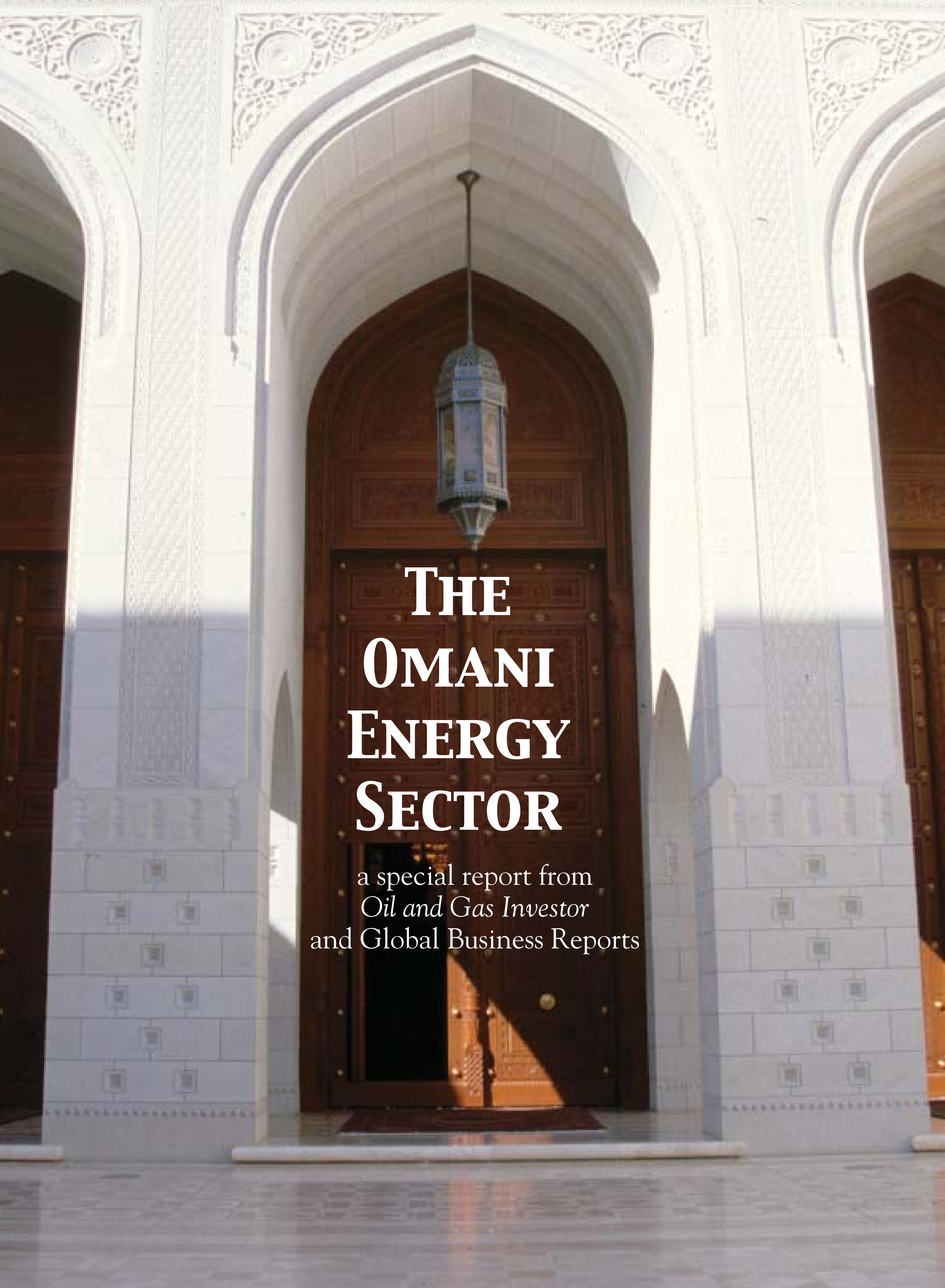


The Omani Energy Sector

a special report from
Oil and Gas Investor
and Global Business Reports

GULFS APART

When arriving in Oman for the first time, the traveler might notice that, to paraphrase the country's slogan, "Oman is different." Controlling the approaches to the Persian Gulf from its location on the highly strategic strait of Hormuz, the sultanate of Oman offers a wide variety of landscapes and climates, from the rugged mountainous and sandy deserts of the northeast through to the lush tropical regions of the south.

The strategic location of the country has also determined a large part of the sultanate's history, featuring Portuguese, Ottoman and British attempts to assume control of the land and its coast. Between the end of the 18th century and the mid-19th century, a fast-passing empire was even established from its territory, stretching to parts of eastern Africa and the Indian subcontinent.

Today, the influence of the United Kingdom, always closely interested in the destinies of Gulf monarchies, is still felt, although to a much less visible extent than when Britain was directly waging war against a Yemeni-backed Marxist insurgency in the Dhofar region in the mid-1960s.

Oman is ruled by Sultan Qaboos Bin Said who overthrew his father in 1970 to drive his country into modernity and a spectacular, although cautious, development effort is still being actively pursued today.

