

Unprecedented developments

TOGY talks to

Abdul-Hussain Ali MIRZA
Minister of Oil and Gas Affairs



THE OIL & GAS YEAR: *Bahrain has been implementing an ambitious reform programme through Economic Vision 2030. How has the Bahraini energy sector been implementing change within the framework of this programme?*

ABDUL-HUSSAIN ALI MIRZA: Before talking about that, we should mention briefly the history of oil in Bahrain. Bahrain was the first country in the Gulf Co-operation Council (GCC) in which oil was discovered in 1932. The first refinery in the GCC was constructed here in 1936. But for the last 77 years there have been no new discoveries. Despite 22 attempts, no commercially viable quantities of oil or gas have been found. As such, Bahraini indigenous crude production is declining year by year. Production is now 33,000 barrels of per day (bopd), which is very little compared to other countries in the region. We also share an offshore field with Saudi Arabia, called Abu Safa, which produces 300,000 bopd, of which we take 150,000. We sell that crude offshore without it physically coming to Bahrain. Our refinery is a strategic refinery with a capacity of 260,000 bopd, with 33,000 of the input produced in Bahrain. We purchase between 220,000 and 230,000 bopd of crude from Saudi Arabia, which comes to us through a pipeline constructed in 1945 (at the time, the longest pipeline in the region). Because Bahrain has not had any new discoveries of oil, it was the first country to diversify, through a policy instituted by the government. For example, Bahrain today has one of the world's leading aluminium smelters. We are one of the most prestigious financial centres in the world, and we are attracting foreign businesses as well as encouraging tourism. However, oil and gas still provides 75 percent of government income and the revenue generated by oil and gas provides funds for education, healthcare, infrastructure and nearly everything else.

His Majesty Hamad ibn Isa Al Khalifah has instituted three types of reforms: political, social and economic. Politically, he reintroduced the constitution, bringing democracy to Bahrain,

complete with a bicameral legislative system and a constitutional court to uphold the rule of law. We also instituted a national audit court to provide checks on the government's transactions. We also formed the tender board to ensure that all government purchases are entirely transparent. I was honoured to be the first chairman of that board. With regard to social reforms, His Majesty wanted to empower women. As such, he created the Supreme Women's Council, which is chaired by Her Highness Sheikha Sabiqah, the wife of His Majesty. We have two women ministers, 10 women in the appointed chamber, two ambassadors and a female judge. Women are now taking up their rightful positions in the country. Economic reforms are passed down from the Economic Development Board, which is chaired by His Majesty Salman bin Hamad bin Isa Al Khalifa, the crown prince. As part of the economic reforms, the oil and gas sector was also reorganised. The ministry responsible had simply been called the Ministry of Oil, with no reference to gas. But in September 2005, the National Oil and Gas Authority (NOGA) was created, replacing the Supreme Oil Council, the Gas Committee and the Ministry of Oil. There had been much overlap and confusion prior to this consolidation. NOGA's mandate was to think innovatively and not to be hindered by past norms. We formed a board made up of technicians and professionals that meet every week or so to make decisions based on the authority given to us by the political leadership. We have had a number of achievements that would have taken a long time to accomplish in the old days.

As part of Economic Vision 2030, one of our first achievements was to look offshore in Bahrain's national waters. We divided our national waters into four areas and offered them to international oil companies. Even though 22 attempts had been made before, we were determined to make it work and employed consultants and attended fairs across the world. We got bids from large companies and now all the blocks have been awarded and are being developed. Blocks

As the first country in the Gulf region to discover oil, the Kingdom of Bahrain is set to witness its most dramatic petroleum expansion in more than 75 years. Following massive reforms implemented by Minister Mirza, the small island expects to expand production on its existing field by 67,000 barrels per day and lead an unprecedented exploration campaign in offshore waters. ■



one, three and four were given to American company Occidental Petroleum (Oxy) and block two went to Thai company PTT-EP. These bids were the first to go through Bahrain's new state processes to ensure transparency. All the offshore blocks are now being worked on and in three or four years time we hope that there will be lots of activity.

TOGY: When do you expect the first offshore exploratory well to be drilled?

