ENERGY CONSULTING & PROJECT MANAGEMENT

إستشارة و إدارة مشاريع الطاقة

Above: The first oil platform installed off the Arctic coast of Russia
Photo courtesy of Rigzone

January 2014

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Iran's oil plans in 2014

Robin Mills

Iran's oil sector is like an ageing wrestler who could still surprise opponents with a show of strength. With this essential industry currently flat on its back, President Hassan Rouhani's team has to find a way to get their champion back on its feet. Meanwhile, international oil companies are looking on from the sidelines, and whispering some encouragement.

Iran's revival would have a significant impact on global oil markets — and, in the longer term, on gas. Oil minister Bijan Zanganeh has predicted exports of 1.4 million barrels per day (bpd) this year, up from 1.15 million bpd in 2013.

Recent reports have indicated that Russia would swap equipment and goods for up to 500,000 barrels per day of Iranian oil, and that Chinese state trader Zhuhai Zhenrong was negotiating for a new contract to purchase condensate (extra-light oil). China currently accounts for about half of Iran's reduced volume of exports. Although cracks may be appearing in the sanctions edifice, a full and rapid recovery will require the removal of sanctions, not just loopholes.

In such an eventuality, there will have been some permanent loss of capacity because of lack of investment but a re-emergent that Iran might be able to produce around 3.6 million barrels per day, compared to over 4 million bpd in 2010. This would equate to some 1.9 million bpd of exports, almost double current levels. With the US's Energy Information Administration forecasting the call on OPEC to fall by 0.5 million bpd in 2014, and Iraq likely to grow by 0.3-0.5 million bpd, other OPEC members — notably Saudi Arabia — would have to cut back significantly.

Technically speaking, Iranian oil production might return much quicker than most observers expect. If the fields were shut down in an orderly manner — and the Iranians had plenty of warning —

there is no reason why the closure should have permanently damaged them. Quite the opposite: a period of reduced production from some of the old fields may have allowed pressure to recover and more oil to drain into layers from where it can be recovered.

But the process of unpicking the multi-layered sanctions — US, EU and UN — will be lengthy and complicated. Different sanctions cover financial transactions, access by Iran to its overseas funds, trade in precious metals and petrochemicals, investment in the Iranian oil industry, the supply of refined products, the provision of technology, shipping and insurance, imports of Iranian oil by the US or EU, and dealings with numerous designated entities. Some of these sanctions date back well before the current nuclear crisis, and are predicated on support for terrorism or human rights violations.

So even a comprehensive deal over the nuclear program will not remove all sanctions, and certainly not all at once. President Barack Obama may have considerable discretion to waive the application of some sanctions, but it would be disconcerting for long-term buyers to know that a change in the political winds might again cut off Iranian oil at short notice.

To get much beyond 3.6 million bpd of oil output, and to continue the expansion in gas required to meet domestic demand and some ambitious export plans, the industry requires a comprehensive overhaul. Lists released so far seem more of a miscellany of favoured projects, with no clear prioritisation. Given other calls on the government's budget, in a post-sanctions phase of economic recovery, external financing is likely to be required. Even more than that, international technology and expertise will be key.

With more than a hundred announced projects, the organisational capacity of the National Iranian Oil Company (NIOC) will be tested to the limit, after a long period of brain drain, underinvestment and politicisation. As the experience of Iraq shows — admittedly under less favourable circumstances — effective delivery of multiple megaprojects in collaboration with international oil companies can drag if the state company and ministry lack capability.

Stated priorities include the development of shared fields with Iran's neighbours – Iraq, Kuwait, Saudi Arabia, Qatar and the UAE – to avoid hydrocarbons being drained across the international border. It has even been suggested that production-sharing contracts might be offered for such fields – which the international industry prefers to the 'buybacks' offered by Iran in the late 1990s, and the technical service contracts used in Iraq.

Iran's production plans hinge particularly on a few large projects — the Azadegan and Yadavaran oil fields near the Iraqi border, which could produce 900 000 barrels per day; the completion of Phases 12, 15 and 16 of the giant South Pars

field; and the Kish and Salman gas fields in the southern Persian Gulf, with potential output of 2.7 billion cubic feet per day, almost a fifth of Iran's current production.