Oman is heavily dependent *on its oil and gas revenues, representing 42% of the country's gross domestic product…*

Photo courtesy Petroleum Development Oman. Cover photo courtesy Frank Field (2004)

The oil and gas industry of Oman is also different than that of most other Gulf countries. To start with, Oman is neither a member of OPEC nor of its Arab-countries-only counterpart the OPAEC. Yet, the sultanate is a staunch supporter of the cartels' strategy to maintain and stabilize oil prices.

In a similar fashion to most of its Gulf neighbors and fellow Gulf Cooperation Council (GCC) states, Oman is heavily dependent on its oil and gas revenues, representing 42% of the country's gross domestic product and 75% of its export revenues. This is enough to send shivers down any local spine when only mentioning a future drop of oil prices, even if very unlikely at this moment in time.

To make the shiver more acute, contrary to elsewhere in the Gulf region, Omani hydrocarbons are rather difficult to extract, scattered across the territory in inhospitable surroundings, and have featured worrying decreasing production trends for the last three years. Although currently high oil prices have allowed renewed, yet cautious, optimism; the country has finally started to consider the situation with urgency and has pressed ahead with an ambitious diversification program, as well as targeted efforts to sustain the oil and gas bounties in the sultanate.

These include world-class downstream diversification projects, the development of gas production and exports, increased levels of exploration activities opened to a wider range of operators and targeted efforts to increase recovery levels from existing assets.

Despite a rather limited hydrocarbon wealth compared with what can be observed in neighboring countries, Oman could well become one of the world centers of oil and gas industrial dynamism for mature basins, featuring technology-intensive operations and cutting-edge organizations.

Already home to some of the most interesting upcoming service players who have successfully been venturing out in the global fray, Oman also features a dynamic contracting and construction sector, which finds itself pushed into diversifying its know-how to respond efficiently to the nation's calls for industrial development.

The diversification effort, itself a tremendous development for a country of only 2.4 million inhabitants, is expected to provide alternative, and reliable, sources of revenues for Oman and increased opportunities for the local population, challenged in the job market by cheap and qualified substitutes brought in from the Indian subcontinent.

The so called "Omanization" process, expected to replace wherever possible the non-Omani workforce with local workers, is another major challenge that the country in general, and the oil and gas-related industries in particular, have to tackle to successfully manage the diversification and press ahead with the country's development.

This report features the challenging, yet exciting path of a country that has the both unfortunate and lucky characteristic of being different. The solving of a potential oil and gas decline conundrum is at stake. □

This report *was prepared by London-based Global Business Reports, after meeting with several Omani business and industry leaders. It highlights the radical challenges faced by the country and the path of change taken by the oil and gas industry and its associates in Oman. Authors are Ayse Hazir, project and marketing coordinator (ayse@gbreports.com), and Gilles Valentin, oil and gas reporter, Global Business Reports (gilles@gbreports.com).*

OMANI LNG: LIQUIDITY

Liquefied natural gas (LNG) has been the hot item of the energy world for more than two decades now. It is progressively gaining more importance at the forefront of power generation, which increasingly relies on this clean and abundant fuel.

Besides Malaysia, Indonesia and Australia, the Persian Gulf region is displaying its credentials as the world's main source of LNG supply. With the United Arab Emirates' capacity of 6.8 million tonnes per year, Qatar's planned 16.1 million and major projects in Iran amounting to up to 15 million, LNG from the Gulf is expected to fuel a large part of the world's needs, and most particularly those of the Asia-Pacific region in the 20 years.

Meanwhile, Oman, with only 1.5% of the proven gas reserves of the Middle East, is a much smaller LNG player but has, nevertheless, endeavored and found success in this field. Following the discovery of important gas reserves in 1989, the sultanate decided to set up a liquefaction plant and establish a domestic LNG company.

Gas reserves in Oman currently stand at about 25 trillion cubic feet, and are forecast to rise to about 40 trillion by 2015, securing the plant's future feedstock. Established in 1994, Oman LNG exported its first cargo—to Korea—in April 2000. The two 3.3-million-tonne-per-year trains, previously the world's two largest single trains, were built and put onstream in a very short period of time, under budget, at a total cost of US$2 billion.

The project, intended to play a leading role in the sultanate's attempt to diversify its economy away from oil production, immediately bolstered the state's revenues, providing up to 10% of Oman's GDP. Despite a low employment impact, Oman LNG today brings a number of beneficial opportunities to a relatively deprived part of the sultanate.

The project ran into a bit of trouble when one of the customers with whom the project was initially developed, the ill-fated Dabhol power plant in India, itself ran into controversy following the spectacular Enron failure and had to suspend its operations. Some 1.6 million tonnes of LNG per annum had then to be sold somewhere else, once again demonstrating that the key to LNG is market access.

But long-term commitments with the Korea Gas Corp. (Kogas) for the delivery of 4.1 million tonnes per annum of LNG for 25 years, started in April 2000, and deliveries to Osaka Gas of Japan, (0.7 million for 25 years starting in November 2000) and to TotalFinaElf of France and Enagas of Spain succeeded in getting the project off the ground and made it one of the most successful industrial ventures in the sultanate to date.

The stakeholders in this company are the government of Oman (51%), Royal Dutch/Shell Group (30%), TotalFinaElf (5.54%), KOLNG (5%), Partex (2%), Mitsubishi (2.77%), Mitsui (2.77%) and ltochu (0.92%).

