

# O A P E C

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## **ARAB PETROLEUM INDUSTRY: ENCOURAGING OUTCOMES IN SPITE OF ONGOING CHALLENGES**



## ORGANIZATION OF ARAB PETROLEUM EXPORTING COUNTRIES (OAPEC)



The Organization of Arab Petroleum Exporting Countries (OAPEC) was founded on the basis of the agreement signed in Beirut, Lebanon on 9 January 1968 between the governments of Kingdom of Saudi Arabia, the State of Kuwait and the (then) Kingdom of Libya. The agreement stipulates that the Organization shall be domiciled in the City of Kuwait.

The principal objective of the Organization is the cooperation of the members in various forms of economic activity in the petroleum industry, the determination of ways and means of safeguarding the legitimate interests of its member countries in this industry, individually and collectively, the unification of efforts to ensure the flow of petroleum to its markets on equitable and reasonable terms, and providing appropriate environment for investment in the petroleum industry in member countries.

In 1970 the United Arab Emirates, the State of Qatar, the Kingdom of Bahrain and the Republic of Algeria joined the Organization, followed by the Syrian Arab Republic and the Republic of Iraq in 1972, Arab Republic of Egypt in 1973, then the Republic of Tunisia in 1982 (its membership was suspended in 1986). Any Arab country which derives a significant share of its national income from petroleum is eligible for membership in OAPEC upon the approval of three-quarters of the member countries, including all three founding members.

- **OAPEC-Sponsored Ventures:** OAPEC has sponsored the creation of four companies: The Arab Maritime Petroleum Transport Company (AMPTC), established in 1972 with headquarters in Kuwait City, the Arab Shipbuilding and Repair Yard Company (ASRY) established in 1973 with headquarters in Bahrain, the Arab Petroleum Investments Corporation (APICORP) established in 1974 with headquarters in Khobar, Saudi Arabia, the Arab Petroleum Services Company (APSC) established in 1975 with headquarters in Tripoli, Libya.

## OAPEC'S ORGANS

The Organization carries out its activities through its four organs:

- **Ministerial Council:** The Ministerial Council is the supreme authority of the Organization, responsible for drawing up its general policy.
- **Executive Bureau:** The Executive Bureau is composed of one representative from each of the member countries, drawing recommendations and suggestions to the Council, reviewing the Organization's draft annual budget and submitting it to the Council, it also adopts the regulations applicable to the staff of the General Secretariat. The resolutions of the Executive Bureau are issued by the majority of two-thirds of all members.
- **General Secretariat:** The General Secretariat of OAPEC plans, administers, and executes the Organization's activities in accordance with the objectives stated in the agreement and directives of the Ministerial Council. The General Secretariat is headed by the Secretary General. The Secretary General is appointed by resolution of the Ministerial Council for a tenor of three years renewable for similar period(s). The Secretary General is the official spokesman and legal representative of the Organization and is accountable to the Council. The Secretary General directs the Secretariat and supervises all aspects of its activities, and is responsible for the tasks and duties as directed by the Ministerial Council. The Secretary General and all personnel of the Secretariat carry out their duties in full independence and in the common interests of the Organization member countries. The Secretary General and the Assistant Secretaries General possess in the territories of the Organization members all diplomatic immunities and privileges.
- **Judicial Tribunal:** The protocol of the Judicial Tribunal was signed in Kuwait on 9 May 1978 and came into effect on 20 April 1980. The Tribunal is competent to consider all disputes related to the interpretation and application of OAPEC's establishment agreement, as well as disputes arising between two or more member countries concerning petroleum operations.



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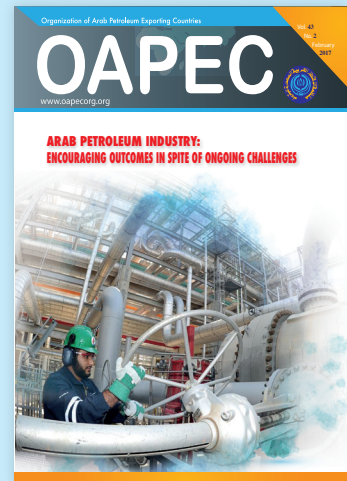


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# ARAB PETROLEUM INDUSTRY: ENCOURAGING OUTCOMES IN SPITE OF ONGOING CHALLENGES

Fossil energy has been enjoying a significant status in the global economy for long decades. It contributes to securing about 80% of the total global demand for energy. According to most published studies and outlooks, it is estimated that the world's energy demand would grow by 40% in the two next decades. Reliance on fossil fuel as a main source of energy is expected to continue to meet about 75% of the future demand.

In spite of the noticeable drop of oil prices in the past few years, which affected the economic situation in many countries including petroleum exporters, many Arab oil exporting countries have witnessed important development in the various aspects of the petroleum industry. This is represented in concluding a number of agreements and contracts on oil and gas fields development.

During 2016, a number of OAPEC member countries, including Egypt, Kuwait, and Algeria, managed to make new oil and gas discoveries. Also, non-OAPEC Arab countries made some important petroleum discoveries like Mauritania that made the largest gas discovery in West Africa in years.

Estimations indicate that proven oil reserves in Arab countries have reached more than 710.7 billion barrels in the beginning of 2017, 701.2 billion barrels of which are in OAPEC member countries (about 55% of the world's total reserves). Natural gas reserves in Arab countries are estimated at around 54.3 trillion cubic metres, 53 trillion cubic metres of which are in OAPEC member countries, representing 27.7% of the world's total reserves.

In terms of output, oil and natural gas liquids production in Arab countries during 2016 reached about 29 million b/d; most of which (more than 27.9 million b/d) is produced by OAPEC member countries, representing 31.8% of the world's total output.

Natural gas claims about 48% of the Arab countries' primary energy consumption. Electricity sector is the biggest consumer of gas and the main drive for the increasing demand. This sector alone claims about 49% of the total gas demand. Gas played a pivotal role in increasing the added value in transformational industries like petrochemicals, and highly energy consuming industries like cement, iron, steel, and aluminum. The industrial sector, whether upstream or downstream, accounts for about 50% of the total gas demand in the Arab countries. In general, Arab countries' gas output suffices to meet domestic consumption, in addition to an excess that is exported to Europe via pipelines and LNG tankers.

Petroleum industries in the Arab countries face many difficulties and challenges that might affect their competitive position in global markets. Economic and financial conditions resulting from falling oil prices top these challenges; in addition to, the continuous increase of energy consumption costs, as well as, the huge financial investments required for funding the execution and development of oil projects to enable them to conform to international environmental legislations and standards.

In order to face these challenges, OAPEC member countries make great efforts to

use the latest technologies in all petroleum industry aspects to help achieving maximum development. For example, the oil refining industry has made a giant step in the past 5 years that contributed to boosting the members' competitive position in the global markets. Total refining capacity of OAPEC oil refineries has jumped from about 7.06 million b/d in 2012 to about 8.34 million b/d by the end of 2016, representing an increase of 1.28 million b/d.

The increase came as a result of operating a number of new refineries, as well as, expanding existing ones, especially in KSA, UAE, and Qatar. Also, currently there are many mega projects under execution that are expected to be completed in the next 3 years, including Jazan Refinery in KSA, Al Zour Clean Fuel Refinery project in Kuwait, and MIDOR refinery development project in Egypt.

While observing the current developments in the petroleum industry in its member countries, OAPEC Secretariat General hails the good results achieved in 2016. It reiterates the member countries' commitment and keenness on: meeting environmental legislations' requirements, especially on producing oil products conforming to international criteria; taking measures on reducing gas and liquid pollutants resulting from the petroleum and petrochemical industries; and handling waste in safe ways to save human health and keep the environment clean. The Organisation stresses the presence of many promising joint petroleum investment opportunities that would contribute to boosting Arab petroleum industry and secure a better future in the end of the day.



## HE AL NAQI SPEAKS AT SAUD AL NASSER AL SABAH DIPLOMATIC INSTITUTE

OAPEC Secretary General HE Abbas Ali Al Naqi gave a lecture at Saud Al Nasser Al Sabah Diplomatic Institute under the umbrella of Kuwait's Foreign Ministry, on 2 February 2017, as part of the supplementary course on economic education for new diplomats. HE Ambassador Abdul Aziz Al Sharikh, Saud Al Nasser Al Sabah Diplomatic Institute's Director General, attended the event.

HE Al Naqi started with a brief summary on OAPEC's history, its establishment, goals, member countries, and main bodies. He clarified that OAPEC is a regional Arab organization of international status. It was established according to an agreement between petroleum producing and exporting countries. The main goal for establishing OAPEC was to allow its member countries to cooperate in the various aspects of the petroleum industry's economic activities; create the closest relations among themselves in this field; decide on methods and means to safeguard its members' legitimate interests in this industry.

In his speech, the Secretary General also reviewed the organisation's various activities both regionally and internationally. He highlighted the events, conferences, official meetings, and specialized seminars that OAPEC organizes or takes part in, especially the prestigious Arab Energy Conference that is organized by



OAPEC every 4 years.

Moreover, he talked about OAPEC efforts in promoting scientific research as it launched the "OAPEC Award for Scientific Research" in order to motivate researchers in the various petroleum-related fields. In the same vein, HE Al Naqi referred to OAPEC's winning of the "Oil and Gas Award of the Year 2016" as the best research paper presented at the INTERGAS Summit, held in Nice, France on 28 and 29 November 2016.

Then, HE Al Naqi moved on to talk about OAPEC's joint ventures, their history, goals, and the nature of their activities.

In the second part of the lecture, the Secretary General spoke about the UNFCCC agreement and the most important stages, developments, and historic moments of the COPs until the moment when the Paris Agreement was

concluded during the COP21 in Paris, held from 30 November to 11 December 2015. He gave a briefing on the basic components of the agreement and the most important outcomes of the COP22 in Marrakech. HE Al Naqi also gave a thorough explanation about the UNFCCC negotiating groups, OAPEC's role in coordinating efforts between OPEC, OAPEC, and the Arab Group of the Arab League at the relevant international forums and conferences on the draft decisions under negotiation in order prevent any decisions that might negatively affect their members' economies and interests.