Salman is a cross-border field with the UAE, and its gas was intended to go to the Emirate of Sharjah, but the deal fell apart over allegations of corruption, under-pricing and Iranian failure to complete infrastructure. Kish has for some years been targeted for export to Oman, which has played a quiet but critical role in behind-the-scenes nuclear diplomacy. Qatar, with whom Iran shares South Pars (Qatar's North Field), recently offered technical assistance on the field.

But NIOC also needs to consider how to sustain and revive output from its mature fields, including managing massive gas reinjection projects that will take years to show results. At the same time, it needs to explore for new fields with the modern technology and geological concepts that have been so successful just over the border in Iraqi Kurdistan.

Iran has long been working with Chinese companies on Azadegan, Yadavaran, and the Iran LNG (liquefied natural gas) project, part of South Pars. But it has become frustrated by what it sees as their low technical competence and foot-dragging over full-scale investments. Western companies are back in favour. Firms such as ENI and Shell have already, with surprising alacrity, held some discussions with Mr. Zanganeh. During an initial phase of sanctions removal, international companies may seek short-term technical assistance deals — building goodwill and positioning themselves, without making major commitments until they can judge to which side the political tussles, internal and external, incline.

International companies — mostly Western, but also including firms such as Malaysia's Petronas — bring skills in megaprojects, managing mature fields, and exploration. But Iran should think not only in terms of attracting industry titans — it has plenty of smaller fields where nimble newcomers and private Iranian companies can perform better.

With such assistance, the champion can still return to the fray at something like its former strength. Increased oil output challenges Iran's Arab neighbours, while gas exports allow it to build ties with the UAE and Oman, as well as with Iraq, Turkey and Pakistan. That will be essential for President Rouhani's administration, giving his team the muscle to revive the economy. Recapture of the commanding heights of the oil industry and its finances — plundered and obscured under President Mahmoud Ahmadinejad — is essential in the country's byzantine factional contests. As usual, this slippery liquid is the way to keep a firm grip on the economy and body politic.

A ***version of this article appeared in The Foreign Policy Lobe Log on January 13, 2014***

UAE Commercial Agencies for International Energy Companies

By Raya Abu Gulal

Foreign companies including Oil and Gas ones that do not wish to have a direct presence in United Arab Emirates ("UAE") or obtain a commercial license, can appoint a local commercial agent to sell their products and services. Commercial agents can add great value to foreign companies who wish to explore the market prior than establishing a full presence and investing large amounts of money. Agents can negotiate business transactions, sell products/services and bid for tenders on behalf of the foreign companies. Agency arrangements in the UAE are governed by UAE Federal Law No. 18 of 1981 and its amendments ("Agency Law").

The Agency Law governs wide aspects of the relationship between foreign companies and commercial agents. Few Articles in the Law seems to be vague and more in favor of the commercial agent, therefore, a proper commercial/legal advice must be obtained prior than entering into a formal agreement. There are important considerations that foreign companies should bear in mind in order for the Agency Law to apply these include the following:

1. Agent must be a UAE national or a company wholly owned by UAE nationals;
2. Relationship must be exclusive (either as to a specific product(s) and/or the territory), exclusivity can also apply to multiple Emirates or the whole of the UAE; and
3. Commercial agent must be registered in the commercial agency register at the Ministry of Economy.
4. The agency agreement between the foreign company and the agent must be registered at the Ministry of Economy.
5. Unless otherwise agreed, registered agents are entitled to receive commissions on sales in the agreed territory irrespective of whether such sales are made by or through the agent,
6. Termination of agency agreement can be granted provided there is a material reason justifying its termination. Note that foreign companies will have to show a 'material reason' to justify the termination or non-renewal of the agency agreement.
7. The Agent must be registered within the Supreme Petroleum Council (in case the foreign company wish to sell its products/services in the Emirate of Abu Dhabi) to be able to bid for oil and gas tenders on behalf of the foreign company.

In addition to the above, foreign companies should study the following important points when considering entering with a local commercial agent.

1. Whether or not to register the agency agreement with the Ministry of Economy.
2. Whether termination provisions have been clearly defined and definite.
3. Fixed term should be provided in the agency agreement and it should be not automatically renewed.
4. Enforceability terms.

