

Capitalizing on Resource Potential

Despite issues with infrastructure, regulations, and security, the country might offer the world's largest untapped reserves.

even years after the regime change, and following 20 years of political and economic isolation, Iraq now is returning to the world economy. Sanctions in place since 1990 have left the economy tattered and almost exclusively dependent on an oil industry that is performing well below its potential. However, with democracy has come Iraq's first real chance of fully capitalizing on the abundant hydrocarbon resources. After a 30-year period that has seen three wars and 13 years of economic sanctions, the development of a modern oil and gas industry that benefits foreign investors and Iraq itself is the nation's ticket away from the recent trials and toward a prosperous future.

International oil companies

When discussing the potential that Iraq contains, it is easy to lapse into superlatives. The sheer volume of reserves and the size of investment needed to develop them are on a scale that no other country can match.

Globally, Iraq currently ranks third in proven oil reserves, with a total of 143.124 Bbbl. The cost of extracting these reserves is approximately US \$1/bbl, the lowest in the world. Furthermore, the bulk of Iraq's data come from exploration surveys performed more than three decades ago. With more than 70% of the country unexplored and 3-D seismic technology only recently introduced, estimates of total oil reserves are 350 Bbbl – a figure that would make Iraq the world's wealthiest hydrocarbon country.

Licensing rounds

Iraq's first step toward exploiting its resources has been the

implementation of three petroleum licensing rounds. The first two of these auctions offered 45 international oil companies (IOCs) the opportunity to bid on 18 oil fields, from which 11 contracts were awarded to consortia involving 16 companies. The third round offered three gas fields, which were awarded to three consortia involving four companies.

Under the terms of these contracts, the IOCs will be developing the fields on the basis of a total service contract (TSC). Bids were submitted on two criteria, plateau production targets and remuneration fees.

The remuneration fee is payable on each barrel of crude oil or barrel of oil equivalent of liquefied petroleum gas recovered from a gas processing plant after the awarded oil field reaches a base rate of production, which differs according to the field and its current production capacity.

The combined plateau production targets from the first and second petroleum licensing rounds reach a total of 11.59 MMbbl/d that, when added to the fields that the Ministry of Oil is developing directly (most notably Kirkuk), brings the total planned production capacity to more than 12.5 MMbbl/d from its current level of 2.4 MMbbl/d. The 16 companies with interests in these contracts include a strong presence from Asian companies, with China National Petroleum Corp. and Malaysia's

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Petronas arguably achieving huge success, and smaller players such as Japan Petroleum Exploration Co. making limited but strategic bids to come away successful. European giants such as BP and Shell have come away as the operating partners in the supergiant fields of Rumaila and Majnoon, respectively. Statoil, Turkish Petroleum, and Total also have staked their claims in the country with minority shares in selected fields.

The leading Russian players, Gazprom Neft and Lukoil, are operating partners for Badra and West Qurna Phase Two, respectively. American firms also have a showing, with California's Occidental Petroleum Corp. gaining a significant minority share in the Zubair field and ExxonMobil being announced as the operating partner of the supergiant West Qurna Phase One. Even Africa has its representative, with Angola's Sonangol being independently awarded two fields, the Najmah and Qaiyarah fields in Iraq's northern Nineveh governorate.

Plateau production targets

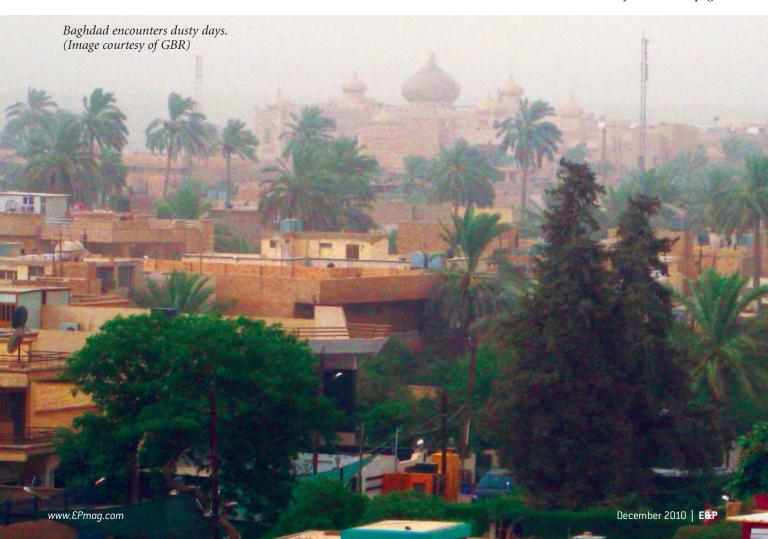
It is important, however, to qualify that although the IOCs

are confident of reaching their plateau production targets in the time frames stipulated, predictions as to total capacities of the fields or the schedules to which the developments will be carried out cannot, at this stage, be 100% certain, as James Adams, vice president of ExxonMobil Iraq Ltd., admitted. "Based on the information provided to us by the Ministry and SOC (Southern Oil Co.), we are comfortable with our preliminary estimates, but as is standard practice, we have additional work to do to reach greater certainty regarding the future performance of the field, including seismic and injectivity testing, and that is precisely what the contract anticipates and requires that we do."

Indeed, three-quarters of the 30 Bbbl increase in proven reserves announced Oct. 4, 2010, by the Ministry of Oil comes from West Qurna Phase One and West Qurna Phase Two, showing just how subject to change the current information on these fields is.

Gazprom Neft also is aware of how figures can change, as its estimations for the reserves of the Badra oil field also have risen in the short space of time since its contract was awarded. According to Alexander Kolomatsky, country direc-

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An interview with the Minister of Oil

HE Dr. Hussein Al-Shahristani, Minister of Oil in Iraq, discusses his country's hydrocarbon-rich future.

n an exclusive interview with *Global Business Reports*, Iraq's oil minister talked about the upcoming third bidding round, the need for greater infrastructure, and potential tensions with OPEC as the nation's production increases.

Can you briefly explain your own history as to how you came to be appointed oil minister in 2006?

I graduated from Imperial College in London in chemical engineering, and I was awarded my master's and Ph.D. from the University of Toronto in nuclear science. I joined the Iraqi Atomic Energy Commission when I returned to Iraq after graduation in 1970, and by 1979, I was chief scientific advisor to the head of the commission who, at that time, was Saddam Hussein himself.