HE Al Naqi concluded the lecture by wishing the new diplomats all success in their upcoming career life and hoped that they would be the best ambassadors to represent their country at international forums.

# AL NAQI: OIL DEMAND WILL BE IN LEAD FOR DECADES TO COME

**OAPEC Secretary General HE Abbas Ali Al Naqi stressed OAPEC's keenness on developing its relations with all relevant international organizations in order to safeguard the interests of its members in the international arena. He added that the organization also seeks cooperation opportunities with petroleum exporting and consuming countries, and is looking into the latest scientific and technical energy developments to benefit from them.**



In an extensive interview with Radio Kuwait's "A Country's Vision" show on the occasion of Kuwait's national celebrations, HE Al Naqi added that OAPEC member countries enjoy a distinguished position in the global petroleum market due to having the largest part of the world's proven oil and natural gas reserves, in addition to their output and exports to international markets.

He mentioned that OAPEC's proven crude oil reserves have been estimated at about 701 billion barrels in 2016, representing about 55% of the world's total. As for crude oil production, member countries' output has hit 24.2 million b/d, representing about 30.6% of the world's total. Oil exports have reached 20.4 million b/d, or about 29% of the world's total oil exports of 70.2 million b/d.

As for natural gas, member countries' reserves have reached 53 trillion cubic metres by the

end of 2016, representing about 27% of the world's total. Member countries marketed natural gas, excluding reinjected and flared quantities, reached about 541 billion cubic metres in 2015, representing about 15.5% of the world's total. Total natural gas exports on global level reached about 1047 billion cubic metres in 2015, out of which 18.5% or 193.7 billion cubic metres were from OAPEC member countries.

HE Al Naqi explained that 7 OAPEC members were also members in OPEC. Together with the other members, they play a great role in reaching decisions that contribute to the international petroleum market stability and safeguard their interests.

He said that falling oil prices had direct economic impacts on OAPEC members, as their oil exports' value has dropped from \$654 billion in 2013 to \$571 billion in 2014, representing a drop of 12.8% due to the 9.7% drop in oil prices during the same period. Oil revenues have dropped in 2015 to about \$313 billion and are expected to drop even further in 2016 to \$282 billion.

HE Al Naqi pointed out that global oil markets are going through major changes, most significant of which the developments in unconventional hydrocarbons production

in general, and shale oil and gas in particular. He clarified that there is a need for cooperation and coordination between major OPEC and non-OPEC producers, who should bear the burden of output cut together in a larger scale in the future. There will be an increasing energy demand in general, particularly for oil in the long run. In light of the oil industry variables, it is expected that the importance of OAPEC member countries' role would increase in the global oil market and its stability in the future.

He drew the attention to the presence of huge renewables sources in the member countries, especially solar and wind. He clarified that renewable energy sources are complimentary to oil and gas as studies showed that fossil fuel demand would remain in the lead for long decades to come.

HE Al Naqi concluded his interview by stressing the importance of cooperation and coordination among member countries to face current and future challenges in the petroleum industry, and to limit their negative impacts on our economies while complying to our commitments as major petroleum exporting countries towards the global oil markets and the international economy in a way that serves OAPEC goals on cooperation and safeguarding its member countries' interests.



## Kuwait's 2<sup>nd</sup> International Health, Safety, and Environment Conference and Exhibition 2017

### HE AL MARZOUQ: AL DEBDEBAH PROJECT WILL HELP REDUCE GREENHOUSE GAS EMISSIONS



Upon an invitation by the organizers, HE Abbas Ali Al Naqi took part in Kuwait's 2nd International Health, Safety, and Environment Conference and Exhibition held on 15 and 16 February 2017 under the patronage and in the presence of HE Eng. Essam Al Marzouq, Minister of Oil, Electricity, and Water in Kuwait. A large group of senior officials in the petroleum sector in Kuwait and the GCC countries participated in the event. HE Dr. Mohammed Al Ramahi, Minister of Oil and Gas in Oman attended the opening ceremony.







The conference aimed at: boosting Kuwait's commitment to adhering to the highest health, safety, and environment standards; highlighting Kuwait's leading regional and international position in this field; and raising health, safety and environment awareness in the petroleum sector and all economic and social activities in Kuwait. This is in addition to pinning down the environment-friendly concept in the society where health, safety, environment, and sustainable development standards should be taken into consideration.

The conference also discussed possible solutions to face challenges in maintaining environment, health, and safety regulations amid a wave of weak oil prices and general saving and cost cutting trends in the petroleum industry. The conference looked into international case studies in this field and the possibility of implementing the learnt best practices in the Kuwaiti oil sector.

HE Eng. Essam Al Marzouq opened the conference with a speech welcoming the attendees and reviewing the current developments in the oil and gas industry in Kuwait. He also tackled the future prospects of the energy industry in Kuwait in terms of new and renewable energies and their vital role in supporting oil in securing energy demand.

In this context, the Minister referred to Al Debdebah solar project that is scheduled for operation in Q3 of the fiscal year 2020-2021. The project should be producing about 15% per annum of the electricity used by the Kuwaiti



oil sector. It will also help reduce CO2 emissions by about 1.3 million tons/year.

HE Dr. Mohammed Al Ramahi also delivered a speech that clarified Oman's efforts in health, safety, and environment projects in the petroleum industry. He stressed the high importance of these projects in his country.

In his speech at the opening ceremony, HE Abbas Ali Al Naqi highlighted OAPEC member countries' position in the global petroleum industry. He also clarified environment protection efforts of the petroleum sector in the member countries. HE Al Naqi then introduced OAPEC Secretariat General's efforts in coordinating OPEC and OAPEC stances during the UNFCCC meetings in collaboration with the Arab Negotiating Group on climate change, as well as, other negotiating groups.

After the opening, the patron of the conference along with VIP guests inaugurated the associating exhibition. A group of local and international petroleum companies, as well as, health, safety, and environment companies participated in the exhibition.



## OAPEC SECRETARY GENERAL'S SPEECH

# KUWAIT INTERNATIONAL HEALTH, SAFETY, AND ENVIRONMENT CONFERENCE AND EXHIBITION 2017

Kuwait, 15-16 February 2017

*In the Name of Allah, the Most Gracious, Most Merciful*

**HE Essam Al Marzouq, Minister of Oil, Electricity, and Water**

**HE Mohammed Al Ramahi, Minister of Oil and Gas in Oman**

**HE Nizar Al Adsani, Deputy Chairman and Chief Executive Officer (CEO) of Kuwait Petroleum Corporation (KPC)**

**Excellencies, Ladies and Gentlemen,**

**Asslamu Alaykoun,**

I would like first to extend my sincerest thanks and appreciation to Kuwait Petroleum Corporation for their kind invitation to participate in this important conference. I would also like to thank the organisers for their excellent preparations and warm welcome.

**Distinguished guests,**

I would like to take this opportunity to talk briefly about the latest outcomes of the UNFCCC COP21 and COP22 held in Paris and Marrakech respectively.

As we all know, Arab oil and gas producing and exporting countries enjoy a special status on the global petroleum scene, as they account for the largest share of the world's oil and gas proven reserves, which were about 56% and 27.7% respectively by the end of 2016. It is worth noting that the various stages of the oil industry require great efforts by oil producing and exporting countries in order to face the challenges related to compelling international environmental standards throughout these stages: from exploration and drilling through production and manufacturing to exportation and consumption. The petroleum industry, like other industries, should take into consideration all issues that contribute to maintaining a clean environment, free of pollutants, to keep the workers in this field healthy and safe.

**As for the oil industry,** the use of carbon capture and storage (CCS) technology in many Arab countries played a big role in facing climate change impacts, which reduced the quantities of carbon emitted into the air. Examples of using this technology can be found in the giant Ain Saleh project in Algeria and the iron industries project in Abu Dhabi.

OAPEC, in collaboration with the Saudi Energy, Industry, and Mineral Resources Ministry, organized a seminar on the sidelines of COP21 and COP22 on creating added value from CO2 emissions in order to invest the CCS technology in the hydrocarbons industry.

**Distinguished audience,**

With regard to the latest developments on the UNFCCC and its legal tools, the Paris Agreement on Climate Change signed in Paris in December 2015 during the COP21 aimed at keeping the increase in global average

temperature to well below 2°C above pre-industrial levels, while maintaining the efforts to limit the increase to 1.5°C.

After the agreement entered into force officially in November 2016, 195 countries of the parties committed to submit their Nationally Determined Contributions (NDCs) to cut emissions according to the capabilities and responsibilities of each individual country. Every country commits to a mechanism to review their contributions every five years. These contributions are kept in a public record at the UNFCCC Secretariat in Bonn, Germany.

The Agreement also stipulates that when countries submit their contributions, they should present other required data on transparency. Also, when calculating their NDC-related emissions, integrity and accuracy should be observed. Calculations should be complete, comparable, and coherent in line with the Agreement requirements, resolutions and guidelines. Developed countries should provide funding to developing countries to help with mitigation and adaptation to climate change impacts. International commitment to provide a \$100 billion per annum financial support to developing countries continues until 2025.

The agreement has also stressed the importance of supporting technological advancement, knowledge transfer to developing countries and helping them build their capabilities, systems, environmental education, while encouraging the participation of the public. Therefore, countries need to put in place their long-run development strategies on low greenhouse gases and review their Intended Nationally Determined Contributions (INDCs) in 2018. They should declare their intentions in cutting emissions within their submitted INDCs. INDCs include two types of goals; the first is related to **Mitigation**, on which there are contrasting stances. The other type is related to **Adaptation**, in order to activate the Paris Agreement in a stronger and wider way through supporting the expansion of renewables technologies, energy efficiency, and enhancing fuel consumption efficiency measures.

During the recent COP22 held in Marrakech, Morocco, in November 2016, participating Heads of States and delegations announced moving to the pledge execution stage and working for climate, sustainable development, poverty eradication, food security, and funding, and looking for solutions before 2020 while taking into consideration the needs and special conditions of the developing and least developed countries.