Finally, care should be taken when choosing a commercial agent. Seeking professional advice from experts inside the UAE is a crucial one when it comes to choosing an Agent and managing the relationship on behalf of the foreign company. Local agents have varying degrees of capabilities when it comes to supporting a global energy business and should not be viewed homogeneously.

Line between conventional oil and unconventional now blurred

By Robin Mills

When everyone's doing something unconventional, isn't it conventional? As in monetary policy and in lifestyles, so in oil.

Since the turn of the century, so-called "unconventional" oil and gas has become an increasingly important part of global supply. The most high-profile is the US's shale fields, which in 2012 provided 29 per cent of the country's production and 40 per cent of its gas. The rest of the world has been slow to catch on to shale, but Canada, Argentina, Russia, China, Australia, the United Kingdom, Saudi Arabia and others are all promising.

Other unconventional sources of petroleum have also become significant – Canada's oil sands; enhanced oil recovery using a variety of techniques to scrub out more oil from mature fields; converting coal and gas to liquid fuels; and biofuels made from sugar cane.

If energy prices remain strong over the next decade or two, other unconventional sources may make the jump into viability. Possible, if still speculative, candidates include gas hydrates, an ice-like substance found in the Arctic and deep seas; kerogen oil cooked from rocks rich in organic matter; fuels distilled directly from carbon dioxide in the air using sunlight; or advanced biofuels made from algae or waste.

Why have unconventional hydrocarbons boomed over the past decade? It is the result of three self-reinforcing factors. Restrictions by many countries on investment in their conventional fields drove up prices and forced international oil companies to seek new pastures. Higher prices made once unviable

resources attractive. Two or three decades of prior research and tinkering now found scope for application, bringing down costs until "unconventional" became routine.

Unconventional oil has often been defined by the technology used to extract it. But this is a distinction without a difference to the consumer. The source of the fuel in their power station or car fuel tank is irrelevant – only quality, cost and reliability matter.

Unconventional petroleum is often more costly to produce than conventional – but not always. US shale gas has proved highly competitive, so much that prices have collapsed and remained low. And the more attractive shale oil plays are commercial at $40 to $50 per barrel, cheaper than development of small conventional fields in the North Sea or some deep-water projects.

So every large oil company has to master both conventional and unconventional resources. They might seek out one or the other, but cannot afford to be one-trick ponies. This applies even to the giant Arabian Gulf national oil corporations, which have huge conventional fields but increasingly have to think about enhanced oil recovery, heavy oil and shale gas. And unconventional techniques are being applied to conventional fields – such as the century-old fields in West Texas.

So maybe it's time to drop the conventional-unconventional distinction, or to reserve the term "unconventional" for truly speculative resources such as gas hydrates. That would put an end to meaningless talking points from "peak oil" enthusiasts that output of some kind of narrowly-defined "conventional" oil is declining.

The surge in various kinds of new hydrocarbon resources results in greater diversity. More countries and subnational regions are becoming significant producers. A wider variety of molecules – with large volumes of extra-light crude oil and gas by-products – upsets traditional refining and trading models. Changing product flows reshape logistics, with US oil trapped inland, and refineries seeking out markets in Latin America.

Holders of conventional petroleum can still enjoy vast profits, but have to realise that consumers have other options, and will not pay any price. The incumbent producers – from the super-major oil companies to Russia, Qatar and Saudi Arabia – which once scoffed at their unconventional rivals as too expensive and marginal, now have to take notice of the upstarts.

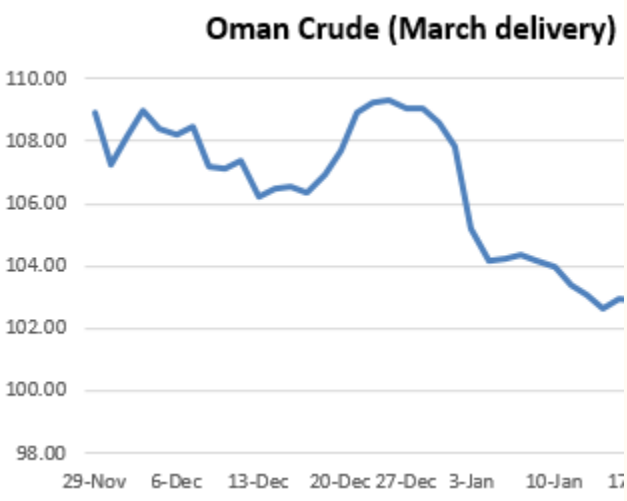
A ***version of this article appeared in The National newspaper on January 12, 2014***

Benchmark Oman Crude Rebounds from Lows

Oman crude oil trading on the Dubai Mercantile Exchange during January

softened over the course of the month, although most of the losses came during the first half of the month before finding some support and rebounding slightly.