A third train is now being built and should be finished during the last quarter of 2005 with the first shipment being exported at the beginning of 2006. This new 3.7-million-tonne-per-year train named Qalhat LNG recently received its commercial christening when Mohammed Al Rumhy, Oman's oil and gas minister and chairman of Qalhat LNG, signed a long-term LNG supply agreement with the Mitsubishi Corp. of Japan.

One of the least visible aspects of the success of Oman LNG, yet the cornerstone of the edifice, is the financing of the project. The US$1.3-billion term-loan facility and a US$64-million debt-service letter of credit facility were arranged to refinance the company's original debt that was raised in 1997 to fund construction costs of the Oman LNG plant.

Oman LNG had 12 international and regional banks mandated as the lead arrangers to underwrite the term loan and the LC facilities. This Oman LNG debt facility was rated A3 and A-minus by Moody's Investors Services and Standard & Poor's, respectively, the highest-ever project-finance ratings received by any company outside the U.S., Canada, U.K. and Australia.

This refinancing was the opportunity for leading Omani banks to display their aptitude at project financing. A syndicate of 12 international banks worked with local banks like Bank Muscat to bring the refinancing project to fruition. Before that, local banks had been involved in the original financing of the plant, with various levels of participation constrained by the regulatory framework established by the Central Bank of Oman.

The Omani banking sector has grown in tune with the country's overall size and development pace. Today, the likes of Oman International Bank, National Bank of Oman and Bank Muscat are jockeying for key positions in the project-finance arena. With major infrastructural and industrial operations on the horizon, opportunities to develop this growth area one step further abound and have attracted foreign operators including export-credit agencies.

"Export credit funding is very welcome at a time when Oman remains capital-absorbing and when projected project costs are in excess of US$8 billion. This can only be addressed by foreign direct investment and international financial intermediation through both banking credit and official agency support," says John P. Finigan, chief executive officer of the National Bank of Oman.

Indeed, a major refinery including petrochemical production

LNG is Oman's largest downstream industrial achievement to date. (Photo courtesy Oman LNG.)

units is in the pipeline in Sohar. Besides this operation, a polyethylene plant, an aluminum smelter, a port and a methanol plant are expected to boost economic growth in the north of the country and local banks are vying for position, enjoying the recently retreating presence of foreign banks in major project financings in the Gulf region.

"The only reason I can see for foreign banks to pull out of this market is because they are afraid of the competition from local banks," says, half-jokingly, Abdulrazak Ali Issa, chief executive of Bank Muscat.

"There is expertise in the local banks and we have major international banks amongst our shareholders, represented on our board, as well as privileged correspondent relationships. It is in the interest of international banks to work with local banks, as we complement each other's expertise."

Now expanding beyond the Omani borders, local banks are looking to be involved in the big project financing opportunities of the region.

The sheer size of the Omani banking system, limited by the country's size as well as by the domestic regulatory regime will continue pushing Omani banks into the Gulf Cooperation Council (GCC) market.

Finigan says, "I am delighted to see that at last, we are starting to develop ourselves rather than having to go to the international banks and then come back to this market. Now, we can see that most of the deals are managed, structured and placed here in the GCC.

"Of course the Omani market's capacity is small but if we look at the GCC financial market as a whole, you can see financings of the US$200- to US$400-million bracket being financed from the GCC. Beyond that, there is a need to involve the major international banks and they are welcome, but it is the duty of those of us who serve the GCC banks to make sure that we develop both our people and our professional resources so that the region's aspirations are not dependent upon financial services and intermediation from New York, London or Tokyo."

John Carlough of Oman International Bank (OIB), another leading contender on the market, is keen on local opportunities but also likes to put things in perspective: "The project pipeline here shows some very major projects are coming up. This in turn should at one stage help to lift the regulatory constraints under threat of non-delivery of enough local project-finance capability.

"Yet considering the overall share of oil and gas in the country's revenues and the fact that they are considerably smaller than those of Oman's oil and gas-producing neighbors, the project pipeline needs to be planned carefully not to overstretch the country's financial resources and should therefore remain rather slow if compared to other Gulf countries."

Pointing out another limit in the Omani project-finance market, Tim Jackson, assistant general manager in charge of corporate and commercial banking at OIB, says another note to consider is the single-borrower lending limits, tightening the financing market.

"A perfect example of this is Oman LNG, notably with the Qalhat train on its way. This is a lot of LNG risk and a possible constraint for local banks as most of the Omani banks already have a fair amount of this risk in their portfolio," Jackson says.

Indeed, at US$75 million, this single-borrowing limit is hampering leading project financings for local banks but guarantees that the sector stays within reasonable safety margins.

The whole Omani sector went through a very difficult time a few years ago, due to overstretched exposure notably to many bad loans when a bubble burst in the local equity market forcing the Central Bank to tighten control and bring the sector back into discipline. But today, the Omani banking sector is ready to tackle the challenges of a country that needs to diversify its activities beyond traditional oil and gas production.