In this context, OAPEC member countries stressed their international commitment by signing the Paris Agreement. They are in the process of endorsing it. We reiterate here the importance of investing in research and development to limit the impact on environment; which is a basic requirement to achieve the Paris Agreement goals.

**Thank you for your attention.  
Asslamu Alaykoun.**

## HE AL NAQI: OAPEC MEMBERS' OUTPUT WOULD REACH ABOUT 1/3 OF WORLD'S PRODUCTION BY 2040



OAPEC took part in the 3<sup>rd</sup> **Petroleum Economist GCC Energy Strategy Forum: Reform, restructuring and resurgence, the future of GCC hydrocarbons**, held in Kuwait on 25 January 2017. The event was attended by Kuwait's Oil, Electricity and Water Minister HE Essam Al Marzouq, OAPEC Secretary General HE Abbas Ali Al Naqi, Vice Chairman and Chief Executive of Kuwait Petroleum Corporation Mr Nizar Al Adsani, and a large number of experts in the oil and gas industry in the GCC countries. The forum discussed the gas challenge, the future of oil production in the GCC region, and post-oil era projections.

HE Al Naqi took part in the opening session. In his speech, he said that OAPEC member countries possessed more than 702 billion barrels of reserves in 2015, representing about 55% of the world's total reserves. He explained that 3

countries, namely KSA, Iraq, and UAE, have about 36% of the global reserves. He clarified that OAPEC member countries' output reached 22.6 million barrels/day in 2015, representing about 29% of the world's output, and that the total global demand for primary energy would grow by 40% during the period 2014 – 2040. He added that fossil fuel would remain the main source of energy for decades to come, and that OAPEC output would reach about one third of the global production by 2040. He explained that OAPEC members plan to invest in the oil sector to maintain their production and exporting capacities.

Also, Eng. Wael Hamed, OAPEC's Gas Industries' Expert, took part in the first panel titled "Making Sense of the Gas Challenge". He started with giving a glimpse on the natural gas industry in the Gulf region. He indicated that the

region possessed about 21% of the world's gas reserves, where Qatar alone had about 59% of the GCC reserves. He noted that the annual growth rate of gas demand in the GCC countries reached 5.6% between 2005-2015, more than double global growth rate of 2.3%. He attributed the increase to the growing demand for electricity by 7.1% per annum since the electricity sector depends mainly on gas by 67% against 32.9% for oil. Eng. Hamed stressed that the growing demand calls for continuing to inject investments in gas fields development projects to boost production and contribute to meeting the domestic market demand.

OAPEC Secretariat General was represented at the event by HE Abbas Ali Al Naqi, Secretary General; Eng. Wael Hamed, Gas Industries Expert; and Miss Ala'a Al Omran, Press and Translation Affairs Coordinator.

# 24<sup>TH</sup>

## FORUM ON OIL AND GAS INDUSTRY FUNDAMENTALS



**OAPEC plans to hold the 24<sup>th</sup> Forum on Oil and Gas Industry Fundamentals, from 9 to 13 April 2017, at its headquarters in the Arab Organizations' Permanent Headquarters building in Kuwait.**

OAPEC Secretary General HE Abbas Ali Al Naqi said that the Forum aims at informing middle management and others working in the field of oil and gas in the member countries about the different aspects of the industry, its various stages, as well as, providing a platform for networking among participants.

HE Al Naqi stressed that organizing such gatherings comes as part of OAPEC's keenness on promoting petroleum education in the member countries, and informing about OAPEC's goals and activities while encouraging networking among participants.

He added that the keynote speakers' list includes an elite of experts in the petroleum and energy industry, as well as, experts in the petroleum economics from inside and outside the organization. Lectures will cover the current situation and future prospects of the petroleum industry from technical, economic and media angles. Technical topics will include petroleum exploration and production basics, downstream industries (refining and petrochemicals), petroleum refining industry, natural gas industry, and petroleum transportation. Economic topics will cover the role of oil and gas in boosting development in Arab countries, petroleum projects funding, current and future developments in the world's petroleum markets, and new and renewable energies. The Forum will cover other issues like the UNFCCC and petroleum media.

HE Al Naqi concluded by extending sincere thanks to the member countries for their nonstop support while stressing that holding the forum's 24th session is the best evidence of its success. The Forum was launched more than three decades ago and is still very popular among the member countries.

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UAE

## GLOBAL ENERGY FORUM LAUNCHED IN ABU DHABI



Under the patronage of His Highness Sheikh Mohamed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces, the Global Energy Forum, which is being held for the first time in the region, was launched in Abu Dhabi on 12 January 2017 in the presence of HE Eng. Suhail bin Mohammed Faraj Faris Al Mazrouei, Minister of Energy, and Dr. Sultan bin Ahmad Sultan Al Jaber, Minister of State and CEO of the ADNOC Group. The event was also attended by Their Excellencies Energy and Oil Ministers in KSA, Kuwait, Qatar and Algeria, as well as, a number of senior professionals, experts and decision-makers in the energy sector. The two-day forum is being organised by the US Atlantic Council, in cooperation with the UAE Ministry of Energy, Abu Dhabi National Oil Company, ADNOC, Mubadala, IPIC and Masdar.

In his speech at the forum, HE Al Mazrouei expressed his delight that the first Global Energy Forum was being held in Abu Dhabi, the world's energy capital. He stressed the UAE's keenness on organizing and hosting such important events that gather experts in energy and politics including various ministers from different countries, OPEC Secretary General, and speakers from global energy companies to discuss the future of energy in the region and the world.

The Minister said that the event takes place amid 2 other important activities: "World Future Energy Summit 2017" and "Abu Dhabi Sustainability Week". He pointed out that the Forum will focus on energy geopolitics, current variables, drawing a balanced strategy, and discussing challenges facing this sector.

He added that the Forum comes after 3 days since the UAE has endorsed its Energy Strategy 2050, where the country would depend on green energy by 50% by 2050, 44% of which would be from renewables while 6% from nuclear and the other 50% from fossil fuel: 38% of natural gas, and 12% from clean coal.

He stressed that the UAE's strategy is based on developing energy production techniques and technologies by using clean coal in all establishments. This would save the consumer 40% of the costs. Also, implementing the unified code for construction and raising consumption awareness would contribute to saving 40% of costs as well as conserving energy.

The Minister pointed out that this process would cost 600 billion dirhams over a period of 33 years against saving 700 billion dirhams by the state's sectors. He stressed that the UAE is the first country to announce a clear and technologically-balanced strategy to serve the state's goals of individual's happiness and the sustainability of sources.



## UAE & GERMANY SIGN JOINT DECLARATION OF INTENT ON ENERGY COOPERATION

On 16 January 2017, the UAE and Germany signed a joint Declaration of Intent on energy cooperation. The official signing by HE Suhail bin Mohammed Faraj Faris Al Mazrouei, UAE Minister of Energy, and Rainer Baake, German State Secretary at the Federal Ministry for Economic Affairs and Energy took place on the sidelines of the World Future Energy Summit in Abu Dhabi.

The official signing ceremony was followed by the first meeting of the High Level Steering Group which adopted a work programme for the first year of the Energy Partnership. The declaration covers scientific exchange, governmental and expert workshops, industry meetings and mutual delegation visits. To strengthen cooperation in the energy sector between the two countries, Germany and the UAE will cooperate on issues such as frameworks for renewable energy technologies, energy efficiency, the development of the electricity market and research and development. Liaison officers from both sides have been appointed to follow up and coordinate on the aspects covered by the declaration.

Also, a public expert and industry workshop on the two countries' energy strategies and on

system integration of renewable energies was held to highlight the potential for cooperation, between small medium-sized enterprises in particular.

“Through this collaboration, we aim to activate the niche of strategic partnerships between the two countries in the field of energy by joint team work, to benefit from the experiences, and strengthen the significant objectives of the UAE Energy Strategy 2050, which focuses on the implementation of innovative initiatives, finding solutions integrated with energy systems, and supports paths of research, development and innovation to provide sustainable energy,” Al Mazrouei said.

Baake said that the governments of the two countries are determined to enhance bilateral dialogue and practical cooperation in the energy sector in order to maximise the benefits of, in particular, renewable energies and energy efficiency for both economies, the population in the two countries and the environment.

The signing ceremony was attended by HE Dr Matar Al Niyadi, UAE's Energy Ministry's Undersecretary and its Representative at OAPC Executive Bureau, and Mr Mohammed Al Hammadi, Chief Executive Officer of the Emirates Nuclear Energy Corporation (ENEC).



## HE AL KHALIFA: SECURITY AND RELIABILITY OF GAS SUPPLIES VERY IMPORTANT TO BAHRAIN



Under the patronage of HE Sheikh Mohamed bin Khalifa bin Ahmed Al Khalifa, Bahrain's Minister of Oil, Nogaholding, the investment and business development arm of Bahrain's National Oil and Gas Authority (NOGA) hosted a dinner party, jointly with the Oil and Gas Holding Company, to announce the financial close of its LNG Terminal Project with Bahrain LNG WLL, the developer and owner of the first LNG receiving and regasification terminal to be developed on a PPP basis in the Middle East.

The Bahrain LNG Terminal is a key component of the further expansion of the energy and related sectors of the Kingdom of Bahrain. It is jointly owned by the Oil and Gas Holding Company (nogaholding 30%) and a consortium consisting of Canada's Teekay LNG Partners LP (Teekay LNG 30%), Kuwait's Gulf Investment Corporation (GIC 24.5%) and Korea's Samsung C&T (Samsung 16.5%).

HE Sheikh Mohamed bin Khalifa bin Ahmed Al Khalifa said in a speech that the security and reliability of the gas supply are very important to Bahrain. He stressed that NOGA's continuation to provide gas supplies gave a strong incentive to develop the LNG import terminal as a means of supporting domestic gas production and accessing the competitive international LNG markets.

The LNG Terminal will comprise of a Floating Storage Unit (FSU), an offshore LNG receiving jetty and breakwater, an adjacent regasification platform, a subsea gas pipeline from the platform to shore, an onshore gas pipeline and gas receiving facility, and an onshore nitrogen production facility.

The project aims at supplementing domestic gas production to meet increasing gas demand and it will enable Bahrain to get LNG in competitive prices. Once completed in early 2019, the project will have a capacity of 800 million standard cubic feet per day.