The DME March Oman crude contract settled Friday at $103.67 per barrel, down nearly $5/b from the closing December price if $108.58/b, or 4.5%.The monthly average of the DME, which is used by Oman and Dubai to set their official selling price (OSP), was $104.04/b, down from $107.88 in December and the lowest monthly price since July of last year.



Most of the losses came in the first half of the month on news that Iran would start to curb its nuclear program in January, sparking fears that a further easing of sanctions could push more oil into an already comfortably-supplied market. Sanctions against the OPEC member cut around 1 million barrels per day of Iranian crude exports in 2013.

"Middle East oil prices for Asian buyers are starting to look too high as a series of bearish indicators start to come into play," said Reuters analyst Clyde Russell in his January market analysis. "These include the relatively mild winter in major Asian consumers such as China and Japan, the coming refinery maintenance season in the second quarter, the possibility of the return of Iranian barrels to the market coupled with rising Iraqi output, and soft demand growth in top importer China."

Additionally, market watchers also noted that the U.S. Federal Reserve's move to trim its monetary stimulus was likely to have a dampening effect on oil values.

Prices however did find some support in the second half of the month, partly on the US cold snap, which increased demand for heating oil and closing the gap between the US WTI benchmark and European Brent -- although the US price is still around $10/b under Brent.

Middle East crude generally lost ground to European prices, as the Brent/Oman spread moved to well over $3/b, or up around 50 cts compared to December. The European market remains relatively depressed on the demand side, leaving room for traders to ship European North Sea crude to Asia – which in turn supports Brent prices, but has a dampening effect on the Middle East and Asia.

Many analysts expect prices to find support close to current levels in the short to medium term and Hans van Cleef, analyst with ABN AMRO Group in Amsterdam, increased his 2014 forecast

for Brent crude to an average $100/b, up $5/b from his initial forecast.

We appreciate the contribution of the Dubai Mercantile Exchange in providing this market commentary

Gulf's oil exporters should embrace hedging

By Robin Mills

Is it better for countries to plunge and soar with the oscillations of global markets? Or to buckle themselves in as they ride the roller coaster?

Both oil exporters and importers are now taking the second option – and trying to protect their massive energy revenues and expenditures. But is it time for major oil sellers in the Gulf to consider hedging their exposure?

Oil makes up about 70 per cent of the Qatari government budget, 90 per cent of Saudi Arabia's, and 95 per cent of Iraq's.

Conversely, regarding oil importers, Morocco spent 6 per cent of its GDP on energy subsidies, Jordan 8 per cent and Egypt as much as 13 per cent. These countries are all under severe fiscal pressure, with Morocco and Jordan turning to the IMF and Egypt to concessionary GCC loans.

Although oil prices have been stable over the past three years, averaging about US$110 per barrel, when crisis strikes they can be wildly volatile. In just six months during the 2008 economic upheaval, Brent crude fell from $147 to $34 per barrel. Conversely, with the first oil shock, prices quadrupled between October 1973 and January 1974.

Hedging through the futures markets can be a flexible and attractive way to protect the national budget and economy from such wild gyrations. Countries can hedge by buying options, paying an upfront premium to guarantee a minimum price for their oil exports.

Or a "costless collar" involves no premium, but the hedger gives up gains if the oil price rises above a certain level. A third possibility is to use swaps to lock in a set price for some share of exports.

Mexico, a significant non-Opec oil exporter, has been hedging since the early 1990s – inspired not by its national oil company, but by the finance ministry. The country's finance minister Agustín Carstens hedged the country's 2009 oil sales, making an $8 billion profit as prices plunged. In 2012, Mexico paid $800 million to $1bn to set a floor of $75 per barrel.

Qatar reportedly hedged a quarter of its 2012 sales. Conversely, among the oil importers, Morocco spent some $50m to $60m to fix a maximum price for last year's fuel purchases.