The industrial projects in the north of the sultanate are a great opportunity for the financial sector. The success of Oman LNG is an indication of the national will to succeed in its ambitions. Omani banks now have to gather their experience and try to maneuver as best they can within the rather tight space allocated.□

E&P: Looking for Better Days

Oman hasn't been blessed with the seemingly unlimited oil and gas bounties of fellow Gulf States, and has had to struggle somewhat more than others to gain its status as an important oil and gas producer. From the first discoveries of oil in the sultanate to today, one actor has dominated exploration and production activities in the country: Petroleum Development Oman (PDO).

Originally a subsidiary of IPC Petroleum Development (Oman and Dhofar) Ltd., it was conducting exploration work in the region very early on, without encountering any hydrocarbons. The operating company then had four main, equal shareholders: the Royal Dutch/Shell Group, the Anglo-Persian Co. (which would eventually become BP), Compagnie Française des Pétroles (the predecessor of today's Total SA) and the Near East Development Co. The remaining 5% stake was held by Partex.

After encountering a number of exploration failures, only Shell and Partex remained and finally struck oil in 1962 at Yibal Field. This was followed by a number of discoveries that propelled Oman into the league of oil-producing nations. In 1967, Total came back into ownership and acquired 10% of the company.

Following a pattern of regional nationalization, the state of Oman acquired a 25% stake in PDO in 1974, and that increased to 60% later that year. The ownership structure didn't change from then on, with Shell holding 34%, Total, 4%, and Partex 2%.

The company also successfully developed a national gas network, today operated by the Oman Gas Co., newly established to assume duties of distribution in the country.

Today, the company produces around 700,000 barrels per day, down from a peak of 840,000 in 2000. This represents about 90% of Oman's total oil production and PDO also accounts for virtually all of the country's gas production.

The sharp decline experienced in the last four years is only one of the worries piling up on PDO's horizon. The scandal on reserves figures that hit Shell earlier this year hasn't left Oman untouched. Recent new articles suggest that Shell's Oman's reserves (in other words, the reserves held by PDO) could be overstated by as much as 40%, a truly massive flaw in the company's worth. Part of this overstatement is due to Shell's focus on very short-term results, both on production and reserves.

In Oman, the extensive utilization of techniques meant to extend the life of aging oil fields actually turned out to be counterproductive in some cases. Water-flooding and horizontal drillings increased the extraction costs and often, like at Yibal Field, which is PDO's oldest field and the center for application of new techniques, water now accounts for 90% of the pumped material.

Yet, these efforts were not always unsuccessful, and the steep increase of production until 2000 is a direct testimony of the success of PDO in this matter.

Now that the decline has sharpened and seems to be accelerating, worries about the short-term thinking that may have underlined some of these operations are surfacing. The company's work program for the years ahead is nevertheless unchanged and ambitious.

John Malcom, PDO managing director, says, "Within two years, we are going to have PDO back and acknowledged as the best exploration and production company in the region, and within five years we are going to have a company that is acknowledged as one of the best land-based companies in the world."

To achieve this, PDO aims at slowing the dramatic rate of decline by carrying on infill drilling and pursuing the development of clusters. This policy, consisting in grouping similar reservoirs for analysis and development, has successfully decreased the lifting costs and improved capital and equipment utilization.

Independent E&Ps are driving the sector's dynamism ahead. Shown here is a production facility for Petrogas, the E&P company of the Oman-based MB Group.

The next part of the plan is the continued use of waterfloods. Besides the now almost infamous Yibal operation, PDO plans to push ahead with three major waterfloods in Lekhwair, in the Dhulaima & Fahud area and in Marmul. The most ambitious part of PDO's program may rest in enhanced oil-recovery (EOR) in which the company plans to invest up to US$2 billion.

The fields of Harweel, Mukhaizna and Qarn Alam will receive mature-field treatment techniques such as steam injection that are expected to boost significantly the production levels.

Here again, Malcom is bullish: 'The goal is simple to state: before the end of the decade we want to be producing a quarter-million barrels a day of EOR oil. If we do so, we will be the leading company in the region and one of the leading EOR companies in the world."

With the whole picture topped up by the occasional exploration successes, PDO expects to flirt again with the 800,000-barrel-per-day production level by 2009, a few years before the expiry, and expected renewal of the company's license in 2012.

All this is to be achieved within an environment of stringent cost reduction, aimed at saving US$2 billion of operating expenses within the next five years despite the fact that PDO is operating in a mature-field environment.

How is this conundrum to be solved? Here again, PDO's solution is almost too simple: by applying pressure on contractors, particularly those delivering well services. Already, the company has acquired a fierce reputation as a cost-cutter in the service industry, notably by using online bidding techniques.

While PDO claims to have saved a great deal by using the process for more than 25% of its procurement efforts, contractors have felt the blow and complain that they have often had to withdraw from the bids when margins were considered unrealistic. This pressure is due to be increased in the years to come and Oman is expected to remain one of the most competitive oil and gas service environments in the world.

So despite going through hard times, partly due to internal factors like the steep production decline and the major investments required to fix it, as well as to external factors like Shell's mishandling of its reserve books, PDO is looking ahead with reasonable confidence tainted with arrogance, in typical Shell fashion.

The plans laid ahead are ambitious; the arithmetic works and a very crucial part of Oman's development is at stake. Meanwhile, and on the fringes of PDO's activities, other operators are conducting exploration and production activities and are being rewarded with reasonable success.