AM: Oxy will drill the first well in December 2009. They are planning to drill three or four wells in each block, so anything could happen. To aid the process, we provided all the data on previous attempts to find oil in the region. The data was digitalised by us, but at the expense of the international companies. NOGA and the government's initiatives ensured that this happened in record time, and in full transparency. We also looked at older onshore fields. We now have new technologies that can help us extract more oil from formerly abandoned wells. From 11 international bids we selected three after evaluation: Exxon-Mobil, Oxy and Maersk. Then, through a transparent and open process, we had consultants examine these bids before Oxy was chosen, as they gave us the best terms. According to our agreement, they are set to triple oil production and double gas production over the next 20 years, which should provide funds for Economic Vision 2030, funding the programme's agenda for social development. This is a historical achievement since Bahrain will be producing more crude oil than it has in its 77-year history, assuming the terms of our agreement are fulfilled.

TOGY: What directions have been explored for the national gas supply strategy?

AM: We aim to acquire deep gas, which involves drilling far deeper than before. Companies are now examining the two leading bids – one from Oxy and one from Canadian National Resources

– and the tender will be awarded by the end of 2009.

Gas is becoming more and more important as a source of energy. NOGA has outlined 10 strategies for developing Bahrain's natural gas assets and capabilities. Firstly, we made a projection for our gas requirements and our gas production capability for the coming 20 years. Our consumption is currently of 1.2 billion cubic feet (339,802 cubic metres) per day. Considering the increase in population and advancing technology, we identified a strong need for more gas. Bahrain is now becoming more attractive for business too, which requires far more power and energy. We realised that by 2010 we would run out of gas and we had to take action. This is where NOGA comes into play. We immediately requested an additional \$200 million of funds to drill eight gas wells, since it takes a long time between drilling and production. With these wells, we will be producing an additional 500 million cubic feet (14.16 million cubic metres) of gas per day, which will push back the horizon to 2014. With the Bahrain Field Development programme, we will also be doubling our gas production, allowing domestic output to meet demand until 2024.

We also took additional measures. We decided that no more gas licences would be issued to foreign companies without the approval of

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NOGA. NOGA decided that licences would only be granted to companies that were guaranteed to add value to this country. People thought gas was plentiful and cheap, so licences were being issued regardless of whether it helped grow the economy. We also increased the price of gas to encourage conservation. Another measure is the import of gas from Iran and Qatar, which was established through dialogue with our neighbours. We have also been talking to Russia's Gazprom following a visit to Russia by His Majesty in 2008. We signed a memorandum of understanding (MOU) and have had many meetings with them since then.

TOGY: What other areas have been explored for resource conservation and supply diversification?

AM: There are many things being discussed. We formed a gas conservation committee in 2005 to address the inefficient use of gas. As a result, we have managed to double the efficiency of gas usage by halving consumption. We also signed a MOU with Hess (an American oil and chemical company) and with Shell to examine the possibilities of building facilities for LNG in Bahrain. LNG will allow gas to be transported

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without being restricted to using pipelines. We have also looked at the electricity grid. All GCC countries are to be connected to the same grid in the near future, allowing members to help each other in the case of blackouts, for example. If we use this mechanism to cover our electricity needs, we can use the gas we produce for other things.

All the measures mentioned have the aim of making sure that we do not suffer a gas shortage and they have all been introduced under the auspices of NOGA. The industry has now been successfully rejuvenated.

TOGY: How much of this new gas will be earmarked for re-injection and enhanced oil recovery (EOR) work to maintain pressure in the oilfields?

AM: Oil extraction is generally done in three phases. The first is when natural pressure in the well forces oil out of the ground. The second is when pumps are used to draw out the oil. The third uses EOR, where natural gas is re-injected into the well to increase the pressure, helping to force the oil out of the well. Of the 10 or so initiatives that I mentioned, if only a few of them come to fruition, Bahrain will be able to become a net exporter of natural gas. Each of these projects will have a corresponding downstream project. For example, in crude production there is always associated gas. We have a company called Banagas, which takes the gas associated with our 33,000 bopd of crude production and converts it into propane and butane. Just a few years ago, this gas was flared and wasted, but now it is being put to good use. If this 33,000 bopd increases to 100,000 bopd, we will have to expand the capacity of Banagas to process the associated gas, which will add yet another dimension to our plans to expand our gas production.

TOGY: What other areas of energy sector reform has NOGA undertaken?