I was arrested in December 1979 for refusing to work on the military nuclear program and spent more than 11 years in

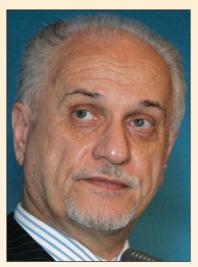
prison, 10 of which were in solitary confinement under Saddam's personal orders. I managed to escape from prison during the Kuwait War and became a refugee in Iran and then in Britain, joining the University of Surrey as a visiting professor.

I returned to Iraq after liberation – as a matter of fact, two days before the end of the regime – as I was bringing a humanitarian convoy to Basra on April 7, 2003. At that time, I wanted to return to my academic life and humanitarian work in Iraq.

I was nominated by UN envoy Lakdar Brahimi to form the first Iraqi government, but I declined at that time because I did not consider it a choice of the Iraqi people. I said I would only serve in that capacity when asked by the Iraqi people following free elections. Subsequently, Ayatollah Ali Sistani asked me to join the United Iraqi Alliance to participate in the Transitional National Assembly to write the constitution. I was the first deputy speaker of the Transitional National Assembly, and after the first election was held, I was asked to join Maliki's cabinet as Minister of Oil, which I did in May 2006.

The difference between the two oil bidding rounds was described as "an astonishing transformation for Iraq." What changed to enable this reversal?

The first bid round was really an exercise for us and for the prequalified oil companies in Iraq. There was not a complete understanding of the form and the type of contract that Iraq was offering. It seems the taxation regime that was



HE Dr. Hussein Al-Shahristani Minister of Oil in Iraq (Image courtesy of GBR)

going to be applied to these contracts was not clear to the oil companies and, quite frankly, oil companies were used to better profits from oil deals in other parts of the world. I believe that at the time they felt that Iraq was desperate for investment and they could expect higher margins of profit. However, both the Iraqi side and the IOCs came out of the conference with a better understanding of what to expect and the real potential of this country.

They noted that the security situation has improved significantly, and in the second bid round, everybody came knowing that it was going to be a very tough competition. Of course, everybody realized from round one that it is going to be very transparent and competitive and that they would have to meet certain conditions.

As we prepared for the second bid round, we had a number of discussions, during which, we clarified certain points of ambiguity, rephrasing the contract to very

clearly state what we actually meant. Also, by that time, we had passed the taxation law that is applicable to these contracts. The major worry of the oil companies was that tax would be applied to the total revenue, including the recovery of capital costs, rather than just the remuneration fee.

In the second bid round, we had a much better response – many of the prices that were offered were even better than the ceiling that we set in our envelopes. This also encouraged the companies that took part in the first bid round to resubmit their bids, and now most of the contracts from the first bid round have already been signed.

Up until this point, contracts have been awarded on a purely economic basis. For future contracts, are there factors other than cost that you would take into account?

Indeed, the two factors that were considered in the first and second bid rounds for the development of the oil fields were the remuneration fee and the production plateau. For field developments, these are the two factors that will be considered. However, other contracts – for building new export terminals for our master pipeline that we will be announcing shortly, for the development of refineries and so on – are different kinds of contracts. In these contracts, we are looking for joint-venture partners, while in the field development, this was a purely service contract with a fee per barrel produced above the current production.

Of course, when you look for a partner, you look for the best companies in the field and also for the economic factors in these contracts. We have not worked out completely our

contract terms yet, but we will definitely be offering significant incentives to the investors who would like to work on the midstream or the export projects in Iraq as joint-venture partners.

What are your expectations for the third bidding round?

We hear there are a few oil and gas companies that are keenly interested in bidding for the Akkas field, and we will also be revising our contract conditions for this particular field. My expectation is that we will get more offers, better offers, and we are looking forward to signing a contract with a bidder for these fields.

As production capacity increases, how can tensions with OPEC be resolved?

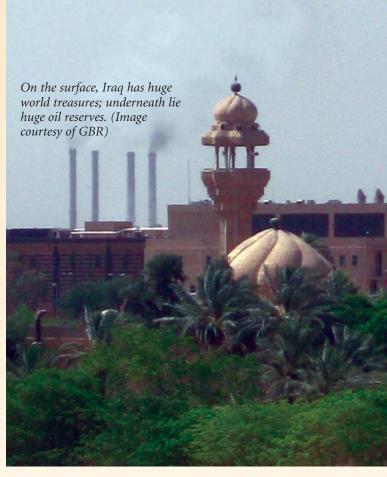
First let me clarify; when we talk about the production capacity that we have signed for based on these contracts of more than 12 MMbbl/d, this does not mean that Iraq is actually going to produce at this level – this is only capacity. Iraq's policy is only to maximize its revenue and not to maximize its production. We will never produce in such a way as to negatively impact the market prices. Iraq is not only a founding member of OPEC, but OPEC was actually established in Baghdad 50 years ago and we do consider ourselves totally committed to OPEC policies. However, in the past, for various reasons, Iraq has not been utilizing its fair share in the market because of Saddam's aggressive policies, wars, and so on, and other members of OPEC have benefited from Iraq's absence from the market.

This has to be taken into account in agreeing to new quota levels for each country, in addition, of course, to the proven reserves, to the production capacity, and to the needs of our country for reconstruction. So all of these factors will have to be taken into account in considering the new quotas for the OPEC countries.

Of course, we have very concrete ideas – what parameters have to be considered, what weight has to be given to each parameter – and we will be submitting our proposal to OPEC when we reach 4 MMbbl/d of oil. Otherwise, the current time is premature to discuss any quotas.

How important is it for Iraq to become not just a leading global producer of oil and gas but also to have a developed downstream industry?

It is our strategic policy to refine crude oil, supply petroleum products other than crude, and to move into the downstream petrochemical industry. We do expect Iraq to be a major producer not only of petroleum products but also of petrochemical products. Iraq has the potential, the raw materials, and the skilled labor that it needs, and we will have the investment capital required when we increase our oil production significantly. However, that doesn't mean that we are not keenly interested in investors and partners to work with us and in being a major player in the world petroleum, refineries, and petrochemicals market.