# BAHRAIN HOSTS MIDDLE EAST REFINING TECHNOLOGY CONFERENCE (MERTC)



HE Sheikh Mohammed bin Khalifa bin Ahmed Al Khalifa, Minister of Oil, Kingdom of Bahrain, opened the Middle East Refining Technology Conference (MERTC) on 23 January 2017. The event was organized by the World Refining Association (WRA) in collaboration with Bahrain's National Oil and Gas Authority (NOGA), and the support and sponsorship of Bapco and international oil companies. A group of petroleum experts and specialists took part in the event.

The conference discussed many topics related to refining,

future technologies, and strategic projects aiming at upgrading refineries, especially that Bahrain is currently carrying out a refinery upgrade project to increase production capacity from 260 thousand b/d to 360 thousand b/d. The project will help produce clean, value-added, and environment-friendly products. Among other topics that have been discussed at the conference: CO<sub>2</sub> emissions management technologies; regional projects; growth plans; talent strategies; the most ideal investment in development research; commercial benefits;

integration of refining and petrochemicals opportunities; Saudi Vision 2030; and the national transformation programme.

HE Al Khalifa delivered a speech at the opening of the conference in which he presented Bahrain's efforts in implementing the Paris Agreement on climate change, as Bahrain, among others, should present their NDCs by 2020. He added that NOGA, in collaboration with its affiliate companies, is working on setting up a system to manage CO<sub>2</sub> in the Bahraini petroleum sector.



KSA

## SAUDI ANNOUNCES RENEWABLE-ENERGY PROJECTS



Saudi Energy, Industry, and Mineral Sources Minister HE Eng. Khalid Al Falih announced that KSA will soon start soliciting bids to generate 700 megawatts from wind and solar power as part of phase 1 of the national renewable energy program. The program is working on generating 3.45 gigawatts from renewables by 2020 and 9.5 gigawatts by 2023 in line with the Kingdom's Vision2030.

The Minister clarified in a press conference that the Ministry has established a bureau on renewables projects' development that will be in charge of executing the national renewable energy program in line with the Saudi Vision 2030, as well as, supervising renewable power bidding rounds. KSA also plans to generate close to 10 gigawatts from renewables, primarily solar and wind power, by 2023.

HE Al Falih Said that the first batch of projects have

been announced including 700 megawatts. It consists of two basic projects: the first will be for solar power in Al Jawf; the second will be in Madyan, Tabuk, for 400 megawatts. Both are considered mega projects, the largest in the region in terms of size and the first in the kingdom to be launched as partnership between the public and private sectors. Funding, operating, and ownership will be by the private sector.

He said that contract conditions will be lucrative and attractive to pave the way for partnership between the private and public sectors. This would be followed by a large group of projects that would attract huge investments not only in the energy sector but also in other basic sectors.

The Minister added that the coming dates to note will be 20 February 2017 that set for launching RFQs (Request for

Qualifications) and 17 April 2017 to launch bidding rounds. A press conference will be held in Riyadh to coincide with the said events in order to inform those interested whether inside or outside the KSA about available opportunities in the Saudi renewables program. He expected to receive proposals and bids in July 2017. Mega tender winners will be announced in September 2017.

HE Al Falih also spoke about energy consumption strategies adopted by KSA, including the energy efficiency program, which helped increasing energy efficiency in all sectors. He also tackled joint programs with the electricity company on increasing efficiency in power generation. He explained that using gas in power generation plants would contribute to improving power generation efficiency compared to the past.



# EGPC SIGNED 2 NEW OIL & GAS EXPLORATION DEALS



Egyptian Minister of Petroleum and Mineral Resources HE Tarek El Molla signed two new oil and gas exploration agreements between the Egyptian General Petroleum Corporation (EGPC) and Sahara Petroleum Company to search for petroleum and natural gas in the Western Desert and Gulf of Suez. The first agreement covers work in West Qarun Concession located in the Western Desert with total investments of \$30 million and signing bonus of \$5 million to drill 11 wells. The second agreement states that EGPC, represented by Offshore Shukeir Oil Company (OSOCO), will process projects in Shukeir Concession located in the Gulf of Suez.

El Molla pointed out that the petroleum sector is keen on signing petroleum agreements to increase exploration and boost production and reserves. They also stress Egypt's cooperation with the international companies keen on investing in the Egyptian petroleum industry and exploring more petroleum resources both onshore and offshore Egypt.



He added that by signing these 2 new agreements, the Egyptian petroleum sector had concluded 76 exploration agreements with international oil companies since November 2013 with investments worth of at least \$15.3 billion and signing bonuses of around \$1 billion to drill 319 wells.

## OPEC HONOURS HE DR AL SADA

The Organisation of the Petroleum Exporting Countries (OPEC) has honoured the Qatari Minister of Energy and Industry HE Dr Mohamed bin Saleh Al Sada, the former president of the conference, marking the end of Qatar's presidency of the organisation during 2016. This came at a ceremony held in the UAE's capital Abu Dhabi, in recognition of the outstanding role played by Dr Al Sada during Qatar's presidency of the conference of OPEC, which resulted in the historic agreement reached by the OPEC member countries and non-OPEC countries on cutting oil production.

On the occasion, Saudi Minister of Energy, Industry and Mineral Resources HE Eng. Khalid Al Falih, the new president of the Conference of



OPEC, presented a commemorative gift to HE Dr Al Sada. HE Al Falih praised the efforts of HE Al Sada during his presidency of the organisation during a period marked by challenges.

## FULL COMPLIANCE OF ARAB COUNTRIES WITH OPEC DEAL

Many OPEC member countries started cutting their oil output as of January 2017 in compliance with the OPEC deal concluded by the ministerial meeting between OPEC and non-OPEC producers held on 10 December 2016 in Vienna. According to the deal, OPEC members and 11 non-OPEC oil producers agreed to cut their output by 558 thousand b/d as of 1 January 2017. Russia is the most prominent with a gradual reduction of 300 thousand b/d; it will start cutting 200 thousand b/d by the end of Q1 of 2017, followed by further 100 thousand b/d cut in April and May 2017.

In another development, OPEC's higher ministerial monitoring committee, formed during OPEC's 171<sup>st</sup> meeting, agreed to put in place a monthly

mechanism to monitor oil output rates in a way that guarantees complying with the agreed deal in order to support prices and oil market balance. The agreement took place during the committee's first meeting in Vienna on 22 January 2017. Committee members are: Algeria and Venezuela (OPEC members), Russia and Oman (non-OPEC), and headed by Kuwait (OPEC member).

During the said meeting, it was stressed that OPEC Secretariat General would present a monthly report on the monthly crude oil output data of OPEC and non-OPEC producers on the 17<sup>th</sup> of each month.

Any of the committee's 5 members has the right to nominate a technical expert to act as a liaison officer in order to set up a joint technical committee,

including OPEC's Secretariat General, that provide support to the oil ministers. This technical committee is responsible for regular cooperation with OPEC Secretariat General in preparing a monthly report before submitting it to the ministerial committee.

The ministerial committee will be holding a meeting on the 17<sup>th</sup> of every month to consider the reports submitted by the technical committee and OPEC's Secretariat. It will also convene before the next OPEC meeting scheduled for May 2017.

Also, the ministerial committee will issue a monthly press statement on the oil output cut progress in line with OPEC's 171<sup>st</sup> meeting deal. A report will be submitted to OPEC presidency on the implications of complying with the output cut decision for the global oil market.

# 146<sup>TH</sup> MEETING OF ASRY'S BOARD OF DIRECTORS

The Board of Directors of the Arab Shipbuilding & Repair Yard Company (ASRY) held their board meeting under the chairmanship of Shaikh Duaij bin Salman Al Khalifa, Chairman of the Board of Directors, on 12 January 2017 at its head office in Bahrain. Other members as well as the Executive Management of the Company attended the meeting.

At the end of the meeting, Sheikh Duaij Al Khalifa stated that the board had reviewed the overall situation of the Company, particularly the financial and business positions. Various activities of ship and rig repair, and the new projects during the period 1 January through 30 November 2016 had also been discussed. Moreover, the meeting discussed means of supporting the Company's services and activities in the light of the report and recommendations submitted by the consultative company, Alix Partners.

The board welcomed new Chief Executive, Andrew Shaw, who has assumed the position on Wednesday, 04 January 2017. Mr Shaw confirmed that he would spare no effort, in collaboration with the executive management and all staff, to develop the Company's business and boost its activities in the light of the great challenges facing the Company, especially the severe competition in the region. The board appreciated Mr Shaw's plans and wished him all success while stressing their support.

The Company's total sales for the period from 1 January through end of November 2016 were approximately 2 per cent lower than the same period the previous year. The board also tackled the regional and international economic impacts, as well as, competition in the market and oil prices on the Company's current and future activities.

The board has adopted several resolutions related to the Company's situation and means of activity development and how to enhance efficiency and cost reduction. Also, they were informed about the health and security measures in the Company and stressed the importance of such measures to maintain and develop the Company's activities.