AM: We have a master plan to upgrade our refinery to improve production facilities. Some \$15 billion will be spent in the next 20 years by international oil companies, rather than by the Bahrain government. In the process, we have demanded that training will be given to Bahrainis that are employed by them. We have also insisted that environmental concerns are taken into consideration and that social issues related to the projects are addressed. In three to five years, Bahrain will have become a hive of economic activity as a result of the reforms instituted by NOGA.

In addition to NOGA, we have formed a holding company to hold government shares in Bahrain Petroleum, the oldest energy company in the GCC, Banagas, the Bahrain Aviation Fuelling Company (BAFCO) and Gulf Petrochemicals. We have also recently created a new company, Ba-

nagas Expansion and will soon be adding two more companies to the list. NOGA is also looking to invest outside Bahrain. We have a joint venture with Finnish company Neste Oil to build a base oil manufacturing plant – we control 55 percent Neste Oil controls 45 percent. We have awarded the contract to South Korean firm Samsung Engineering through a transparent bidding process, and 33 percent of the project has already been completed. The plant will be located very close to the (Sitra) refinery and will be the first such project in the region. We are creating a new company to manage this project, called the Bahrain Nubis oil project. For the oversight of the Bahrain Field Development programme, we are creating yet another company, the Joint Operating Company, to manage new projects.

TOGY: With new wells scheduled, what is the overall picture of fields in Bahrain?

AM: Since 1932, Bahrain has drilled some 800 wells, although not all of them are currently in operation as some of these have been abandoned since they ran dry. However, Oxy and others will drill some 600 new wells, which is a huge undertaking. But these are development wells, rather than exploration wells, meaning that they will be used to maximise extraction for existing, proven reserves. This effort will total 3,600 development wells, which is a huge number and should all be completed within the next 20 years, which will amount to an unprecedented operation. NOGA was created to bring about such unconventional or unprecedented developments. Nothing is impossible.





TOGY: You have already attracted some of the leading global energy companies. How many more exploration and production businesses may be invited to Bahrain, and what opportunities will they find when they arrive?

AM: Hess is doing a study for us, as are Shell and ExxonMobil, who are increasingly interested in Bahrain. This shows that through NOGA's reforms we have gained credibility among the international energy extraction community. It is appreciated that we operate transparently and that there is willingness on the part of Bahrain to facilitate private investment, rather than looking to a more nationalised model of our energy sector. This is a win-win situation, not a zero-sum game. We appreciate the expertise of international oil companies, and they want access to our resources. By joining forces on equal terms, we can achieve a lot together. Before the creation of OPEC, there was a tendency for such companies to take advantage of the countries they were operating in by dictating terms. Now, however, we can announce to the world that we welcome these companies and the investment they bring, and the synergy that is created is of great benefit to everybody.

TOGY: A lot of what you are planning is very technologically advanced, from drilling in Cretaceous, Jurassic and pre-Khuff formations to the future use of advanced EOR techniques. Are you looking at making Bahrain a centre of exploration and production technological excellence, thereby maintaining the historic lead Bahrain has had on other countries in the region?

AM: We were the first country to diversify our economy away from oil, prompting some to assume that there was little future in the Bahraini energy sector. Many people flocked to Bahrain's financial institutions, which appeared far more promising. We wanted NOGA to change that perception by, for example, demonstrating that cutting-edge technology could be brought to the oil

industry in order to revitalise it and maintain its viability as an important component of the national economy. Indeed, 75 percent of GDP is a considerable proportion. We initiated a succession plan under NOGA to train younger leaders to take over from the last generation of energy sector leaders and executives.

This, of course, fits very well with making Bahrain a centre for oil and gas excellence in the region and beyond, and this is appreciated by international investors, as demonstrated by the increased number of conferences and exhibitions that we are hosting. We used to hold one or two such events per year, whereas in the last three months, we have held 10 conferences with leading international players in Bahrain. We even have an oil museum, which we would like expand too, in order to educate people about the specifics of this vital national industry.

TOGY: Oxy is clearly the most important operator in your Awali onshore field redevelopment scheme, together with Mubadala, the business development and investment company of the Abu Dhabi government. How important is inter-GCC co-operation for exploration and production activities and how will this co-operation develop in the future?

AM: Oil ministers in the six GCC countries meet every year at conferences such as the International Energy Forum. Many of us, except Bahrain and Oman, are members of OPEC, and we are a member of the Organisation of Arab Petroleum Exporting Countries. Through these organisations, there are opportunities for bilateral or multilateral discussions regarding energy and associated issues, such as environmental concerns.