Estimates place undiscovered reserves in Iraq at anywhere between 45 and 220 Bbbl. What exploration activities are you carrying out, and how much potential do you think Iraq has?

The currently quoted proven reserves for Iraq are 115 Bbbl. This is an estimate of almost 30 years ago as there has not been serious exploration in Iraq for the past three decades. Other than the almost 70 discovered fields that are included in these proven reserve estimates, we have 400 structures that have not been explored yet, and historically, the success rate of hitting oil and gas in Iraq in an exploration block has been 75%. Therefore, if you expect of these 400 structures a similar success rate or even a 50% success rate, you can imagine the huge number of other fields that could be discovered in Iraq.

As a matter of fact, the problem we have in Iraq is that sometimes we must really refrain from exploring or drilling in areas due to the more than 12,000 archeological sites of very ancient history. On the surface, we have these huge world treasures, and underneath these lie huge oil reserves – that is how Iraq is.

I cannot really say how much more oil is going to be discovered in Iraq. I think that the figures that you quoted are rather conservative, and Iraq may, in the future, have the largest reserves in the world. In the last three years, we have started 3-D seismic teams for the first time in Iraq. We are also considering a bid round for exploration activities in various parts of the country and in blocks that are highly promising.

This is a chance they should not miss – and, of course, the early birds will get the best seeds. **EXP**

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tor-Iraq for Gazprom Neft, "During the bidding round, the reserves of oil in the Badra oil field were put forward at 1.2 Bbbl. After our initial calculations, we increased this value to 2.4 Bbbl, and now, as we are preparing for the start of drilling and development, additional data from our Iraqi partners has put this value to 2.5 Bbbl. By the end (of our appraisal program) we should have the correct figure for the total oil potential. We are confident that this potential will reach 2.9 Bbbl of oil."

Gas Master Plan

This increased oil production brings with it a pressing concern. Currently, gas equal to 1 boe is being flared off every second in

Iraq, a waste that is only going to become worse as production increases. To deal with this problem, Shell developed the concept of the South Iraq Gas Joint Venture. This idea was born out of the "Gas Master Plan" Shell undertook for



James B. Adams vice president of ExxonMobil Iraq Ltd. (Image courtesy of ExxonMobil)

the Ministry of Oil in 2004 and was proposed to the Ministry of Oil in 2007.

"Initially, the plan was to simply build new facilities and brainstorm on how to obtain value for Iraq out of the current gas being flared. In fact, our Iraqi partners already had clear ideas in mind. They wanted to develop a modern gas industry in the south, they wanted it to be a joint venture, and they wanted the existing South Gas Co. to become a holding structure – a regulator rather than an operator," said Mounir Bouaziz, vice president, Middle East and North Africa, Upstream International, Shell EP International Ltd.

This essentially is what Shell is helping the Ministry of Oil achieve. The Basra Gas Co., a Shell-led joint venture (JV) that has taken control of the entirety of the state-

owned South Gas Co.'s 4,000 employees, will capture the associated gas from the Rumaila, Zubair, West Qurna Phase One, and Majnoon oil fields. Efforts have been made to provide some immediate benefits to Iraq, with quick-imple-



SHELL IN IRAQ

In Iraq we commit to: Safety, Respect for People and the Environment

Shell's presence in Iraq dates back to the early days of the Iraq Petroleum Company (IPC), which laid the foundations that contributed to the development of an oil and gas industry in Iraq. Shell, through its shareholding in IPC, was one of the main contributors in the discovery of the Kirkuk oil field in October 1927.

Shell has long expressed a commitment to work with the Government of Iraq to support its aim to rebuild the energy infrastructure of the country, and create a new income stream for Iraq's economy.

We place safety, respect for people and the environment at the core of everything we do, by:

- Working together with our partners to ensure the safety of all people in our operations
- Minimizing the environmental and social impact of our operational footprint
- Maximizing the employment of local Iraqi staff
- Establishing and maintaining long-term partnerships with local companies
- Conducting business as a responsible corporate member of the Iraqi society



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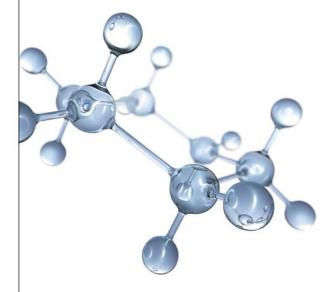
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Partnering for the Future of Iraq. Affordable and reliable energy h

Affordable and reliable energy helps drive economic development and progress—in Iraq and around the world. As a science and technology company, ExxonMobil is committed to working with the Government and people of Iraq to help fulfill the country's strategic energy development plans.

As part of our long-term commitment to Iraq, ExxonMobil's positive presence goes beyond the oil fields and into Iraqi communities. Our ongoing commitment is to relentlessly pursue technology breakthroughs that can unlock new energy supplies, drive economic growth and open the doors of opportunity to the Iraqi people.

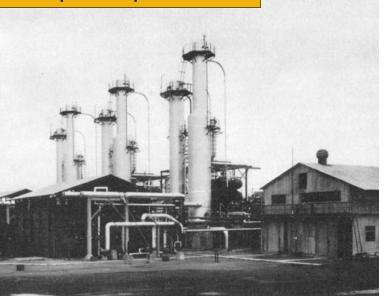
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mentation projects already reducing flaring by 20%, including a power plant of 18 MW fixed and a 50-MW power plant being developed.

The success of these petroleum licensing rounds, despite contractual terms that were less favorable to the IOCs than many of them were used to from other parts of the world, represents a recognition of the importance of the Iraq market. As Arnaud Breuillac, senior vice president, Middle The first three crude oil stabilization units were built by Foster Wheeler for IPC at Kirkuk in 1935. (Image courtesy of Foster Wheeler)

East for Total, said, "What is happening in Iraq is quite fundamental for the future of the industry. It is going to be one of the main sources of growth for the world's oil production in the next 10 to 15 years, and therefore, the success of Iraq is essential."

Service providers

While what is below the ground provides the incentive for IOCs in Iraq, it is the lack of anything above ground that constitutes the most striking aspect of the country for service providers. Thirty years of wars, sanctions, and a centralized government have resulted in an inadequate infrastructure and underdeveloped private sector. For foreign firms, the services that they can provide will prove both necessary and highly profitable.