## Petroleum Developments in the World Market and Member Countries\*

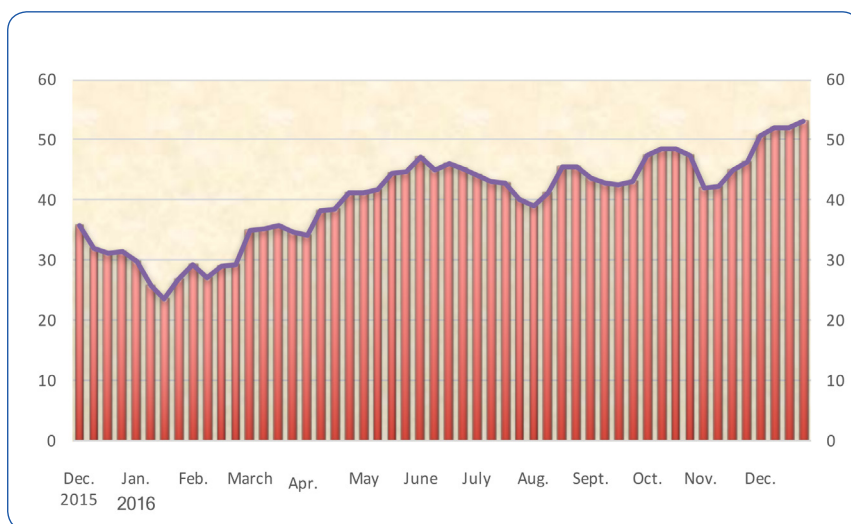
### 1. Oil Market

#### 1. Prices

##### 1-1 Crude Oil Prices

Weekly average price of OPEC basket increased during the first week of December 2016, to reach \$50.7/bbl, and continued to raise thereafter, to reach its highest level of \$53.1/bbl during the fourth week, as shown in figure 1:

Figure - 1 Weekly Average Spot Price of the OPEC Basket of Crudes 2015 - 2016 (\$/bbl)



On monthly basis, OPEC Reference Basket in December 2016, averaged \$51.7/bbl, representing an increase of \$8.5/bbl or 19.7% comparing with previous month, and an increase of \$18.1/bbl or 53.9% from the same month of previous year. OPEC agreement concerning curtail oil production, which was reached during OPEC 171st Meeting in Vienna, and OPEC and non-OPEC join deal to cut production, which will be effective from January 1, 2017, were major stimulus for the increase in oil prices during the month of December 2016, to reach its highest level since July 2015.

#### Key Indicators

- In December 2016, **OPEC Reference Basket** increased by 19.7% or \$8.5/bbl from the previous month level to stand at \$51.7/bbl.
- **World oil demand** in December 2016, increased by 1.4% or 1.4 million b/d from the previous month level to reach 98.3 million b/d.
- **World oil supplies** in December 2016, increased by 0.6% or 0.6 million b/d from the previous month level to reach 100.2 million b/d.
- **US tight oil production** in December 2016, decreased by 0.7% to reach about 4.7 million b/d, whereas **US oil rig count** increased by 53 rig from the previous month level to stand at 454 rig.
- **US crude oil imports** in November 2016, increased by 0.7% from the previous month level to reach 7.7 million b/d, and **US product imports** increased by 11.2% to reach about 2.3 million b/d.
- **OECD commercial inventories** in November 2016 decreased by 11 million barrels from the previous month level to reach 3033 million barrels, and **Strategic inventories** in OECD-34, South Africa and China increased by 7 million barrels from the previous month level to reach 1876 million barrels
- **The average spot price of natural gas** at the Henry Hub in December 2016 increased by \$1/million BTU comparing with the previous month to reach \$3.59/million BTU.
- **The Price of Japanese LNG imports** decreased in November 2016 by \$0.1/m BTU to reach \$7.1/m BTU, **the Price of Korean LNG imports** increased by \$0.2/m BTU to reach \$7.5/m BTU, and **the Price of Chinese LNG imports** increased by \$0.1/m BTU to reach \$6.8/m BTU
- **Arab LNG exports to Japan, Korea and China** were about 3.767 million tons in November 2016 (a share of 27.6% of total imports).

\* Prepared by the Economics Department.

Table (1) and figure (2) show the change in the price of the OPEC basket versus last month and the corresponding month of last year:

**Table 1** Change in Price of the OPEC Basket of Crudes, 2015-2016 (\$/bbl)

	Dec. 2015	Jan. 2016	FEB.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
OPEC Basket Price	33.6	26.5	28.7	34.7	37.9	43.2	45.8	42.7	43.1	42.9	47.9	43.2	51.7
Change From previous Month	-6.9	-7.1	2.2	5.9	3.2	5.4	2.6	-3.1	0.4	-0.2	5.0	-4.7	8.5
Change from same month of previous Year	-25.9	-17.9	-25.3	-17.8	-19.4	-19.0	-14.4	-11.5	-2.4	-1.9	2.8	2.7	18.1

\* Effective June 16, 2005 OPEC replaced its seven-crude basket with one comprised of eleven crudes, one from each member country (weighted according to production and exports to major markets). Effective 1 January and mid of October 2007, Angola's Girassol and Ecuadorian Oriente crudes have been incorporated to become the 12th and 13th crudes comprising the new OPEC Basket. As of Jan. 2009, the basket excludes the Indonesian crude. As of Jan. 2016, the basket price includes the Indonesian crude. As of July 2016, the basket price includes the Gabonese crude.

**Figure - 2** Change in the Price of the OPEC Basket of Crudes, 2015-2016 (\$/bbl)

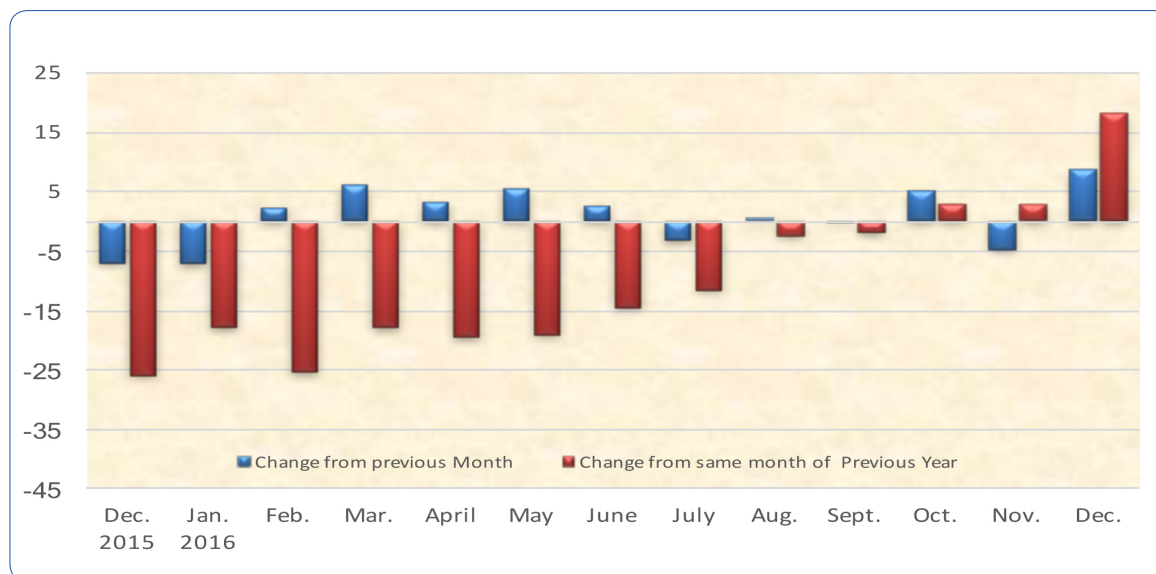


Table (3) in the annex show spot prices for OPEC basket and other crudes for the period 2014-2016.

## 1-2 Spot Prices of Petroleum Products

### - US Gulf

In December 2016, the spot prices of premium gasoline increased by 15.1% or \$9.4/bbl comparing with their previous month levels to reach \$71.8/bbl, spot prices of gas oil increased by 13.2% or \$7.1/bbl to reach \$61/bbl, and spot prices of fuel oil increased by 18.8% or \$7.2/bbl to reach \$45.5/bbl.

**- Rotterdam**

The spot prices of premium gasoline increased in December 2016, by 10.5% or \$6.8/bbl comparing with previous month levels to reach \$71.4/bbl, spot prices of gas oil increased by 13.3% or \$7.6/bbl to reach \$64.9/bbl, and spot prices of fuel oil increased by 13.9% or \$5.7/bbl to reach \$46.7/bbl.

**- Mediterranean**

The spot prices of premium gasoline increased in December 2016, by 12.3% or \$7.1/bbl comparing with previous month levels to reach \$64.9/bbl, spot prices of gas oil increased by 13% or \$7.5/bbl to reach \$65.4/bbl, and spot prices of fuel oil increased by 19.9% or \$8.1/bbl to reach \$48.8 bbl.

**- Singapore**

The spot prices of premium gasoline increased in December 2016, by 13.1% or \$7.7/bbl comparing with previous month levels to reach \$66.7/bbl, spot prices of gas oil increased by 12.5% or \$7.1/bbl to reach \$64.1/bbl, and spot prices of fuel oil increased by 17.8% or \$7.8/bbl to reach \$51.7/bbl.

Figure (3) shows the price of Premium gasoline in all four markets from December 2015 to December 2016.

**Figure - 3** Monthly Average Spot Prices of Premium Gasoline, 2015-2016 (\$/bbl)

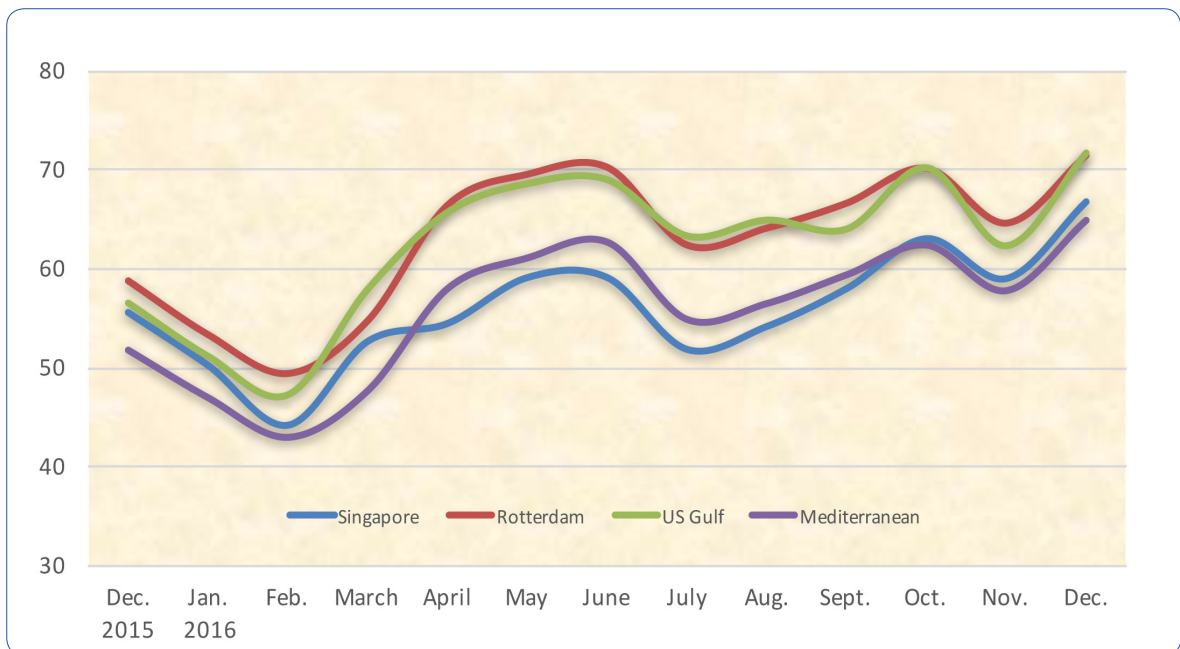


Table (4) in the annex shows the average monthly spot prices of petroleum products, 2014-2016.