Given its attractions, why do major oil exporters not hedge more often? One reason is that it is often not well understood by Middle Eastern and Asian governments, who regard it as dangerous "speculation".

In 2008, the chairman of Sri Lanka's state refining company had to resign after his company was exposed to up to $1bn of hedging losses. Indeed, its hedges were poorly designed and inflexible. But the losses arose because oil prices had plunged – good news for the refiner. And the country's own central bank had approved the transaction.

For the individual decision-maker, there is an asymmetry of risk. If the chief executive of a national oil company, or an Opec finance minister, chooses not to hedge, they can blame unpredictable markets or shadowy "speculators" for losses. But if they do hedge, any losses will be laid on their desk.

So it may be better for a committee to take collective responsibility. And countries considering hedging should hire or develop top-quality expertise to avoid a repeat of the Sri Lanka debacle.

Hedging programmes should not aim to avoid moderate fluctuations in oil prices. A drop of, say, $10 per barrel can be accommodated by trimming the government budget, borrowing money or selling some liquid sovereign wealth fund investments.

Rather, hedges should guard against market collapses, such as in 2008 – or spikes. Such events are rare enough that insurance against them is not expensive, but, when they do occur, they can be catastrophic for national budgets.

Protecting against unanticipated price movements is not speculation. Much more risky is to accept the vicissitudes of the markets.

A ***version of this article appeared in The National newspaper on January 27 , 2014***

Arctic resources: new frontier or over-hyped?

Robin Mills

It is minus 27°C at Russia's nickel mining centre of Norilsk, minus 34° at Alaska's Prudhoe Bay oilfield and minus 47° in the Yukon, the gold rush area of a century ago. All are enveloped in the long Arctic night. But it doesn't mean they are being ignored.

The scramble for Arctic resources has attracted great recent interest from media and military, corporations and commentators. The Russian president, Vladimir Putin, announced this month that his country would reopen its military base on the remote Novosibirsk Islands. Thirty Greenpeace protesters, who in September were detained after attempting to board the Prirazlomnaya oil platform, were released by Russia after an amnesty. And the minerals minister of Greenland, which recently voted to allow mining for uranium and rare earth metals, visited China for talks.

The Arctic has all the elements of a grand story. Great-power competition between the United States, Canada and Russia has

China as an interested bystander. Smaller nations – Greenland, Iceland and Norway – and indigenous peoples seek to secure their futures.

Energy – oil, gas, uranium, geothermal and hydropower – and minerals seem ever more vital for the world economy. Melting ice uncovers more resources and opens up new sea routes but threatens global climate disaster. The stark and beautiful landscape, and its photogenic polar bears, appear threatened by climate change and industrial activity.

But the thrill of novelty should not lead us to overplay the importance of the Arctic – and neglect more important 21st century arenas such as the factories of the Chinese littoral, the one and a half billion people of South Asia, the Arabian Gulf's oil, or the US West Coast innovation hub.

The US geological survey estimated in 2008 the Arctic held 13 per cent of the world's undiscovered oil and 30 per cent of its undiscovered gas. But this picture has now been changed by the emergence of shale gas and oil in more comfortable climes in the US, and probably onshore in West Siberia. Offshore Arctic resources will eventually play a significant role – but they will be costly, technically frustrating and slow to come to market.

From Dalian in China to Rotterdam in the Netherlands is about 48 days via the Suez Canal, but 35 days through the Northern Sea Route (north of Russia), saving time and fuel. As Arctic ice retreats, this route will become more attractive – particularly for shipping bulk such as ore, coal and oil.

But shipping is not just about distance. Storms, unpredictable remaining ice, the shallow draft of passages south of Russia's Arctic islands, and the lack of port facilities and search-and-rescue make the Northern Sea Route more costly and less reliable. Just four ships sailed the route in 2010; in 2013, this had gone up to 71 – but the Suez Canal carries more than 17,000 annually.

Environmentalist campaigns against Arctic drilling, perhaps intentionally, muddle two issues. Climate change is a grave threat to the region's ecosystems and communities, and ice melting can accelerate warming of the rest of the Earth. The local environmental effect of mineral extraction has to be carefully regulated – but a barrel of oil has the same effect on the climate whether from Alaska or Angola. And Arctic oil – or even better, gas – is preferable to Canada's high-carbon oil sands.