Integration

The key to success in Iraq is being able to offer integrated services. This is for two main reasons: the desire of the

IOCs to devolve risk and the current dearth of any kind of supporting network. Combined, these mean that companies in Iraq are expanding the range of their traditional operations.

Brage Johannessen, vice president of Baker Hughes Global Integrated Operations, said, "Prior to the first bid round, we very much saw Iraq as an integrated operations market. However, we also believed that a significant minority of our operations would be call-out services. Since the terms and conditions for the IOCs were revealed at the first bidding round, we have seen a shift toward more integrated solutions as IOCs seek to spread the investment risk."

Alex Haynes, business development manager, Oil and Gas for KBR, added, "When you look at the Iraq market, you see that the IOCs and state companies have plans and resources, but there is no Iraqi private sector to support them. Indeed, there has not been a private sector in Iraq for 20 years. I saw figures recently that state that only 3% of GDP is currently in the private sector. The amount of work that is going to be released will stretch the contracting community to its limit."

No matter how established and confident a company is, however, Iraq is a



unique market with unique difficulties. Even the giants of the service sector, such as GE, have found there is a necessity to adapt to the market. "This process, from the first surveys to the supply of the final stations, has been a learning curve for us," said Laith M. Hayawi, regional general manager, North East Gulf, GE Oil & Gas. "Establishing the right finance, credit, and procedures to cater for such a large project had not been established in Iraq and we had to figure out how to work within this environment." Going through this learning curve early has served GE well. Having decided to reopen offices in Baghdad and Basra, its oil and gas division alone has done more than \$500 million worth of work in the past five years.

On the ground

Establishing a physical presence in the market is not important simply from the technical aspect. Mohamed El Gamal, Iraq country manager for Schlumberger, also shows a keen appreciation for the importance of sending the right message. "Schlumberger has always shown a commitment to Iraq and the footprint we have here does give us a competitive advantage in the market. At the end of the day, it comes down to the client's perceptions of your intentions in the country. Our clients, whether they are international oil companies or the Ministry of Oil, can see that we have made a long-term investment in the country and that inspires trust."

Mott MacDonald is a prime example of a company that has made the most of the opportunities available. Having returned to the country in 2003 on the invitation of the British government, Mott MacDonald took an early competitive edge by conducting a study on the infrastructure baseline in southern Iraq. The company re-established an office in Basra and now is undertaking significant projects for BP, Shell, and Exxon-Mobil. "Without this Iraqi presence," Bob Phillips, divisional director, Iraq for Mott MacDonald, said, "any company, including Mott MacDonald, would really struggle."

Many of the smaller companies supporting these giants have, in a very real sense, made their fortunes in Iraq by establishing this local presence. Capitalizing on an intimate knowledge of the local market and a willingness to take an early risk, players such



Mounir Bouaziz
vice president, Middle
East and North Africa,
Upstream International, Shell
EP International Ltd.
(Image courtesy of GBR)



Nicole Rischert executive chairman for RPSG (Image courtesy of RPSG)



Christopher "Kiffer" Andress CEO of AISG (Image courtesy of GBR)

as Remote Projects Services Group (RPSG), Petronor, and American Iraqi Solutions Group (AISG) have built themselves from nothing to become reliable and capable operators in the country.

Just like the international service companies, smaller supporting players have largely adopted an approach of offering comprehensive integrated services. RPSG's core business, for example, is camp support services. What lies behind these support services, however, is the ability to successfully carry out a full turnkey solution from design and construction to decommissioning. Nicole Rischert, executive chairman for RPSG, said. "The ability to offer a total solution is the most important requirement in Iraq. All the contracts currently coming in are for turnkey projects. These start with de-mining and razing the land and go right through to camp construction and the provision of services whilst the camp is operational."

AISG is known to many companies through its security services. However, security only accounts for a minority of the \$300 million worth of business that AISG has completed in the past six years. "We were the second licensed security company in the country, and security remains core to our business. It is not, however, our primary business driver. We are a construction security company with the ability to design, build, and operate camps and other structures," Christopher "Kiffer" Andress, CEO of AISG, said.

This security element, although offered as a separate service, was developed primarily to allow the company to carry out its other operations without having to rely on external companies.

Petronor was formed in 2001 and is intimately familiar with the intricacies of the Iraq oil industry (Hoiskar was the only foreign representative present at the reopening of the Ministry of Oil in 2003, and they maintain a close relationship). Unlike some of the other players, the company has focused not so much on expanding the services it offers, which include consultancy and environmental studies, but directing its existing capabilities toward specific projects. The Mobile Collaboration Center, for example, is an element of the "Safe Fields" service, which aims to circumnavigate the difficulties some companies face in visiting the sites they want to invest in or operate. Based on open



Dish assembly is completed by Iraqi employees. (Image courtesy of TigrisNet)

video conferencing technology and providing an encrypted video feed from the location in Iraq to anywhere in the

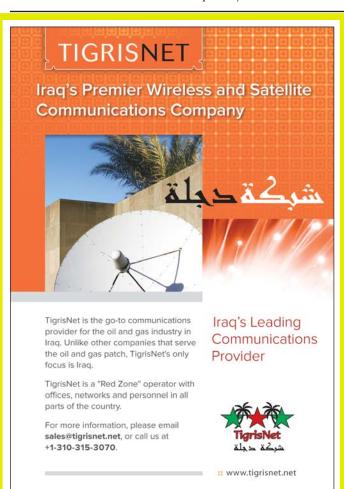
world, this self-contained high-technology equipment has a range of unique features that enables clients to minimize their physical presence on the ground.

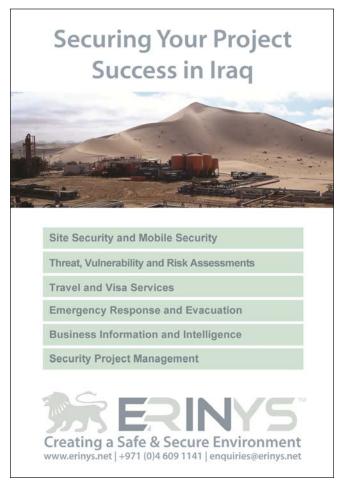
The major advantage these local players have is their onthe-ground experience, Rischert said. "One of the major advantages of RPSG is simply the seven years of experience we have in the country. We know our way around Iraq, we know the procedures with regards to checkpoints and immigration, and we have a logistics and transportation system in place. We are already registered, we are compliant, and we know the market. All of this allows us to carry out projects effectively and competitively priced."

