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Meeting global energy needs

INTERVIEW WITH HE ENG DR ALI BIN IBRAHIM AL-NAIMI

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ALI BIN IBRAHIM AL-NAIMI has a bachelor degree in geology from Le High University and a masters from Stanford University in the US. He joined Aramco in 1947, became a board director in 1980 and was appointed president in 1983. He assumed his current position as minister of petroleum and mineral resources in 1995.

The oil market has been characterised by a degree of price volatility. What are the prime factors behind this and how can market balances be maintained?

There is no doubt in my mind that increased speculative interest in oil has contributed to the extreme price volatility of the past few years. The extraordinarily high prices we saw last summer were not as much a measure of market fundamentals as a reflection of the strength of the prevailing bullish market psychology of investors. Now that market sentiment has slipped, I expect continued volatility with exaggerated price weakness. From a fundamental viewpoint, prices will be just as unsustainable at low levels as they are at stratospherically high levels. The high level of volatility that characterises oil markets represents a significant impediment to ensuring adequate and timely investment in the sector. Saudi Arabia realises that we have an important role to play in promoting stability in world oil markets.

The most powerful tool we have for achieving a balanced market is our maintenance of spare production capacity. We work very hard to make sure that the global oil market is well supplied and well balanced and to that end it is our ongoing policy to maintain at least 1.5 million (mn) to 2 mn barrels per day of spare capacity to be used when there is an unexpected need. We will also expand refining capacity in Saudi Arabia and in key markets around the world. We are continuing to invest now to help ensure an uninterrupted supply of energy when the global economy recovers. We all have much to learn from the recent turmoil in global markets. We must learn from past mistakes and proceed carefully, ever mindful of the importance of stable energy markets to the world's economic well-being.

For over half a century, Saudi Arabia has worked together with producers and consumers for mutual interest. I believe that these long-term relationships in energy have paid great dividends for the health of the global economy, the stability of oil markets and for our respective societies. Working together we can build on these successes to provide the foundation for a strong, sustainable economic recovery and a bright future.

What role does Saudi Arabia play in chemicals production and what is the future for this sector in the region?

Saudi Arabia today accounts for about 62 per cent of chemical production in the GCC region and approximately 8 per cent of global production. Saudi Arabia is already the world's largest methanol producer and the second largest ethylene producer. By 2015 the Kingdom's petrochemical production is projected to increase from today's levels of about 60 mn tonnes per year to more than 80 mn tonnes per year. The evolution of downstream industries is accelerating – moving beyond even the most sophisticated physical products toward sustainable leadership in human capital and advanced research. And industry analysts project that direct investment in the Saudi chemical industry by 2015 will far surpass the 100 billion (bn) dollar mark.

This is quite remarkable when put into context, but we have seen growth stories in the chemicals sector occur throughout the Gulf, with each country charting its own way forward. Taken as an entirety, GCC chemicals production appears set to move to greater and greater heights. The goals of the business are changing as well. The chemical industry in the Gulf is no longer simply operating facilities to manufacture products; it is becoming a key enabler of other industrialisation activities.

What are your predictions for the evolution of the chemicals industry? What is Saudi Arabia's strategy in this area?

On 8th November 2009, Saudi Arabia celebrated the inauguration of Petro Rabigh, the largest integrated refining and petrochemical complex ever built at a single time. This US\$10 bn facility will be producing more than 18 mn tonnes of petroleum-based products per year, with some 2.5 mn tonnes per annum of ethylene- and propylene-based derivatives. Petro Rabigh is jointly owned by Saudi Aramco, Sumitomo Chemical Company of Japan, and private and institutional shareholders who acquired equity in the company in 2007 in the first Initial Public Offering involving Saudi Aramco.

Saudi Aramco this year has also inaugurated another significant international joint venture in chemicals – the Fujian Refining and Petrochemical Company, in partnership with Sinopec of China and ExxonMobil. This enterprise, in Fujian Province, expands a refinery's capacity and adds new petrochemical facilities. The new petrochemical complex includes an 800,000 tonnes per year ethylene steam cracker, an 800,000



tonnes per year polyethylene unit, a 400,000 tonnes per year polypropylene unit and a 700,000 tonnes per year paraxylene unit.

Back at home and in the near future, Saudi Aramco is developing major integrated refinery-based chemical complexes through joint ventures with Dow Chemical in Ras Tanura, with Total in Jubail, and with ConocoPhillips in Yanbu. In addition, the Jazan refinery which is up for competitive bidding provides opportunities for petrochemical synergies.

In the coming years, Saudi Arabia is poised for increases in the quantity and quality of our exports. We will diversify our chemical portfolio into more complex, distinctive products such as speciality chemicals and engineering thermoplastics. Saudi Arabia now actively encourages private investment in the chemical sector in order to strengthen our position as a global chemical leader and to diversify towards value-added speciality chemicals, formulated products, and performance polymers.