There is a great deal of co-operation and information exchange between countries in the region, which allows us to stand united at international meetings, such as OPEC. GCC countries, including Iran and Iraq, have the largest reserves of oil in the world. In terms of gas, Iran and Qatar have the largest reserves in the world after Russia. So this region is the centre of energy, and the better we can co-operate, the better off everyone will be.

TOGY: Abu Dhabi is also embarking on an ambitious reform plan, looking at increasing oil production, reforming gas production, increasing refining and petrochemical capacities and promoting a carbon-neutral economy. What potential is there for further direct technical co-operation between Bahrain and Abu Dhabi?

AM: We have signed a MoU with Abu Dhabi Future Energy and we are working with Mubadala (the Abu Dhabi government's investment company), which are two of the main energy stakeholders in Abu Dhabi. They have a huge project underway for the development of solar and wind-generated power, and we intend to follow their example and develop renewable capabilities of our own. We are even considering investing in a civilian nuclear programme. So in this regard and others, there is plenty of room for co-operation with all our neighbours, including Abu Dhabi. National oil companies have joint committees for refining, training and mainte-

nance, and they meet regularly with chief executives and ministers. There is a close-knit chain of communication between the various bodies concerned with energy production in all these countries. Another one of NOGA's main achievements is that we now have a major presence in international forums and conferences, giving Bahrain exposure and credibility on the international stage it deserves as an important and historic oil producer.

TOGY: Having solved a territorial dispute, good relations have been resumed with Qatar. Qatar has put together a moratorium on North Field exploration, to understand better geological structures of its field. Has there been any technological co-operation or communication regarding the findings between the two countries?

AM: That moratorium gets extended every year, so we are waiting to see what happens in the future. But Qatar has stated that Bahrain will get priority when the time comes. Plus, there is the building of the causeway between Bahrain and Qatar, which has been the basis of many agreements between our two countries and is laying the groundwork for more co-operation on many fronts in the future. However, there has been no recent discussion of the subject of gas imports from Qatar, due to the moratorium it is main-

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taining. But I am sure that Qatar is planning to become one of the largest LNG exporters in the world. We do not have as much gas as Qatar, but we do have ambitions of our own in that regard.

TOGY: You maintain a great deal of downstream capabilities and expertise, notably operating one of the largest refineries in the region. You are also going through a very impressive strategic initiative and investment programme. To what extent can your expertise in the midstream and downstream segments benefit your neighbours and partners in the region?

AM: Oil was discovered in Bahrain in 1932, six years before Saudi Arabia. At that time, many Bahrainis went to Saudi Arabia to help develop their capabilities, and many Bahraini oil companies developed their technical abilities and capital working in Saudi Arabia. Even today, many Bahrainis work in the energy sectors of other GCC countries. As our natural resources are not as great as some of our neighbours, our most important asset is human capital. Bahrainis are now active in a number of fields of development, including politics and social issues, and this involvement predates the introduction of Western



standards that came with the arrival of US strategic interests in the region. Bahrainis are prominent even in television and broadcasting. In the companies that exist under the NOGA umbrella, “Bahrainisation” (increasing the proportion of local to international workers) is around 86 percent, which is the highest in the GCC, and in BAFCO it is 98 percent.

This demonstrates how the political leadership has helped develop our human capital. The UN has ranked Bahrain number one in human development. We also rank very highly in terms of “ease of doing business” and competitiveness. This is why Bahrain is becoming more attractive as an investment destination. The Economic Vision 2030 programme shows that Bahrain knows exactly where it intends to go in terms of encouraging private sector involvement and improving efficiency and the standards of living for Bahrainis.

TOGY: What do you consider to be the most significant challenges facing the Vision 2030 development programme?

AM: Unfortunately, one biggest challenge is the finiteness of Bahrain's natural resources. Apart from that, our main challenge is accommodating the changes that will need to be introduced in order to facilitate these developments. There is always resistance to change in any area of development and major changes require persistence and careful management and oversight.

TOGY: What other plans have been tabled to encourage the international energy community to invest in Bahrain?

AM: We are planning to create a service company, which we have already tendered. We want the message to go out that we welcome outside investment and that Bahrain has the infrastructure, the workforce and the transparency that any company would hope to find in any investment destination. ■