This sentiment is echoed by Andress. "The most important advantage that AISG has is our experience. We have been in Iraq for 6.5 years, we know the local market, and we can get things done faster and cheaper than most other companies. What also makes us quite unique is the fact that our senior management is based in-country. We have the ability to understand what is going on and make quick decisions, which many companies do not have."

Legal framework

Amidst the physical challenges that confront investors in





the Iraq oil industry, companies must take care not to neglect the more abstract legal framework in which they are working. The rules and regulations in Iraq constitute a complex and continually developing maze that must be navigated carefully.

However, foreign companies are not entering an anarchic state. Although some legal remnants of past regimes still remain and an inexperienced bureaucracy sometimes struggles with the implementation of the current laws, a comprehensive legal code is in place. David Laurence, a partner at the law firm Herbert Smith, explained, "Iraq's legal system is a civil code system based on the Egyptian civil code system, which is, in turn, based on the French civil code system. There are issues

in the way the laws currently exist that could and should be addressed, but there is also a sophisticated foundation which you would find in any civil code jurisdiction."

It is still worth noting several points about the current legal framework. First, the much-discussed Petroleum Law, which has been awaiting parliamentary ratification for the past 3.5 years, should not overly concern investors as, in its current form, implementation will have primary significance for the state rather than for the private sector. Although it does recommend the authorization of production sharing agreements as opposed to the current TSCs, this should not necessarily be seen as anything other than investor-friendly.

Second, foreign companies must be aware that, in certain areas, international law or the laws of another country in which they operate might apply, for example, bribery legislation. Although Iraq has its own bribery legislation as set forward in the Iraqi Penal Code No. 111 of 1969, the general business culture of Iraq often strays dangerously close to what could be prosecuted under these foreign laws.

Finally, although the laws covering foreign investment are fairly comprehensive, many of these laws are still new and are likely to be affected by the political and bureaucratic framework surrounding them. There are articles in the Investment Law No. 13 to safeguard investors against retroactive amendments to the law and confiscation or nationalization except by final court ruling, although companies still must be prepared to accept a certain amount of risk.

Sean Korney, a partner in the Dubai office of Baker Botts, is quick to point out these legal risks associated with investment in Iraq, but also to explain how these can be mitigated. "This is where a 'Change in Law' clause in an agreement can provide the investor with some comfort," he said. "This type of clause recognizes that the government has a right to make whatever laws it wants, but if those laws affect the basis of the agreement, the parties have the right to negotiate the necessary changes to the agreement in order to restore the balance of value for both parties so that it is as close to the original position as possible."



Dr. Sami Al Araji of the National Investment Commission (Image courtesy of GBR)

Practicalities

Apart from the theoretical understanding of the laws, however, firms such as Baker Botts, Herbert Smith, DLA Piper, and Fulbright & Jaworski find much of their work is concerned with guiding investors through the practical implementation of these laws. "The struggles investors face tend to be more on the practical side," Laurence said.

To overcome these issues, the National Investment Commission (NIC) currently is engaged in considerable efforts to establish a "one-stop shop" – an initiative required by article nine of Investment Law No. 13. "The one-stop shop," Dr. Sami Al Araji of the NIC explained, "is empowered to follow up with different ministries over different provinces

to try to find solutions and answers for the investor in the shortest time possible. We are looking to have offices or representatives from the different ministries in the one-stop shop of the National Investment Commission who are empowered to make the decisions required so that we can achieve decisions which used to take months in a few hours."

Communications

Conventional means of telecommunications are improving. Mobile phone market penetration has risen from 20% two years ago to 65% today, a percentage representing 20.312 million mobile subscribers at the end of 2009. This still is low, but it is a remarkable increase for the short time period.

Promoting this increasing usage, AsiaCell and Zain compete for the title of largest network provider.

However, difficulties still remain. "Overall, the GSM or terrestrial network is improving as the country stabilizes," said Amine El Ammari, manager of sales, Middle East and North Africa for Thuraya, a satellite operator covering 140 countries but with a definite focus, almost since its inception, on Iraq. "The service does vary between different regions; however, in many areas, there is still a need for Thuraya. This is partly because of the security issue and the risks involved with business and travel in the country. This is also because Iraq is an extremely large country that cannot be fully covered with a terrestrial network."

Given the difficulties, it is surprising how much progress certain companies have made toward providing reliable normalized services. TigrisNet (www.tigrisnet.net, not to be confused with www.tigrisnet.com), against all odds, is making great leaps forward in terms of providing Internet solutions not dissimilar to those one would expect in any other country. An Iraqi company backed by Western expertise, it can boast city-wide wireless network services, an ability to cover every location in the country, and a remarkably reliable track record.

This reliability is built upon TigrisNet's insistence on excess capacity between the customer and themselves, and between themselves and the outside world. "In Basra, for



The current Iraq Energy City site layout is shown. (Image courtesy of Petronor)

example," Mike Labriola, founder of TigrisNet, said, "we have a couple of satellite antennas as well as fiber connectivity to our hub. We connect to multiple satellite and fiber providers so that our customers don't have to."

Complementing this, a 24/7 network operations center monitors all links to ensure that they are working and has offices, representatives, or partners in every city or town where they provide a service, enabling the company to send out a technician to the client's site in the event of a problem.

As Iraq progresses, communications will become cheaper and more reliable. This progress will be fueled by a corporate and public demand that has seen Internet usage increase tenfold in the past seven years. "Iraq is the most promising Internet market on Earth," Labriola said.

Security

Since 2007, Iraq has seen a steady and almost continuous decrease in violence and threat levels. Records for 2009 show 4,673 civilian deaths by the end of the year, compared to 22,586 to 24,159 civilian deaths in 2007. Incidents of bombings have fallen significantly in the same period and, since a 2004 peak of 229, kidnapping of foreigners has been on the decline.