Of course, there will be jostling for position and attempts to claim strategic or resource-rich ocean areas. But Russia and Norway have resolved their border dispute, the most significant for oil and gas.

Other potential tussles are in the deep, remote and still ice-covered central Arctic Ocean. So, like the petroleum-rich Caspian in the 1990s, the Arctic may be fascinating, a treasure trove for

corporations, generals and scholars alike – but it is ultimately a sideshow.

A ***version of this article appeared in The National newspaper on December 29, 2013***

Key MENA Energy Issues Scorecard

MENA energy price reform	🟡	⇔	UAE energy minister says energy prices to rise, especially for expats; Oman expected to raise gas prices gradually to accommodate tight gas; Jordan inflation up to 5.6% on fuel, electricity price rises
MENA unconventional oil & gas	🟡	↓	BP withdraws from Risha tight gas appraisal in Jordan; PDO eyeing light tight oil in Al Shomou Formation in the South Oman Salt Basin; Bids in for Aramco shale FEED
MENA alternative energy	🟢	↓	Little major news from Abu Dhabi's World Future Energy Summit; slow progress from Saudi Arabia
MENA nuclear power	🟡	⇔	UAE set to break ground on third nuclear reactor in 2014
Energy infrastructure security	🟡	↑	Libyan western production gains and some signs of negotiated end to eastern disruptions; further attack on Iraq's Kirkuk pipeline; fighting continuing in South Sudan; further bombing in Sinai on gas pipeline to Jordan; strikes shut Total's Block 10 in Yemen
OPEC production	🟡	↑	OPEC January production up to 29.94 Mbpd from 29.63 Mbpd in December as gains in Libya, Iraq and small increase in Iran outweigh falls in Saudi Arabia and Angola; December production was down 20 kbpd to lowest since May 2011, on falls in Saudi Arabia and Iraq; Iraq started to prepare for a return to the OPEC production quota system
East Mediterranean gas commercialisation	🟡	↑	Israel likely to supply gas to Jordan; may bid for gas supply to Cyprus; divestment of Karish block to satisfy competition concerns
Kuwait energy projects progress	🟡	⇔	KPNC awarded contract to AMEC for project engineering and management services for its refineries; refineries shut down by serious power cut
Abu Dhabi concessions renewal	🟡	⇔	Exxon withdrew seconded staff from ADCO; Abu Dhabi approved China National Petroleum, Occidental Petroleum, Korea National Oil, Inpex Corp, Eni, Statoil ASA and OAO Rosneft to bid
Baghdad-Erbil oil agreement	🔴	⇔	Kurdish exports suspended again as talks with Baghdad continue; North Oil Company travels to Turkey to prevent KRG crude exports
Iraq oil production build-up	🟡	↓	Oil exports down to 2.228 Mbpd in January from 2.341 Mbpd in December and 2.381 Mbpd in November due to further attack on Kirkuk pipeline and bad weather at Gulf terminals; however production gains expected in 2014
Egypt subsidy reform	🔴	⇔	BG Group declares force majeure on LNG exports due to gas diversion to domestic market; ongoing political instability likely to further delay attempts to address long-standing fuel subsidies
Iran oil sanctions	🟡	⇔	Oil exports up 50 kbpd in January; President Obama indicates he will veto new sanctions; difficulties for Iran in accessing tanker insurance despite sanctions suspension; Russia floating oil deal; political crisis continuing in Turkey over corruption scandal connected to Iran sanctions payments

Source: Manaar research

🟢	Very positive	↑	Improvement in last month
🟡	Positive	⇔	No change
🟡	Negative	↓	Deterioration in last month
🔴	Very negative		