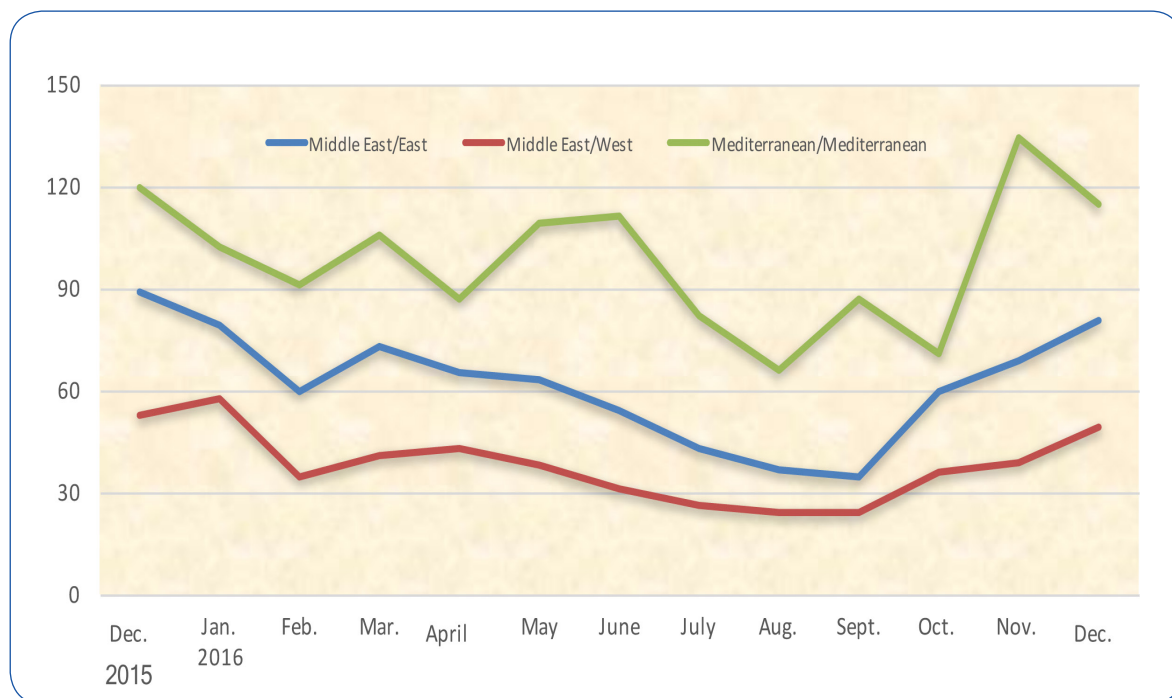
### 1-3 Spot Tanker Crude Freight Rates

In December 2016, Freight rates for crude oil for tanker size (230-280 thousand deadweight tons (dwt)), leaving Middle Eastern ports to the East, increased by 12 points or 17.4% comparing with previous month to reach 81 points on the World Scale (WS\*), and freight rates for crude oil for tanker size (270-285 thousand deadweight tons (dwt)), leaving Middle Eastern ports to the West, increased by 10 points or 25.6% comparing with previous month to reach 49 points on the World Scale (WS).

Whereas freight rates for inter - Mediterranean for small to medium sized tankers (80-85 thousand deadweight tons (dwt)), decreased by 19 points or 14.2% comparing with previous month to reach 115 points on the World Scale (WS).

Figure (4) shows the freight rates for crude oil to all three destinations from December 2015 to December 2016.

**Figure - 4 Monthly Spot Crude Oil Tanker Freight Rates, 2015 -2016** (World Scale)\*



\* World Scale is a method for calculating freight prices. One point for the WS means 1% of the standard price of freight in the direction in the WS book, which is published annually by the World Scale Association. The book contains a list of prices in the form of US dollar per ton, called "World Scale 100," for all the major routes in the world.

### 1-4 Spot Tanker Product Freight Rates

In December 2016, monthly spot Tanker freight rates for petroleum products [for tanker size 30-35 thousand deadweight tons (dwt)], leaving Middle Eastern ports to the East, increased by 13 points, or 17.1% comparing with previous month to reach 89 points on WS.

freight rates for Petroleum Products across Mediterranean [for tanker size 30-35 thousand deadweight tons (dwt)], increased by 43 points, or 33.1% to reach 173 points on WS, and freight rates for petroleum products [for tanker size 30-35 thousand deadweight tons (dwt)], leaving Mediterranean to North-West Europe increased also by 43 points, or 30.7% to reach 183 points on WS.

Figure (5) shows the freight rates for oil products to all three destinations from December 2015 to December 2016.

Figure - 5

Monthly Spot Product Tanker Freight Rates, 2015 -2016

(World Scale)

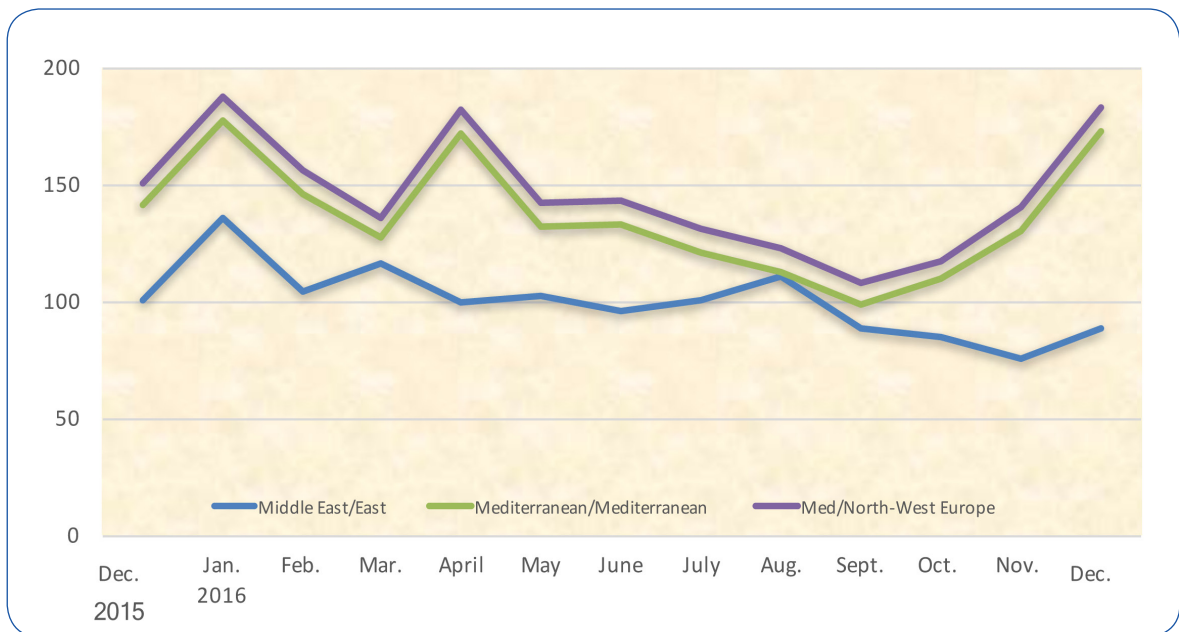


Table (5) and (6) in the annex show crude and products Tankers Freight Rates, 2014-216.

## 2. Supply and Demand

Preliminary estimates in December 2016 show an increase in world oil demand by 1.4% or 1.4 million b/d, comparing with the previous month level to reach 98.3 million b/d, representing an increase of 1.2 million b/d from their last year level.

Demand in OECD countries increased by 1.9% or 0.9 million b/d comparing with their previous month level to reach 47.4 million b/d, representing an increase of 0.1 million b/d from their last year level. And demand in Non-OECD countries increased by 1% or 0.5 million b/d comparing with their previous month level to reach 50.9 million b/d, representing an increase of 1.1 million b/d from their last year level.

On the supply side, preliminary estimates show that world oil supplies for December 2016 increased by 0.6% or 0.6 million b/d, comparing with the previous month to reach 100.2 million b/d, representing an increase of 2.8 million b/d from their last year level.

In December 2016, OPEC crude oil and NGLs/condensates total supplies decreased by 1.7% or 0.7 million b/d comparing with the previous month level to reach 40.3 million b/d, a level that is 1.3 million b/d higher than last year. Preliminary estimates show that Non-OPEC supplies increased by 2.2% or 1.3 million b/d comparing with the previous month level to reach 59.9 million b/d, a level that is 1.6 million b/d higher than last year.

