2) expanding commitments on energy security taking into account the increasing role of LNG in global energy trade; and, (3) IEA to become a global hub for clean energy technologies and energy efficiency.

### Photo and Photo Story



The 8th ERE held at OECD Headquarters participated in by government representatives in charge of oil supply security from IEA members and partner countries, oil companies, and international organizations/institutions.

## Upcoming Event •

### LNG Producer-Consumer Conference 2016

On November 24, 2016, the LNG Producer-Consumer Conference 2016 will be held in Tokyo, hosted by the Ministry of Economy, Trade and Industry (METI) and the Asia Pacific Energy Research Centre (APERC).

Picking-up from the 2015 Conference, this year's conference endeavors to share the latest trends in the global LNG market as it facilitates discussion of various issues and challenges facing the creation of a stable, competitive and flexible global LNG market.

Participation will be from high-level representatives including Ministers, business leaders and experts from LNG producer and consumer countries. As in the previous, the forum will serve as a venue to form a network of working level officials 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 ([Ingreg@convention.co.jp](mailto:Ingreg@convention.co.jp)).



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### 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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