The second-largest producer of oil in the sultanate is Occidental. Present in Oman for three decades, Occidental discovered in 1983 the 300-million-plus-barrel Safah Field in the Suneinah Block, also known as Block 9, in the northwestern part of Oman.

Since the beginning of its operations in Oman, Occidental has produced more than 200 million gross barrels from 190 producing wells. Occidental of Oman Inc. has estimated recoverable oil reserves from its Suneinah (Block 9) concession to be in excess of 600 million barrels, a far cry from the late-1980s estimate of only around 70 million barrels oil recoverable from the block.

The company, like PDO, is also engaged in waterflooding, gas reinjection and horizontal drilling to increase its production levels.

Besides PDO and Occidental, a host of players are exploring in Oman, from France's Total through to Maersk, Thailand's PTTEP and Australia's Novus Petroleum.

Among the operators present in Oman, one in particular is attracting attention, as it epitomizes both the rise of Middle Eastern E&P companies (still rare enough to be noticed) and the increasing appetite of mainland China for oil and gas positions worldwide.

Daleel Petroleum is a 50-50 joint venture of China National Petroleum Co. (CNPC) and Petrogas, the E&P company of the Oman-based MB Group, also comprised of oilfield-service and drilling companies. The company bought assets from Japex and Japan National Oil Co. (JNOC) and put on an ambition program to develop the assets contained in the Jabel Aswad concession (Oman Block 5).

Daleel has been very successful in doing so, as its production moved from 5,000 barrels per day when the company was first formed, upon purchasing the asset from Japan National Oil Co., to 14,000 daily barrels in only 20 months of work. The plan is now to expand daily production to 30,000 barrels and beyond by 2006.

Behind the success lies the successful cooperation between Chinese, Omani and international business approaches. Chen Li, Daleel's managing director, says, "At first, it took a while to tune everybody into working efficiently together. But the hands-on experience and the can-do attitude combined from the two stakeholders created very quickly an efficient environment for business.

"This organization is now striving on its diversity and part of the past months' successes can be directly explained by this."

The company also exemplifies the development of successful Middle Eastern companies in E&P. Petrogas, the local partner of the Daleel venture, is said to be on the lookout for acquisitions and partnerships across the globe, with an emphasis on where the company can add value to its partners.

Mohamed Al Barwani, MB Group chairman, says, "The group's main advantage, be it in service and E&P, is probably the fact that we know the region, the people and the culture. We are on the ground and are the indigenous service company and oil and gas company.

"That is not only valid for Oman, but for the region at large."

> **"[PDO will be]** *the best exploration and production company in the region...." John Malcom, PDO*

Indeed, having proven its worth by working successfully with one of the world's upcoming majors (CNPC), MB Group's Petrogas can draw on its experience in Daleel Petroleum to successfully extend activities beyond the Omani borders. The service branch of the group, MB Petroleum Services, has also been providing a wide variety of oilfield services from Libya through to China, Germany, Eastern Europe, Syria and of course, Oman, its original cradle.

This international experience has brought extra experience that has proven to be useful in the Daleel joint venture, the first of a kind between a Gulf region company and a Chinese company. Its success is bringing even more optimism to an Omani industry that has been craving for good news for some time.

It is hoped that the know-how developed in the sultanate through intensive international cooperation and the successful development of local competencies in a challenging environment will be the basis for a recognized Omani oil and gas expertise.

Beyond the controversies, the Omani oil and gas industry has been nurtured in the face of adversity with difficult exploration and, today, production conditions. At times when some countries may see their real oil and gas worth questioned following reserve figures being "reassessed," Oman's know-how and experience may after all prove very precious to some of its neighbors. □

SERVICING EXPECTATIONS

The Omani oil and gas industry developed chiefly on the back of Petroleum Development Oman's (PDO) expansion. Thus its development has mirrored that of PDO and today, at a time when oil production is declining and gas is still under the development phase, the service industry is facing radical challenges.

On the construction side, Oman has had to build its infrastructure almost from scratch. Starved of investment under its former ruler, Oman was kept underdeveloped for four decades and has had a lot of catching up to do during the last 30 years.

The oil and gas infrastructure was developed at a sustained pace, following the first oil discoveries and their commercial development. Projects began with the construction of a 50,000-barrel-per-day refinery (subsequently expanded to 85,000 barrels per day) at Mina Al Fahal in 1982.

This is about to be complemented with another that is soon to be completed in the northern port of Sohar. A nationwide pipeline network and the ongoing construction requirements of the many facilities necessary to service booming oil production has kept the construction sector and its associates busy.

Today, however, Omani construction companies are struggling to find work for their large capacities and extensive range of equipment, as demand from the oil industry has slackened. They are thus looking to other realms.

"We want to expand into engineering, procurement and construction (EPC) in the years to come, to undertake works such as cross-country pipelines in association with foreign companies that need our local strengths and with whom we can work constructively," says Gulabsi Ratansi Khimji, managing director of Al Turki Enterprises, one of Oman's major construction companies and one of the happy few. It has a five-year design, civil, mechanical, electrical, instrumentation (DCMEI) contract with PDO due to be retendered at the end of 2004.

Over-exposure of local contractors to the overwhelming importance of PDO is a major risk factor and most companies are eager to work with upcoming E&P companies on the fringes of PDOs areas.