Preliminary estimates of the supply and demand for December 2016 reveal a surplus of 1.9 million b/d, compared to a surplus of 2.7 million b/d in November 2016 and a surplus of 0.3 million b/d in December 2015, as shown in [table \(2\)](#) and [figure \(6\)](#):

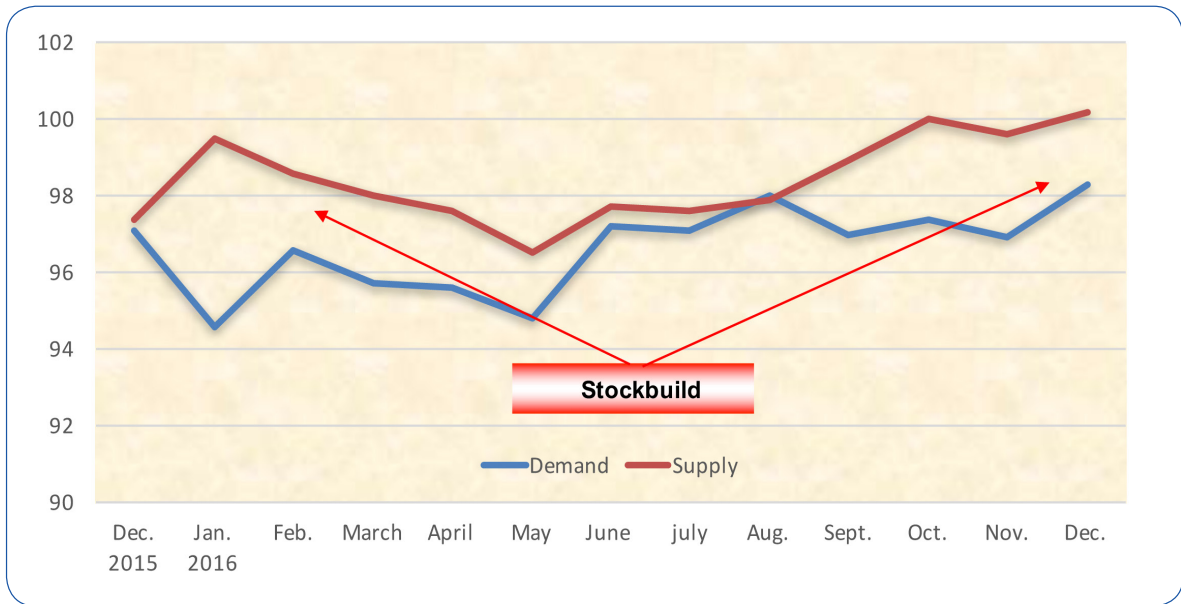
	<i>December 2016</i>	<i>November 2016</i>	<i>Change from November 2016</i>	<i>December 2015</i>	<i>Change from December 2015</i>
<i>OECD Demand</i>	47.4	46.5	0.9	47.3	0.1
<i>Rest of the World</i>	50.9	50.4	0.5	49.8	1.1
<i>World Demand</i>	<b>98.3</b>	<b>96.9</b>	<b>1.4</b>	<b>97.1</b>	<b>1.2</b>
<i>OPEC Supply:</i>	<u>40.3</u>	<u>41.0</u>	<u>-0.7</u>	<u>39.0</u>	<u>1.3</u>
<i>Crude Oil</i>	33.6	34.1	-0.5	32.4	1.2
<i>NGL's &amp; Cond.</i>	6.7	6.9	-0.2	6.6	0.1
<i>Non-Opec Supply</i>	57.5	56.2	1.3	56.0	1.5
<i>Processing Gain</i>	2.4	2.4	0.0	2.3	0.1
<i>World Supply</i>	<b>100.2</b>	<b>99.6</b>	<b>0.6</b>	<b>97.4</b>	<b>2.8</b>
<i>Balance</i>	<b>1.9</b>	<b>2.7</b>		<b>0.3</b>	

Source: Energy Intelligence Briefing January 10, 2017.

Tables (7) and (8) in the annex show world oil demand and supply for the period 2014-2016.

**Figure - 6 World Supply and Demand**

(Million b/d)



**US tight oil production**

In December 2016, US tight oil production decreased by 35 thousand b/d or 0.7% comparing with the previous month level to reach 4.713 million b/d, representing a decrease of 416 thousand b/d from their last year level. The US oil rig count increased by 53 rig comparing with the previous month level to reach 454 rig, a level that is 21 rig lower than last year, as shown in table (3) and figure (7):

**Table 3 US\* tight oil production**

(Million b/d)

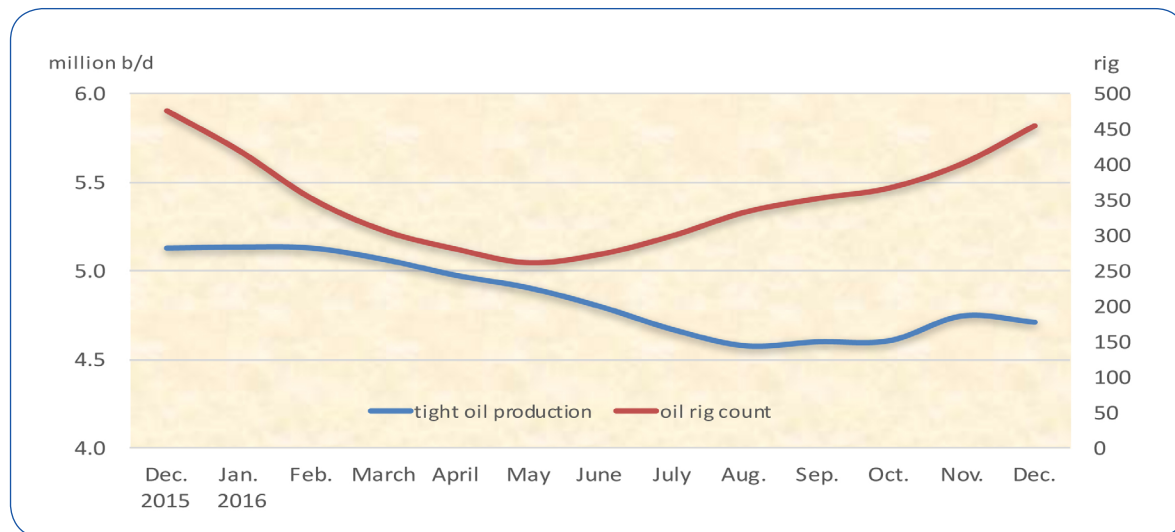
	<i>December 2016</i>	<i>November 2016</i>	<i>Change from November 2016</i>	<i>December 2015</i>	<i>Change from December 2015</i>
<b>tight oil production</b>	<b>4.713</b>	<b>4.748</b>	<b>-0.035</b>	<b>5.129</b>	<b>-0.416</b>
<b>Oil rig count (rig)</b>	<b>454</b>	<b>401</b>	<b>53</b>	<b>475</b>	<b>-21</b>

Source: EIA, Drilling Productivity Report for key tight oil and shale gas regions, January 2017.

\* focusing on the seven most prolific areas, which are located in the Lower 48 states. These seven regions accounted for 92% of domestic oil production growth during 2011-2014 (Bakken, Eagle Ford, Haynesville, Marcellus, Niobrara, Permian, Utica)

**Figure - 7 US tight oil production and oil rig count**

(Million b/d)



### 3.Oil Trade

#### USA

In November 2016, US crude oil imports increased by 53 thousand b/d or 0.7% comparing with the previous month level to reach 7.7 million b/d, and US oil products imports increased by 230 thousand b/d or 11.2% to reach about 2.3 million b/d.

On the export side, US crude oil exports increased by 24 thousand b/d or 5.5% comparing with the previous month level to reach about 459 thousand b/d, and US products exports increased by 543 thousand b/d or 13.6% to reach 4.5 million b/d. As a result, US net oil imports in November 2016 were 284 thousand b/d or nearly 5.3% lower than the previous month, averaging 5 million b/d.

Canada remained the main supplier of crude oil to the US with 43% of total US crude oil imports during the month, followed by Saudi Arabia with 13.5%, then Venezuela with 10%. OPEC Member Countries supplied 41% of total US crude oil imports.

#### Japan

In November 2016, Japan's crude oil imports increased by 85 thousand b/d or 3% comparing with the previous month to reach 3.1 million b/d. And Japan oil products imports increased by 120 thousand b/d or 27.3% comparing with the previous month to reach 560 thousand b/d.

On the export side, Japan's oil products exports increased in November 2016, by 46 thousand b/d or 9.3% comparing with the previous month, averaging 539 thousand b/d. As a result, Japan's net oil imports in November 2016 increased by 159 thousand b/d or 5.3% to reach 3.2 million b/d, the highest level seen since May 2016.

Saudi Arabia was the big supplier of crude oil to Japan with a share of 39% of total Japan crude oil imports, followed by UAE with 25% and Iran with 8% of total Japan crude oil imports.

### China

In November 2016, China's crude oil imports increased by 1.1 million b/d or 16.2% to reach 7.9 million b/d, and China's oil products imports increased by 215 thousand b/d or 21.5% to reach 1.2 million b/d.

On the export side, China's crude oil exports reached 45 thousand b/d. And China's oil products exports increased by 224 thousand b/d or 20.4% to reach 1.3 million b/d. As a result, China's net oil imports reached 7.8 million b/d, representing an increase of 16.7% comparing with the previous month level.

Saudi Arabia was the big supplier of crude oil to China with 15% of total China's crude oil imports during the month, followed by Russia with 14%, and Angola with 11%.

Table (4) shows changes in crude and oil products net imports/(exports) in November 2016 versus the previous month:

**Table 4** USA, Japan and China Crude and Product Net Imports / Exports ( Million bbl/d)

	Crude Oil			oil Products		
	Novemder 2016	October 2016	Change from October 2016	Novemder 2016	October 2016	Change from October 2016
<b>USA</b>	<b>7.289</b>	<b>7.260</b>	<b>0.029</b>	<b>-2.257</b>	<b>-1.944</b>	<b>-0.313</b>
<b>Japan</b>	<b>3.140</b>	<b>3.055</b>	<b>0.085</b>	<b>0.021</b>	<b>-0.053</b>	<b>0.074</b>
<b>China</b>	<b>7.848</b>	<b>7.848</b>	<b>1.120</b>	<b>-0.093</b>	<b>-0.083</b>	<b>-0.010</b>

Source: OPEC Monthly Oil Market Report, various issues 2016 and 2017.

## 4. Oil Inventories

In November 2016, OECD commercial oil inventories decreased by 11 million barrels to reach 3033 million barrels – a level that is 61 million barrels higher than a year ago. It is worth mentioning that during the month, commercial crude inventories in OECD decreased by 3 million barrels to reach 1191 million barrels, and commercial oil products inventories decreased by 8 million barrels to reach 1842 million barrels.