This continued improvement cannot be taken for granted. "There has been a marked improvement in security conditions since 2007, and people can now move around and conduct their business with relative safety," Roger Brown, director of Erinys, said. "However, it must be recognized that the security situation is subject to constant change and can vary depending on geographic location and local politics."

Several worries are looming on the horizon of which companies should be aware. The continually delayed formation of a new government, which has only recently been resolved,

has presented what is possibly the most serious concern to the country and its investors. Previous uncertainty over the outcome has prevented foreign companies that have been awarded contracts from moving ahead as fast as they would like. This is slowing the economic growth that many Iraqis expect, causing restlessness and instability.

According to Martin Rudd, vice president of Olive Group, "The biggest risk will come if Iraqi expectations are not met in terms of employment, infrastructure rebuilding, or economic recovery."

The withdrawal of the US military also presents a concern, especially in Baghdad and Basra. However, with the US military presence being largely confined to the various military bases in Baghdad and the Coalition Operating Base in Basra, the actual on-the-ground impact that this will make should be minimal. "The security situation has improved immeasurably since a few years ago, and this is mainly due to the Iraqi Security Forces, that are taking responsibility and improving their capabilities," Andress said. "They will be able to continue this success even when the US military withdraws."

Since the "surge" of 2007, the relevance of the US military presence to the oil and gas community has been not so much its role in actively improving the security environment but its ability to offer support to the private security companies on which foreign companies directly rely. The best of these private security companies have either always operated outside of the support of the US military or have moved their operations in a more self-reliant direction in anticipation of American withdrawal.

Erinys, a company with a unique experience of Iraq derived from the fact that it set up the Iraq Oil Protection Force in 2003, has moved away from its reliance on US military support. "Two years ago, 99% of our operations relied on the availability of American backup," Brown said. "Today, we are self-sufficient and require very little outside support for our operations. We feel confident that we can operate in an environment that does not have US military in it."

Many security companies now are building upon their knowledge of the country to offer additional services. Erinys has expanded its services to offer what is known as Erinys Bridgehead, a market entry service for companies interested in Iraq.

G4S, known as the largest security company in the world, has gone into a partnership with Upper Quartile to provide

a similar type of market entry service. With Upper Quartile specializing in guiding companies through the difficult entry requirements of the Iraq market, G4S can concentrate on advising them on their security requirements.

Olive Group, established in 2001 to provide specialist protection services, has combined local knowledge and technological capabilities in its Remote Management System. According to Rudd, "This database enables us to provide a structure and a formula for assisting any foreign company in deciding its stakeholder and social engagement plans."

Alongside these international security companies, local security companies also are trying to make their mark on the market. Mesopotamian Lion Security (MLS) is a local company putting huge amounts of effort into becoming a world-class security provider. Unlike foreign companies, which have spent the best part of seven years obtaining a knowledge and understanding of the country, MLS has a distinct natural advantage. To make full use of this advantage, the company currently is in the process of working with Western consultants and experts in raising its capabilities and professionalism to a standard that will allow it to cater to the international oil and gas industry.

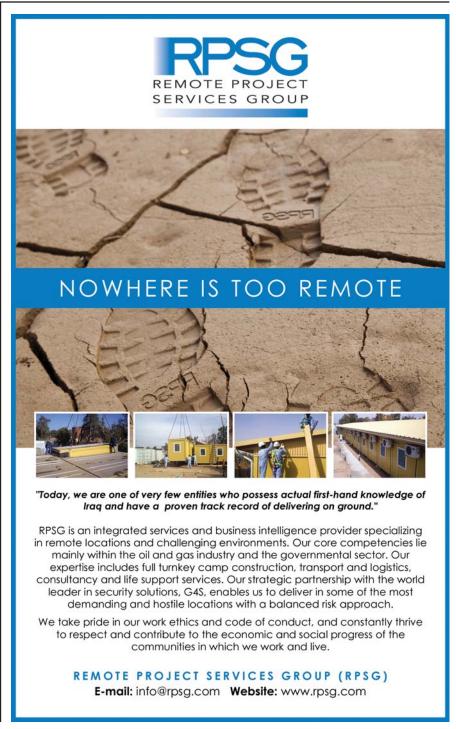
There is, of course, still uncertainty surrounding Iraq's future. However, the security experts are unanimous, albeit cautious, in their optimism. This wary confidence in the country's future is summed up by Craig Jeffery, regional director for Control Risks. "I would reiterate our optimism about the future for the country," he said.

"Opportunities abound here, and I think Iraq is well-positioned to take advantage of them. The critical issue for companies entering the country is

to obtain high-quality information on the local environment in which they plan to operate. The country's future depends on a number of factors, many of which we cannot estimate, but the signs are promising."

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National Technologies Logistics & Distribution www.ntiraq.com and with businesses often fractured in an effort to escape the notice of the previous regime, Iraqi companies often are unable to perform work to the international standard required.

It is reassuring, however, that local companies are the first to recognize both the issue and the need to correct it. Ali Jaffar, CEO of Field Energy, a company that, along with MLS, is part of the Agha Jaffar Group, put forward this same concern. "No Iraqi companies can claim that they have experience in the oil service industry. At Field Energy, we are trying to overcome this by forming joint ventures with international companies. We can gain experience and knowledge from them, and they can use our knowledge to install management techniques that the state companies in Iraq can relate to."

Ali Shamara, chairman of Shamara Holding Group, shares this belief. The company has between 4,000 and 5,000 engineers and is one of the largest private engineering Iraqi companies. "There is a gap between the standards expected by international companies and the standards that local companies are able to submit," he said. "Shamara is nearer the standard it needs to be than most local companies as we have spent time and effort developing our workforce – sending them outside of Iraq to receive training."

Training

Although admitting their areas of weakness, the local industry is working to overcome them. Shamara Holding Group sends its employees to courses in Italy, France, and the US, and incorporates a training clause into every contract it signs, ensuring it keeps up-todate with any new equipment it imports or installs. Field Energy, as well as training its employees on its own courses and those organized by its international partners, has an innovative system in place whereby its expatriate employees are shadowed by their Iraqi staff. Pioneer Engineering & Contracting, a contracting company providing a range of services for the power plant and oil and gas industries, sends its engineers for specialist training in Jordan, Turkey, and Germany; the success of this approach is evidenced by the falling numbers of supervisors its clients send out to supervise their own operations.