Basil S. Macki, managing director of STS, an Omani upstream service company with extensive fabrication capabilities, says, "Approximately 85% of the work we do is with PDO as of today: this is a risky strategy but most of the oil and gas service industry of Oman finds itself in the same situation.

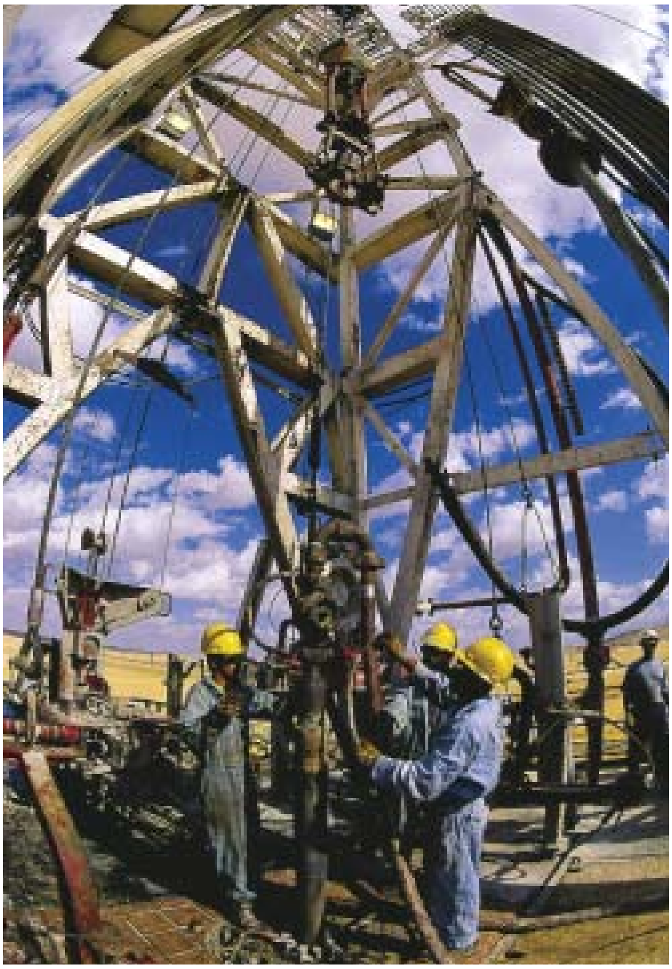
"There are new operators coming here, like Daleel, EnCana and a few others, but they are still quite small. We expect their activities to pick up in the years ahead."

The company is also looking at activities beyond the Omani borders and has opened a subsidiary of its coating company, OICC, in Sharjah, United Arab Emirates. Keen on market diversification, Macki also expects to benefit from the country's diversification effort.

"Besides increasingly working with successful new players like Daleel, we want to look at Sohar and its multiple industrial projects," Macki says. "We are setting up a facility there, including a fabrication shop. We want to be ready for the construction first, and then for the maintenance.

"We'll also be working with companies with construction and EPC contracts for big infrastructural projects. I think this will save the Omani service sector for the next few years."

The projects referred to above are the cornerstone of Oman's diversification. Following the construction of a container port, the northern port city of Sohar is about to witness the construction of a refinery, a polyethylene plant, an aluminum smelter and some other industrial units including a methanol plant, expanding the country's industrial base and providing northern Oman with a strong development boost. This effort is key to Oman's plans for diversifying the country's activities.



Service is expected to be the key to cost reductions at PDO. (Photo courtesy Petroleum Development Oman.)

On the drilling side, reform is also on the way. Considered as one of the most active drilling markets of the Gulf region, Oman has attracted a large number of operators. With the rise of lifting costs and the increasing need for enhanced oil recovery (EOR) efforts, PDO has been looking at changing the rules of the game.

Dalma Energy, one of the leading drillers in Oman and also present across the Persian Gulf with offices in the United Arab Emirates, is adapting its organization to the changing market conditions.

Mohamed Badawy Al-Husseiny, chief financial officer of Dalma Energy, says, "Oman is now pretty much saturated and we now want to focus on offshore drilling, and new regional openings in Iraq or Iran. With PDO now looking into awarding integrated-services

> **"There will be** *a lot of pressure put on contractors but there will also be a lot of work."*
> *Boris Lazar, Midwesco*

contracts, involving drilling, cementing, core tubing, etc., to one single consortium contractor, conditions of work in Oman are changing and are paving the way for integrated service companies.

"Yet, PDO also indicated it was willing to spend US$2 billion on EOR, which should provide the sector with a fair amount of work."

He adds that this should shift responsibility for the choice of subcontractors and overall cost control back to the lead operator, "who will be given a free rein under tight financial limits, for completing the work on time and within budget."

Another noticeable actor in the drilling business is Midwesco, a joint venture of Riyam Engineering Ltd. and Crosco Integrated Drilling & Well Services Co. Ltd. from Croatia. The company operates mainly with PDO, but also has contracts with the other E&P companies operating in the country.

Since 2000, the company has performed services on more than 10 000 wells, comprising workover, integrated tests.

Boris Lazar, Midwesco's general manager, says, "The future is assured in Oman, because of the plan to put 400 new wells in production every year, going from 3,000 wells as of today to 5,000 in 2008. There will be a lot of pressure put on contractors but there will also be a lot of work."