Commercial oil inventories in Americas increased by 2 million barrels to reach 1625 million barrels, of which 646 million barrels of crude and 979 million barrels of oil products. Commercial oil Inventories in Europe decreased by 3 million barrels to reach 971 million barrels, of which 345 million barrels

of crude and 626 million barrels of oil products. Commercial oil inventories in Pacific decreased by 10 million barrels to reach 437 million barrels, of which 200 million barrels of crude and 237 million barrels of oil products.

In the rest of the world, commercial oil inventories decreased by 18 million barrels to reach 3035 million barrels, whereas the Inventories at sea increased by 44 million barrels to reach 1250 million barrels.

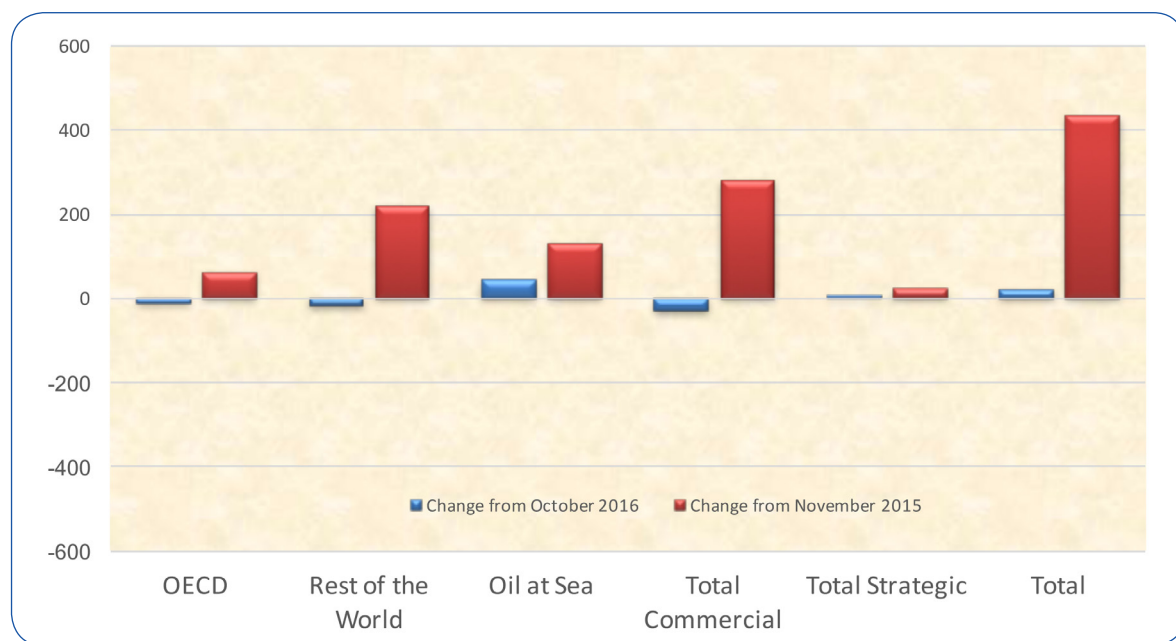
As a result, Total Commercial oil inventories in November 2016 decreased by 29 million barrels comparing with the previous month to reach 6068 million barrels – a level that is 280 million barrels higher than a year ago.

Strategic inventories in OECD-34, South Africa and China increased by 7 million barrels comparing with the previous month to reach 1876 million barrels – a level that is 23 million barrels higher than a year ago.

Total world inventories, at the end of November 2016 were at 9194 million barrels, representing an increase of 22 million barrels comparing with the previous month, and an increase of 433 million barrels comparing with the same month a year ago.

Table (9) in the annex and figure (8) show the changes in global inventories prevailing at the end of November 2016.

**Figure - 8** Changes in Global Inventories at the End of November 2016 (Million bbl)



## II. The Natural Gas Market

### 1- Spot and Future Prices of Natural Gas in US market

The monthly average of spot natural gas price at the Henry Hub in December 2016 increased by \$1/million BTU comparing with the previous month to reach \$3.59/ million BTU.

The comparison, shown in [table \(5\)](#), between natural gas prices and the WTI crude reveal differential of \$5.4/ million BTU in favor of WTI crude.

**Table 5** Henry Hub Natural Gas, WTI Crude Average, and Low Sulfur Fuel Oil Spot Prices, 2015-2016 (Million BTU<sup>1</sup>)

	Dec. 2015	Jan. 2016	Feb.	Mar.	Apr. 2016	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Natural Gas <sup>(2)</sup>	1.9	2.3	2.0	1.7	1.9	1.9	2.6	2.8	2.8	2.8	3.0	2.6	3.6
WTI Crude <sup>(3)</sup>	6.4	5.4	5.2	6.5	7.1	8.1	8.4	7.7	7.7	7.8	8.6	7.9	9.0

1. British Thermal Unit.

2. Henry Hub spot price.

3. WTI – West Texas Intermediate Crude oil price, in dollars per barrel, is converted to dollar per million BTU using a conversion factor of 5.80 million BTU/bbl.

Source: <http://www.eia.gov/dnav/ng/hist/rngwhhdM.htm>

### 2- LNG Markets in North East Asia

The following paragraphs review the developments in LNG Markets in North East Asia, concerning prices and Japanese, Chinese and South Korean imports of LNG and their sources, and Spot LNG Exporters Netbacks.

#### 2.1. LNG Prices

In November 2016, the price of Japanese LNG imports decreased by \$0.1/ million BTU comparing with the previous month to reach \$7.1/ million BTU, the price of Korean LNG imports increased by \$0.2/million BTU comparing with the previous month to reach \$7.5/ million BTU, and the price of Chinese LNG imports increased by \$0.1/million BTU comparing with the previous month to reach \$6.8/ million BTU.

#### 2.2. LNG Imports

Total Japanese, Korean and Chinese LNG imports from various sources, increased by 20.5% or 2.3 million tons from the previous month level to reach 13.626 million tons.

[Table \(6\)](#) shows the prices and quantities of LNG imported by Japan, South Korea, and China for the period 2014-2016.



Table6

## LNG Prices and Imports: Korea, Japan, and China 2014-2016

	Imports (thousand tons)				Average Import Price (\$/million BTU)		
	Japan	Korea	China	Total	Japan	Korea	China
<b>2014</b>	<b>88505</b>	<b>37402</b>	<b>19891</b>	<b>145798</b>	<b>16.1</b>	<b>16.3</b>	<b>11.7</b>
<b>2015</b>	<b>84850</b>	<b>33141</b>	<b>19606</b>	<b>137597</b>	<b>10.2</b>	<b>10.6</b>	<b>8.6</b>
<b>January 2015</b>	8434	4122	2121	14677	15.1	14.3	11.1
February	7730	3098	1661	12489	13.3	13.4	10.3
March	8137	3048	1346	12531	12.2	13.1	10.1
April	6598	2839	1545	10982	10.2	11.7	8.1
May	5755	2364	1123	9242	8.7	9.5	8.8
June	6633	1777	1724	10134	8.6	9.1	9.5
July	6953	2271	1922	11146	8.9	8.8	7.5
August	7062	1998	1348	10408	9.2	9.2	7.1
September	6853	2450	1295	10598	9.6	9.6	7.4
October	6057	2915	1602	10574	9.4	9.7	8.0
November	6694	2706	1818	11218	8.9	9.5	7.9
December	7944	3553	2101	13598	8.5	8.7	7.6
<b>January 2016</b>	7245	3338	2464	13047	7.9	8.0	7.3
<b>February</b>	7370	2998	1801	12169	8.0	7.8	6.9
<b>March</b>	7959	3282	1702	12943	7.2	7.3	6.6
<b>April</b>	6382	2177	1861	10420	6.4	6.6	6.6
<b>May</b>	5455	2218	1425	9098	5.9	6.0	6.3
<b>June</b>	6193	2484	2146	10823	6.0	5.7	6.0
<b>July</b>	6460	1918	1604	9982	6.3	5.9	5.4
<b>August</b>	7656	1971	2257	11884	6.7	6.3	6.0
September	6671	2236	2527	11434	7.1	6.8	6.1
October	6282	3187	1838	11307	7.2	7.3	6.7
November	7545	3422	2659	13626	7.1	7.5	6.8

Source: World Gas Intelligence various issues.

### 2.3. Sources of LNG imports

Australia was the big supplier of LNG to Japan, Korea and China with 4.542 million tons or 33.3% of total Japan, Korea and China LNG imports in November 2016, followed by Qatar with 20.9% and Malaysia with 13.6%.

The Arab countries LNG exports to Japan, Korea and China totaled 3.767 million tons - a share 27.6% of total Japanese, Korean and Chinese LNG Imports during the same month.

### 2.4. LNG Exporter Netbacks

With respect to the Netbacks at North East Asia markets, Russia ranked first with \$6.50/million BTU at the end of November 2016, followed by Indonesia with \$6.41/million BTU then Malaysia with \$6.36/million BTU. And LNG Qatar's netback reached \$6.19/million BTU, and LNG Algeria's netback reached \$5.86/million BTU.

Table (7) shows LNG exporter main countries to Japan, South Korea, and China and their netbacks at the end of November 2016.

**Table7** LNG Exporter Main Countries To Japan, Korea and China, And Their Netbacks At The End Of November 2016

	Imports (thousand tons)				Spot LNG Netbacks at NE Asia Markets (\$/million BTU)
	Japan	Korea	China	Total	
<b>Total Imports, of which:</b>	<b>7545</b>	<b>3422</b>	<b>2659</b>	<b>13.626</b>	
Australia	2474	757	1311	<b>4542</b>	<b>6.35</b>
Qatar	1036	1208	611	<b>2851</b>	<b>6.19</b>
Malaysia	1288	287	275	<b>1850</b>	<b>6.36</b>
Indonesia	479	366	241	<b>1086</b>	<b>6.41</b>
Russia	652	191	-	<b>843</b>	<b>6.50</b>

\* Export Revenues minus transportation costs, and royalty fees.  
Source: World Gas Intelligence various issues.



## Tables Annex