Nazar Hindi, CEO of the contracting and service company Sunline Petroleum Services, emphasized the importance of this type of

training. "Sunline Petroleum Services has invested significant amounts training Iraqi engineers outside Iraq. This has taken us a lot of time and money but, at the end of the day, we have people who are extremely experienced and can perform to the standard we require," he said.

One of the most interesting training programs currently being conducted is a JV between KCA Deutag and KAN International Group of Companies. A simulator developed by KCA Deutag is being used to conduct free training programs for the Iraq Drilling Co. Using in-country mobile units and inviting members of Iraq's training institutes to their full-size simulator in Aberdeen typifies the private initiative and effort that will be required for Iraq to achieve its ambitions.

To illustrate the advantage that local companies can bring international partners, merely look at mobilization times. "The first thing that any company needs to do when it moves into a new market is mobilize its people and its resources," Hindi said. "In Iraq, this may take months for a foreign company. We can do it in a week. After that, it will save time and money if you are able to use local resources and set up a local supply chain."

Local recruits

While partnering with local service companies does provide an important incentive for the development and progression of the local industry, once a company begins to establish direct physical presence and involvement in Iraq, it must start recruiting local employees for its own operations. The reasons for this are many, not the least being that many of the contracts awarded by the Iraqi government contain clauses requiring that a certain percentage of the contractor's employees must be recruited locally.

Far from viewing this as a burden, most IOCs appear to be

enthusiastically embracing this opportunity to develop the local workforce and stress the advantages that it brings them. "We have been very impressed by Iraqis at West Qurna-1 taking initiative, rapidly deploying and using new practices, and then taking them one step further and building in new advancements," Adams said. "What ExxonMobil is doing is bringing guidance, technology, and industryleading practices. We will only be successful if we can have extremely high levels of Iraqi involvement."

Everybody – from giants like Foster Wheeler and Baker Hughes to specialist service providers – is making the effort to both recruit and train the local workforce. Schlumberger has hired an oilfield services recruiting manager specifically for the purpose of hiring Iraqi



John McGregor Smith manager, Oil and Gas for Foster Wheeler. (Image courtesy of Foster Wheeler)

engineers. Foster Wheeler has been participating in various training programs for the Ministry of Oil since it first re-entered the country in 2004. "(Since 2004), our work for the PCO involved some 175 projects in Iraq, upgrading and revamping facilities and the undertaking of a complete program of training for the Iraqi workforce. This training was actually the very first thing we did in the country; the human resource potential in Iraq is huge and we want to help develop it," said John McGregor Smith, manager, Oil and Gas for Foster Wheeler.

For Mott MacDonald, 60% to 70% of its incountry employees are recruited and trained locally, with that figure set to increase dramatically in the near future. "Mott MacDonald

will be aiming to have at least 90% of our staff in Iraq as Iraqis. This localization model is our standard in most countries in which we operate," said Charles Ellinas, managing director, Oil, Gas, and Petrochemical of Mott MacDonald. Importantly, this local content already includes those in positions of middle management.

The smaller players have made even more impressive progress. TigrisNet has a local content reaching 99% of its workforce. The company's decision to operate from the "Red Zone" rather than shelter behind the concrete fortifications of the US military bases facilitated the ability to communicate with, recruit, and train the local workforce.

One of AISG's foundation principles was "Iraqis First." According to Andress, "Our business model has always been to develop local talent, from a personnel perspective as well as from a vendor and subcontractor perspective. Indeed, the whole focus of the company has been to develop the local content and people up to Western standards."

Of the more than 1,000 employees at AISG, about 75% are Iraqi nationals, and during its seven years of existence, the company has hired and trained more than 10,000 Iraqis.

Dheyaa Jaafar Hyjam director general, South Oil Co. (Image courtesy of GBR)

Infrastructure issues

One of the major obstacles in Iraq's path to its planned 12.5 MMbbl/d capacity is the current lack of adequate infrastructure capabilities. This shortage affects every aspect of the development of the country's oil industry, from companies attempting to bring equipment into the country to getting oil exports out.

Iraq has five ports in the Shatt Al-Arab waterway, although none of them are functioning at full capacity. Even inside the country, the lack of reliable infrastructure, especially extending toward the remote locations of some of the oil fields, presents difficulty.

The current state of the infrastructure and

what needs to be done to improve it is summarized by Dheyaa Jaafar Hyjam, director general of South Oil Co.: "A lot of effort will be required to raise our current infrastructure capacity to the level required. Although the capacity of these facilities is enough for the current production, it will not be sufficient when production increases. We have to both build new facilities and upgrade existing ones.

"In terms of our exporting capabilities, we have two facilities; Basra Terminal, which is in fairly good condition, and Khor al-Amaya Terminal, which was severely damanged during the Iran-Iraq War. Even the pipeline leading to this terminal is very old and cannot be operated to design capacity due to safety concerns."

Ala Nuseibeh of KAN International Group of Companies explained, "Iraq has a strategic plan to drill more than 6,000 wells in the next five years. The oil and gas infrastructure cannot handle this. The thousands of miles of pipelines required to cope with this amount of production



Dr. Shiltagh Aboud Al-MayahGovernor of Basra
(Image courtesy of GBR)

need either complete repairs or to be built from scratch. Iraq does not have the money needed to carry out this type of work. This lack of infrastructure will create a problem for both the government and the companies working in the country."

Solutions are on hand from a mix of government and private initiatives. Plans to issue a tender for a 68-mile (112-km) double-track loop-line railway around Baghdad have been announced with a total value of \$3 billion. There are definite plans for the development and rehabilitation of Al Faw Port, which, as Al Araji said, "will take pressure off Basra port and open up imports to the country."

The local Basra government is involved heavily in this project and is enthusiastic about its

promise. "There are some immense projects planned, such as Al Faw Port, which is going to change the entire map of the region and link the whole world through Basra. It will psychologically shorten the distance between the East and the West," said Dr. Shiltagh Aboud Al-Mayah, the Governor of Basra.

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Economic zones

In addition, several "economic zones" are in their planning stages, one located near Al Faw Port which, according to Al Araji, "will offer infrastructure availability for different kinds of industries and be covered by the privileges of Law 13 regarding the protection of investors and investment projects."

