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**Shale Gas in the Middle East:
New regional and global opportunities**

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President IGU

- Your Excellency Mohamed bin Amad Al Rumhy, *Minister of Oil and gas, Sultanate of Oman* ;
- Your Excellency Nasser bin Khamis Al Jashmi, *Undersecretary, Minister of Oil and Gas, The Sultanate of Oman* ;
- Dr. Saleh Al Anboori, *Director General of Management of Petroleum Investments, Ministry of Oil and Gas Oman* ;
- Distinguished Panellists and Delegates ;
- Ladies and Gentlemen,

It is a great honour and privilege for the *International Gas Union* and his President to have been invited to present the views of the Organization at the opening session of the 2014 *International Unconventional Gas Conference* in the beautiful city of Muscat, the pearl of the Sultanate of Oman and of the Gulf region.

IGU is representing the worldwide gas industry, gathering 83 countries, among which 13 Middle East and Northern African nations, and covers 95 % of the natural gas and LNG global gas market. This conference is an event of outstanding importance for IGU, which believes that unconventional gas generally, and shale gas in particular, can transform the global energy landscape and contribute to nurturing a sustainable economic growth, as well as a more secure and environmentally friendly energy world.

Shale gas is more than a game changer, it is a revolution and its global implications and consequences are still far from being universally endorsed or even understood. However, the access to low prices of natural gas for enhancing the economic growth and employment level and fostering the location of new industries, as already evidenced in North America, should be regarded as a major challenge for the rest of the world.

In a 2011 report on world shale gas resource assessment, issued by the US *Energy Information Agency* with the support of *Advanced Resources International*, it was mentioned that the “*Middle East was not addressed by the study primarily because there are significant quantities of conventional gas reserves*”.

On this point, let me remind you a British proverb that says: “*The early bird gets the worm, but the second mouse gets the cheese*”. I mean that, even if the Middle East countries have not yet lead the way in exploration and production of unconventional gas, for the very simple and straightforward reason that they have plentiful conventional resources at a highly competitive cost, they are now in a position to enter into this new era, while benefitting from the experience and path finding process developed in North America.

This assertion is not supported by a bold ambition of the Middle East Oil & Gas industry to stay on the crest of the wave, but by a series of solid facts :

- Firstly, in the medium and long term, the global effort to transition away from more carbon intensive hydrocarbons will increase gas demand rates across the world. Also, due to the Fukushima nuclear crisis, nuclear is much less attractive as an alternative source than previously. These factors add to the attractiveness of shale and gas should blunt some of the health and environmental concerns of hydraulic fracturing ;
- Secondly, the spread of shale gas technology should encourage Middle East countries to exploit together their conventional reserves and their own shale and other non-conventional gas resources. This will have a beneficial impact on their energy security and allow them to replace more expensive fuel sources – such as petroleum products or LNG – with domestically produced natural gas. Additionally, some of the Gulf countries that are experiencing natural gas domestic gas shortages for power generation will have an improved energy mix with the development of shale and other non-associated gas reserves ;
- Thirdly, shale gas production has the potential capacity to sustain the growth of energy intensive industries in the Middle East, thus avoiding that global petrochemical and fertilizers industries be incentivized to relocate to the US to take advantage of the low cost of US shale gas and become competitors to their counterparts in the Middle East.

Although most experts consider that the expected US LNG exports will not have a significant direct impact on LNG prices, it is possible that the development of shale gas in China, India and Australia might, in the medium term, result in less favourable pricing conditions for LNG on the Asian markets, and accelerate a convergence of LNG delivered prices between Europe and Asia.

It is therefore important for the Middle East countries to be part to the continuing advancement of shale gas exploration and fracturing technology before it may spread in Asian countries, which are both their LNG and petrochemical customers. It seems advisable for the Gulf countries to protect their position in the export competition by having access to the most updated technology, equipment and contractors so as to remain fully competitive on the Asia –Pacific markets.

The policy motivations of the Middle East countries for the development of unconventional gas resources vary by country. However, they often complement each other, thus giving much sense to a regional shale gas policy that would help covering the specific major requirements of each group of countries. These motivations can be structured in accordance with four main requirements:

1. *Bring affordable electricity to domestic customers:* giving access to power to most people would enhance the welfare and social development in countries heavily dependent on petroleum products for power generation, like Iraq, Yemen and Libya ;
2. *Save domestic oil for export:* switching from petroleum liquid products to natural gas for power generation in countries like Kuwait, Dubai and Saudi Arabia, with the construction of CCGT plants of large capacity would allow them to benefit from revenues from additional oil exports ;
3. *Grow domestic gas to sustain pipeline and LNG exports:* enlarging the reserve base upon which countries like Oman, Qatar, Abu Dhabi and Algeria would enable them to expand their gas and LNG exports activities while ensuring the needs of their respective countries ;
4. *Limit dependence on gas imports:* accessing to more natural gas resources would grant a more diversified supply base to countries like the Northern Emirates, Jordan and Morocco that are presently heavily dependent on gas imports.

I would now like to examine with you what are the conditions that would allow the US success to be replicated in the Middle East countries. The picture that I have painted highlights the prize to successfully mirror this success. For this, it is necessary to remind why the US shale gas production has progressed so rapidly and at a relatively low cost :

- Firstly, a lot of geology in the US was well known because the industry had been drilling through the shales for much of the last century. With all these data, the potential new reservoirs were already well mapped ;
- Secondly, the oilfield service in the US operates at a scale that does not exist anywhere else in the world. With scale comes efficiency and, in the US, a frack fleet can do thirty frack jobs a month, whereas elsewhere in the world the average is about four ;
- Thirdly, in the US, individual landowners also own the mineral rights beneath their lands. This means the public acceptance of some of the environmental aspects of shale gas is much higher than in other regions, like Europe ;
- Fourthly, the US has abundant water resources, an extensive pipeline transmission and distribution gas system, a flexible investment code and easy access to capital, even for small producers.

Although I am not in a position to mention figures for the potential unconventional reserves in the Middle East, which is going to be one of the most exciting deliverable of this conference, I have gathered that Middle East shale gas compare favourably with the US. Furthermore, I am quite optimistic on the capacity of the Middle East countries to match the other conditions, for the following reasons:

- While I am speaking, more than 130 drilling rigs are in operation in the Middle East and the best international contractors and technology are available on site, including 350 000 HHP of frack capacity, which is more than in Argentina or Australia. I also note that *International Oil Companies* as well as *National Oil Companies* from Asian countries have expressed much interest for the shale gas exploration and production ;
- The vast extension of land covering the shale prospect areas have a low density of people, which offsets the handicap met by operators in other regions like Europe or Asia. Furthermore, the oil and gas activity has been imbedded in the industrial practice and culture of the Middle East for almost as long as in the US ;
- The issue of availability of water resources is obviously crucial in the Middle East, but I understand that the latest frack technology has developed water recycling to an extent that makes this issue less critical, even in desert zones of the region.

As a conclusion, I wish to say that I believe that the Middle East countries can benefit from a more proactive attitude on unconventional gas resources, since they have the capacity to deploy the corresponding technology, which would *“Add another string to their bow.”* Shale gas may strengthen their competitive position towards the US petrochemical industry; enhance their export potential of natural gas and LNG, as well as adding resources for the production of affordable electricity in the region.

Once again, I wish to thank the Omani Minister for Oil and Gas and the organizers of the conference for having invited me to present and I would be delighted to welcome you all in Paris, in June 2015, for the World Gas Congress of IGU where all these important issues will be debated and reviewed at the highest level of our industry.