There is only one local integrated service company in Oman: MB Petroleum, a member of the MB Group of companies. MB Petroleum is now the largest privately owned oilfield-service company in the Middle East and the only local company approved by PDO for integrated services and able to bid alongside the likes of Baker Hughes, Schlumberger and Halliburton.

"In services, our aim is to go up-market and to develop MB Petroleum as a brand name for high-quality services," says Mohamed Al Barwani, MB Group chairman. "We want to employ and put on our payroll leading world-renowned experts in specific services and to cooperate with universities to place us at the cutting edge of new technology."

The example of MB is unique in Oman and many dream aloud of the further development of a purely local service industry. Efforts are also being conducted to spread the bounties of hydrocarbons production to local communities. PDO is, for instance, conducting a program aimed at involving

Mohamed Al-Barwani, MB group chairman, aims to develop MB Petroleum as a brand name for high-quality services.

local communities through the use of Local Community Companies (LCCs), subcontracting entities nurtured in areas of activities, to provide services ranging from security, to transportation and electrical work.

The objective is to provide these LCCs with 10% of the jobs in PDO's concessions and with the corresponding income.

The "Omanization" program is a countrywide initiative designed to boost the level of

The energy industry is the best human resources developer of the sultanate.

Omani nationals employed in all sectors of the industry. It calls for a major effort on the side of the oil and gas industry.

In charge of applying and supervising the program's implementation for the hydrocarbon industry is the Oman Society for Petroleum Services (OPAL). A private-sector initiative, with parallels to be drawn with the CORAL experience in Malaysia and the LOGIC program in the U.K., it is nevertheless totally unique and adapted to Oman's settings.

A non-governmental, nonprofit organization, it is fulfilling missions of training, information and playing an advisory role with a strong emphasis on health, safety and the environment (HS&E).

Shahswar Al Balushi, president of OPAL, says, "We set ourselves some ambitious aspirations: to convert the oil and gas Omanization level from 30% Omani on average to 70% during a five-year program."

> **"[PDO may] spend** *US$2 billion on EOR, which should provide the sector with a fair amount of work."*
> *Mohamed Badawy Al-Husseiny, Dalma Energy*

The organization pushed some of the changes and momentums the industry was looking for: in creating a strong partnership between private-sector, public authorities, OPAL strengthened both confidence and dialog within the oil and gas family.

Having to cope with radical changes, the service, construction and contracting sectors mirror the challenges faced by the nation at large. Fighting to stem falls in production, learning to develop and sustain local abilities hand-in-hand with the best expertise in the world, looking at its oil and gas reserves with enough confidence to be bullish, the sultanate is hard at work. □

A TALK WITH THE OMANI OIL & GAS MINISTER

Global Business Reports visited with His Excellency Dr. Mohammed Hamed Saif Al-Rumhy, Oman's minister of oil and gas, on the subject of the sultanate's energy-industry growth plans and the Omanization of its workforce. Following are his comments.

GBR What are some of the Omani oil and gas sector's major features and developments today?

Al-Rumhy To a large extent, the ministry of oil and gas looks into the major areas: the oil sector, the gas sector and the downstream operations. On the oil side, we have been producing for four decades and exporting since 1967. Unfortunately, our national production is now down from a peak of close to 900,000 barrels per day.

The bulk of the production is insured by a local company with foreign shareholders, Petroleum Development Oman (PDO). We have discovered, as a total, nearly 50 billion barrels of oil in place, out of which we have already produced close to 7 billion barrels, and we think another 5 billion barrels of recoverable oil is in place.

The 50-billion-barrel figure is important; if we look at what has been produced and what is still expected to be produced, we are left with a very small recovery factor of 24%, for a total of under 12 billion barrels.

Looking at world averages, we think we can get closer to a 50% recovery factor. There is a lot of untapped potential in the ground and we now want to focus on enhanced oil recovery (EOR) activities rather than looking at pure exploration, wildcatting-type activities. We are therefore into a transition period moving from primary oil recovery into EOR, and this should take around five years.

We have had to learn the trade almost from the beginning, as levels of sophistication are higher when it comes to EOR. It is an exciting time for the industry in the next few years.

GBR And the gas sector?

Al-Rumhy Gas has taken a big role here, notably with liquefied natural gas (LNG) activities. The LNG plant was commissioned four years ago and is doing very well. We are very proud of the project that was well-built and is now operating smoothly.

We are currently expanding with another train, adding 3.5 million tons per year. Our total capacity will be close to 10 million tons after the completion of this third train.

This will also contribute to Oman's diversification from oil to gas, but the most exciting part of the gas contribution to the economy will be the use of gas as a feedstock into other projects like methanol, fertilizers and other power-hungry projects like the aluminum smelter. Our challenge now is to build a big enough portfolio of gas reserves to support that.

GBR Will gas overtake oil as a larger revenue source for Oman?

Al-Rumhy Take-over is a big word but gas is indeed going to provide a larger part of revenues for the country. At the moment, it is a small part of the pie, but if you wish to count the total contribution of gas to Oman's gross domestic product, direct and indirect, it is going to be considerable in the 10 to 15 years ahead.