Other opportunities will be found with various SABIC projects and Petro Rabigh Phase II, and other private sector projects are all working to develop projects with higher know-how content which will add to the technology profile of the industry and the utilisation of novel, proprietary processes. Our aim is to be able to produce a substantial number of upstream products as well as a range of sophisticated downstream products for the development of the local market.

How do you see the future of the upstream sector and especially the gas industry?

A major change that has taken place during the past few years is that the Saudi Arabian Ministry of Petroleum and Mineral Resources has begun to take a more vital strategic role in allocating feedstock to diversify and strengthen the Kingdom's economy.

In Saudi Arabia, we are blessed with abundant natural resources and we were able to overcome challenges and provide competitively priced gas and NGL products fostering strong growth in our chemical industry. During the past 15 years, we have been able to add massive new investments in Hawlyan and Haradh as well as our new gas development at Karan and our new ethane straddle plant. Besides a record number of wells being drilled by Saudi Aramco directed at new hydrocarbon sources today, we also have opened up to exploration for new gas in the southern part of the Kingdom through foreign partnerships with Shell, Sinopec, Lukoil and ENI.

Stewardship of our natural gas resources is a strategic strength for Saudi Arabia and for our region and beyond. A programme that began not too many years ago, based on making productive use of associated gas that would have been flared, today has been transformed dramatically, for the economic benefit of the entire world. Even as we have produced vast amounts of natural gas, our production and

> reserves continue to increase. ►

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◀ In 1990, Saudi Arabia's natural gas reserves were 181 Trillion Cubic Feet (TCF). At year end 2008 they were higher, at 263 TCF, and we project that in 2010 proven reserves will be still even higher, as Saudi Aramco targets discovering a minimum of 5 TCF of additional non-associated gas reserves annually. Investment and application of new technologies are leading to greater abundance of natural gas. Another important factor is the change in the ratio of non-associated to associated gas. For instance, in 1990, 75 per cent of our natural gas reserves were in associated gas, whose production can be constrained by the factors of oil production. Today non-associated gas accounts for 48 per cent of total gas reserves, and we expect it to constitute a significantly higher proportion in the future.

There is comparable good news in gas production. In 1981, Saudi raw gas production was 1,654 mn standard cubic feet per day (MMSCFD). Today it is approximately 8,800 MMSCFD, and we project production levels to exceed 13,000 MMSCFD by 2020.

This means our investment and management strategies are succeeding in meeting our objective of always staying ahead of demand for natural gas – toward all its end uses in power generation, desalinisation and chemical feedstock.

How can success in the oil and gas and chemicals sectors contribute to national economic development?

The Government of Saudi Arabia has initiated the Saudi Industrial Clusters Programme to develop and to provide support to a range of new industries. The programme aims to grow and diversify the national economy by developing targeted industrial sectors that leverage the Kingdom's natural resources, including the petrochemical industry products, and our young and growing Saudi workforce.

The sectors have been selected in areas where the Saudi Arabian fundamentals of abundant, competitive energy and basic materials can be leveraged to create competitive ventures that meet the aspirations of both the nation and the investor. The selections have been made only in sectors where we believe that over time Saudi Arabia can become competitive on a global basis. Key sectors now are being developed, each representing a different category of manufactured products: automotive value chain, metals processing, plastics, consumer goods, and solar. The clusters programme will not only create manufacturing industries but also spur additional development in the use of our mineral resources. Our goal is for global and regional markets to contain not just basic products but also a significant number of consumer and industrial products labelled 'Made in Saudi Arabia'.

The Saudi energy industry leadership is intimately

connected with our vision for economic and social development beyond physical products, for example, a remarkable new postgraduate research institution, King Abdullah University for Science and Technology, or KAUST has been established. The university has enlisted numerous major corporate research partners – including Schlumberger, Boeing, Halliburton and Dow Chemical as well as SABIC and Saudi Aramco.

The launch of KAUST accelerated efforts that have been going on for some time through higher education and specialised training to enhance the quality and quantity of opportunities for employment and economic growth in Saudi Arabia. King Fahd University of Petroleum and Minerals – enjoying strong partnerships with industry is internationally known for its excellence. Numerous other Saudi universities have endowed professorships and programmes in partnership with the hydrocarbons and chemical industries. Specialised training institutions also support our strategy, as do the research and training centres of leading corporations operating in the Kingdom.

The current global recession has increased the likelihood of protectionist responses. How do you see the impact on international trade?

It is very important for our industry to have access to the world's market unfettered by artificial trade barriers and there is a concern that de-globalisation is a growing threat and could result in restrictions of world trade.