A similar concept to these economic zones, although a private initiative, is Petronor's Iraq Energy City. Situated on the Zubair field, with 3.2 million sq ft (300,000 sq m) of land, the camp will provide accommodation, office space, workshops, and security to a host of companies, aiming to lower the unfeasibly high barrier to entry caused by the lack of infrastructure and security costs.

Although still a secure location, Iraq Energy City is trying as much as possible to respect and work within the local community. "It is vital to make sure that the Iraqi oil industry is an integrated oil industry between Iraqis and foreigners," Hans Hoiskar, managing director of Petronor, said. "We want to build permanent structures, live together with our Iraqi colleagues as soon as the security situation allows it,



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and lower the perception of foreigners as aggressors. It is very difficult when you live in temporary accommodation camps surrounded by armed guards to disabuse Iraqis of the idea that you are just there to steal their oil."

Solutions

A range of companies also exist to provide transportation and logistics services that have the expertise to efficiently navigate the current infrastructure. Smaller players initially developed their logistics and transportation capabilities to meet their own companies' requirements and now are some of the most reliable providers of these services to other companies.

RPSG, for example, in addition to its standard capabilities, already has put in place the means to deal with the transportation of drilling rigs. ABCO offers door-to-door service from anywhere in the world, consolidating items through its presence in Dubai before shipping them to Iraq. AISG has developed transportation capabilities as a secondary service, having completed more than 22,000 logistical moves in the last six years from abroad and from within the country.

SKA Air & Logistics has firmly cemented its role as the market leader. Having been involved in almost every major

project carried out in the country, from the elections to the reconstruction efforts, and having flown 35,000 flight missions without incident in the past 2.5 years, their logistical experience in the country is without equal.

Water

The infrastructure requirements are not simply for equipment provision. Electricity, fuel, and even food require organization and procurement. One of the major issues that currently faces the oil and gas community is the availability of water. The amount of water coming from the Tigris and Euphrates rivers has fallen to almost one-third of its previous 100 Bcf due to Syrian and Turkish water projects and two winters of sparse rainfall. Even without this shortage, the quantities of water required by the oil and gas industry could not be supplied via Iraq's existing facilities.

According to Ellinas, Mott MacDonald is conducting a feasibility study for ExxonMobil on a common seawater line from the Persian Gulf to an as yet undetermined location in Basra. Ellinas gave some idea of the scale of this problem: "This is a top priority project in Iraq as all the oil fields require water injection to maintain production. The estimate is that over the next six to 10 years more than 10 MMbbl/d of water will be needed to be injected into the













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fields to maintain production. Without this, there is no point in continuing further development because (oil companies) will simply not be able to increase production."

This common seawater line is part a multibillion-dollar water injection project involving a collaboration of many of the IOCs operating in the fields south of Baghdad. The project is being led by ExxonMobil, which is carrying out the engineering, analysis, and pre-scoping designed to handle the 10 to 15 MMbbl/d of water that these fields will require. Adams explained the collaborative concept behind the project.

"The Ministry and IOCs recognize the critical need to provide a large-scale saline water-supply facility to the southern Iraq oil fields to maintain reservoir pressure and build production levels. The idea to manage this as a common facility rather than each IOC developing its own facilities was suggested by the Ministry of Oil. This will result in, by far, the best solution for the country."

Corporate social responsibility

The combination of the intricate web of sectarian divides and the still volatile nature of Iraq means that a company's ability to form positive relationships with the local community takes on an importance beyond that of merely fulfilling its corporate obligations. Hoiskar, who has worked in Iraq for the past 16 years, sees this very clearly. "Every international oil company that was awarded a contract in the first and second bid rounds signed contracts for 20 years. So they are going to be here for 20 years," he said. "They are already an important part of the politics and the economy of Iraq, but they need to continue to play a part in the society as well. If you are seen as a foreign element – that is, not integrated into society and not showing respect toward the culture – then there will always be an excuse for violence and criminal activity toward you."

For the IOCs, it is understandably too early to have laid down definite plans for corporate social responsibility initiatives, despite the impressive starts that some of them have made in the recruiting of local content. However, most have taken pains to demonstrate their commitment to the country. Petronas plans to continue the focus on education and human capital development that it has implemented to great effect in other parts of the world. And Gazprom Neft already is in discussions with local communities as to how it can best benefit the society of Wasit Governorate, the province where the Badra field is situated.

Shell, having been in Iraq slightly longer because of its South Iraq Gas Joint Venture, deserves some praise for its efforts to engage the local community. "It was very important to send the right message from the start," Bouaziz said. "We had the first joint management committee meeting in Basra, we have visited and refurbished vocational training centers, and we organized town hall meetings to start the dialog with local communities. The result is that there is a positive established relationship between Shell and the local communities."

The service companies also are recognizing the impor-



Basra is in need of infrastructure improvements. (Image courtesy of GBR)

tance of engaging with the local community, with companies such as Mott MacDonald and SKA Air & Logistics being involved in several large-scale development projects. KAN International Group of Companies shows enthusiasm for the possibilities of socioeconomic development in the country. "Our company Enraq carries the slogan, 'Working in Iraq for Iraq,'" Nuseibeh said. "We make a genuine effort to benefit the country rather than just profiting from it. This effort includes training but also social responsibilities such as building and refurbishing schools, which is something we would very much like to become involved in. I strongly believe that 20% of any company's earnings should be invested back into the social equation."

Conclusion

The three most pressing challenges that foreign companies operating in Iraq face are a difficult security environment that, although manageable, requires constant vigilance and substantial capital; a severely underdeveloped import and incountry infrastructure, which causes delays and logistical nightmares for companies; and an uncertain legal framework, subject to change and varied implementation.

These challenges, however, are rapidly becoming more investor-friendly. While progress might seem stuttered and faltering, it must be taken into account that these are the first steps Iraq has taken away from a centralized economy isolated since 1979. In just more than seven years, Iraq has set up a democracy and a market economy and almost doubled its GDP.

"Iraq has still not reached its potential," Al Araji said, "but we have made great progress in the right direction. Not many markets are as promising as Iraq."

If anything, that is an understatement. As far as oil and gas investment prospects go, it is fair to say that no market is as promising as the Iraq market. EXP