GBR How much gas production will come from new discoveries?

Al-Rumhy We have in our portfolio close to 30 trillion cubic feet (Tcf) and we think this can be brought to 50 Tcf. There is potential to find more gas but it will be difficult gas, unlike our neighbors. We have discovered some of this difficult gas, not part of the 30-Tcf count. This tight gas has to be tapped in and we have to produce it in economic conditions. We also have unexplored gas structures and time will tell what they contain.

GBR What will be expected of international service operators in your EOR program?

Al-Rumhy The heavy oil, which is the main focus here, is inside Petroleum Development Oman's (PDO) concessions. The most likely scenario is that these EOR projects will come under a PDO umbrella.

However, PDO normally seeks the best technologies and methods from all over the world and we have many service companies here, from China to Russia to Houston and Alberta. We will therefore see many players taking part in this EOR campaign.

We will probably be the first country in the Middle East to focus on EOR, as most of the Middle Eastern oil-producing countries have major primary oil reserves and will still be producing primary oil for a long time.

Technically, it is very exciting and Oman is a nice place to test knowledge, as it offers academic challenges and I am sure that PDO will seek solutions from all over the world.

GBR What might the EOR campaign cost?

Al-Rumhy There is one field where we are starting planning and we want to put it onstream soon, maybe by 2007. The capital investment only on this field is US$2 billion, and we have huge operating expenses too as it is heavy oil and we need steam generation and so on. The total capital expense for the EOR program will be more than US$10 billion.

GBR Is there room in Oman for more E&P companies?

Al-Rumhy It is more of a legal issue. Block 6, owned by PDO, is under contract to be operated and developed by PDO. I believe it is PDO's choice but I also believe PDO is quite willing to invite service providers to come and offer their service to develop some fields as operators.

We have open blocks and we do discuss with foreign players, from small ones like PTTEP, in Block 44, or large companies like Occidental and Total in Block 34, as well as EnCana and Hunt Oil, with two huge blocks.

We currently have a couple of companies who may come and sign new concession agreements. Outside PDO, the answer is yes, there are opportunities. Inside PDO blocks, it is a legal issue and it is up to PDO to invite operators.

GBR Tell us about Oman's participation in the Dolphin Energy project.

Al-Rumhy We always supported the concept of linking the Gulf countries with pipelines and I am very excited that we will now be linked with our UAE neighbor, with them in turn linked to Qatar, all this marking the development of a new regional network.

In Europe, there is a very complex and comprehensive gas network and I hope it will soon be a reality in this part of the world too. I am also very happy that we started to pump gas to the UAE for the first time and yes, the flow could, in the near future, be reversed.

Our gas reserves here are limited, while pipelines last for generations. This project is good for Oman, the UAE and Qatar and this won't restrict Oman when we look for new projects as we will have gas supplies from across the border. This will also strengthen the confidence of foreign industrial investors as there will be a strong secure supply drawn from Dolphin. (For more on the Dolphin Energy project, see "Special Report: UAE Energy-Sector Opportunities," April 2004, *Oil and Gas Investor*.)

GBR What further potential for transregional cooperation can you foresee?

Al-Rumhy Cooperation exists right now: we talk amongst ourselves, and have a very close alliance for oil pricing. There are very good exchanges on the technical side, on training, etc. There is bilateral and multilateral cooperation under the Gulf Cooperation Council (GCC) umbrella, and things are going well.

In the downstream sectors, we will soon see investments between GCC countries and we are already talking to a few of our neighbors. This will be our mini-globalization, or "Gulfization."

> **"In E&P**, *Oman is extremely open. It is very easy to come here and obtain a block."*
> *Mohammed Hamed Saif Al-Rumhy,*
> *Oman Ministry of Oil & Gas*

GBR When will the private sector take over the public sector's role in the energy sector?

Al-Rumhy The philosophy of Oman Oil Co. (OOC) in the country is to divest in a few years once the projects are off the ground, as today our private sector is still smallish. The plan is to support the development of a project and once it is solid and off the ground, to float it on the local market. OOC is an incubator of projects and I hope this role will keep on growing in the years ahead.

In E&P, Oman is extremely open. It is very easy to come here and obtain a block. In a recent Canadian report, we were ranked very high on economic freedom: maybe we simply aren't very good at selling ourselves.

GBR What is the largest challenge ahead?

Al-Rumhy For Oman as a nation, the EOR program and the shift from primary production into secondary production are the largest challenges. EOR oil doesn't come cheap and we will be facing both an investment and a cost challenge. That is why we cannot continue with today's costs and we have to reduce our expenditure.

Today, we have wells costing US$1 million, but EOR calls for US$300,000 wells. This is the message to the service community, to come with innovative thinking and cheaper costs. We have to change our mindsets also to prepare our young people for the challenges of EOR, through training and education.

GBR What is your message to the oil and gas community?

Al-Rumhy There are two. First, come and see for yourself what Oman can offer. You have to seek business opportunities and I believe these opportunities abound in Oman.

Secondly, the oil and gas opportunities here are incredible. Looking at statistics, you will see that there is a lot of oil still to be tapped. The production decline also makes it more attractive, as many countries have been through this process before us.

We welcome good organizations that have know-how in these fields and could apply their qualitative know-how to the local situation. □