Most experts are in agreement that growth in global trade is beneficial to economic growth in most countries. Growth in global trade in prior years has been credited with lifting millions of people out of poverty in the emerging economies and bringing lower prices to consumers around the world.

And yet, the World Trade Organisation's Doha trade round has been languishing for over seven years as major country negotiators have been unable to reach consensus. This is in the face of an estimated 10 per cent drop in merchandise trade volumes, according to WTO estimates.

There are further complications to concluding a successful Doha trade agreement brought about by the recent recession. There have been significant job losses in many major countries, which encourage governments to protect domestic jobs and industries. Currently, there is a serious concern and some hard evidence that protectionism will gain strength, further depressing global trade as well as making it more difficult to complete a successful new WTO agreement. Gulf petrochemical producers are long-term players, aiming to deliver affordable products to world consumers. It is certainly in our interests to re-energise the Doha

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negotiations. Growth in global trade is in our interests as well as those of our customers around the world.

Do you believe the region enjoys a level of immunity from the impact of protectionism?

Our region has long-term comparative advantages to be the world hub for energy production, and increasingly, the hub for more sophisticated downstream products. Neither the global recession nor any protectionist measures by parties outside the GCC region can alter this fundamental reality. The Gulf region's advantages are based on geography, natural resources, and an already well developed production, refining and chemicals manufacturing infrastructure.

In this regard it is strategically and economically in the best interest of GCC producers to develop and expand their domestic markets. A vibrant and growing domestic market that provides stability of demand, also reduces costs for transportation and mitigates the effects of trade barriers.

Certainly, the near future will present some obstacles that will test our durability, commitment and management skills. In the Gulf we have a productive and trained workforce. We must continue to provide training to further upgrade and burnish the skills of this workforce, and we must look for ways to separate ourselves from competitors through innovation and development of proprietary technology and markets.

While the economic crisis provides a challenging environment for the industry, what are the other key drivers which influence the sector?

While the economic crisis will be an important driver of change I am convinced that climate change will have an even more profound impact on redefining the role of governments and government intervention in energy markets. The well-being of the environment deserves our full attention and dedication by our industry to be leaders in energy efficiency and in the search to provide consumers with a wider range of affordable cleaner energy choices.

It is increasingly apparent that the problems we face, like climate change, are so complex and broad-based as to defy individual action. Perhaps more than any other issue we face, addressing climate change in an economically sound manner, demands that we work co-operatively to find solutions. It is clear that the policies of one country to reduce emissions will have little impact if its actions are not taken in concert with the rest of the world. Likewise, energy stability must be addressed globally, with broad co-operation.

As we look to address the challenge of climate change and create the conditions for sustainable economic growth, we must pursue an energy policy framework that is both robust and flexible. We can only do this by separating what is theoretically possible from what is realistic, and by examining the real economic costs and benefits of various policy approaches.

Over time, the world will move away from the current fossil fuel-based energy economy. However, we don't yet know which fuels or technologies will emerge on the path ahead. Nor can we accurately predict how long this transition will take. Recognising the inherent uncertainty in the process of transition to new forms of energy, we must pursue an "inclusive" energy strategy, one that recognises the risks and uncertainties, emphasises cost-effective solutions and does not presuppose where we will find the solutions to the challenges we face.

I strongly believe that a core feature of any energy strategy must be policies to promote increased energy efficiency and conservation. Using our existing energy resources more wisely is a critical step toward greater stability and sustainability. Policies to promote conservation and efficiency are robust across any energy future price scenario and will be the cheapest form of 'new energy supply' in many cases.

A successful strategy will also include efforts to increase the contribution of alternative fuels, however, a note of caution is warranted. Scale is critical in our massive global energy system. The existing oil delivery system is highly efficient and economical, and the cost of rapidly replacing it with alternatives would be prohibitive. A prudent approach demands that we recognise that the massive scale of the global energy system makes rapid change costly and impractical. Research into new energy sources is critical for our twin goals of meeting our energy demand and protecting the environment. So too is research into technologies that help us use current energy sources more efficiently and cleanly. Both are equally vital for the long term prosperity of mankind and the health of our environment.

While the push for alternatives is important, we must also be mindful that efforts to rapidly promote alternatives could have a negative effect on 9investment in the oil sector. Growing demand uncertainty increases producers' perceptions of investment risk. A nightmare scenario would be created if alternative energy supplies fail to meet overly optimistic expectations, while traditional energy suppliers scale back investments due to expectations of declining demand for their products. The prospects of supply constraints would grow along with the potential for higher energy prices and lower economic growth.

Meeting the needs of a growing global population and the aspirations of billions of people in developing countries for greater prosperity, will require an "all of the above" energy strategy. All BTUs are welcome and needed – whether they come from renewable energy, nuclear power or fossil fuels. I strongly believe that a core feature of any energy strategy must be policies to promote increased energy efficiency and conservation