Energy Prices and Generation Costs in the Middle East

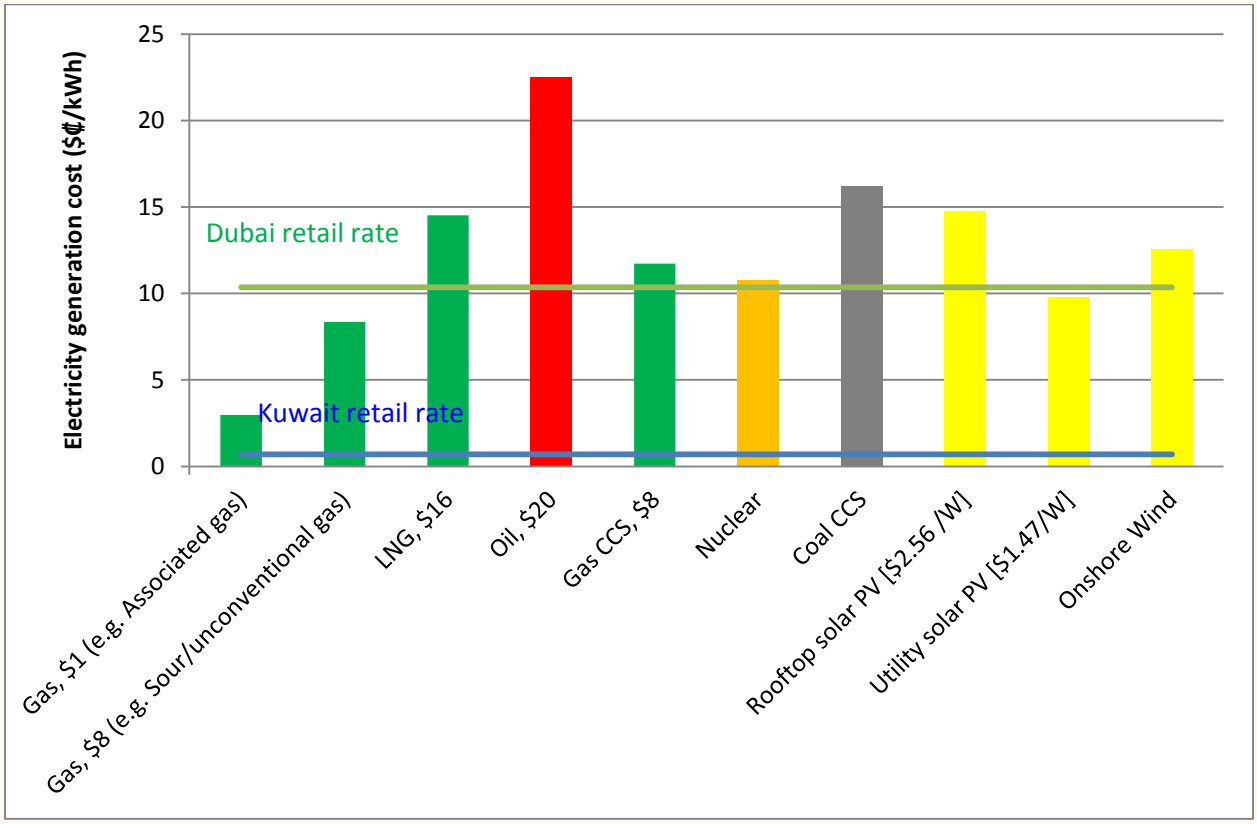
The following table represents December 2013 gasoline, diesel and electricity prices (top rate for residential consumers) in selected MENA countries, with the US for comparison, and the direction of change since last month.

		Gasoline ($/Litre)	Diesel ($/Litre)	Electricity ($¢/kWh)
Saudi		0.21	0.09	6.9
Qatar		0.25	0.25	2.7
Bahrain		0.27	0.26 ↑	4.2
Kuwait		0.32	0.27	0.7
Iraq		0.34	0.72	6.7
Yemen		0.35	0.47	7.9
Oman		0.40	0.48	7.8
UAE	Dubai	0.48	1.01	10.35
	Abu Dhabi	0.48	0.88	4.0
	Sharjah	0.48	0.90	8.0

	Gasoline ($/Litre)	Diesel ($/Litre)	Electricity ($¢/kWh)
Egypt	0.59	0.46	6.8
Iran*	0.7** ↑	0.35** ↑	1.64**
US	*0.87*↓	*1.027*↑	*12.61*
Lebanon	1.12 ↓	0.88	13.3
Jordan	1.4 ↑	0.96 ↓	33.2

* Non-subsidized allocation, at current (volatile)
** Values changed mainly due to changes in the exchange rate
Open-market exchange rate (US$1:IR 24942)
Source: Gulf Oil Review; Manaar research

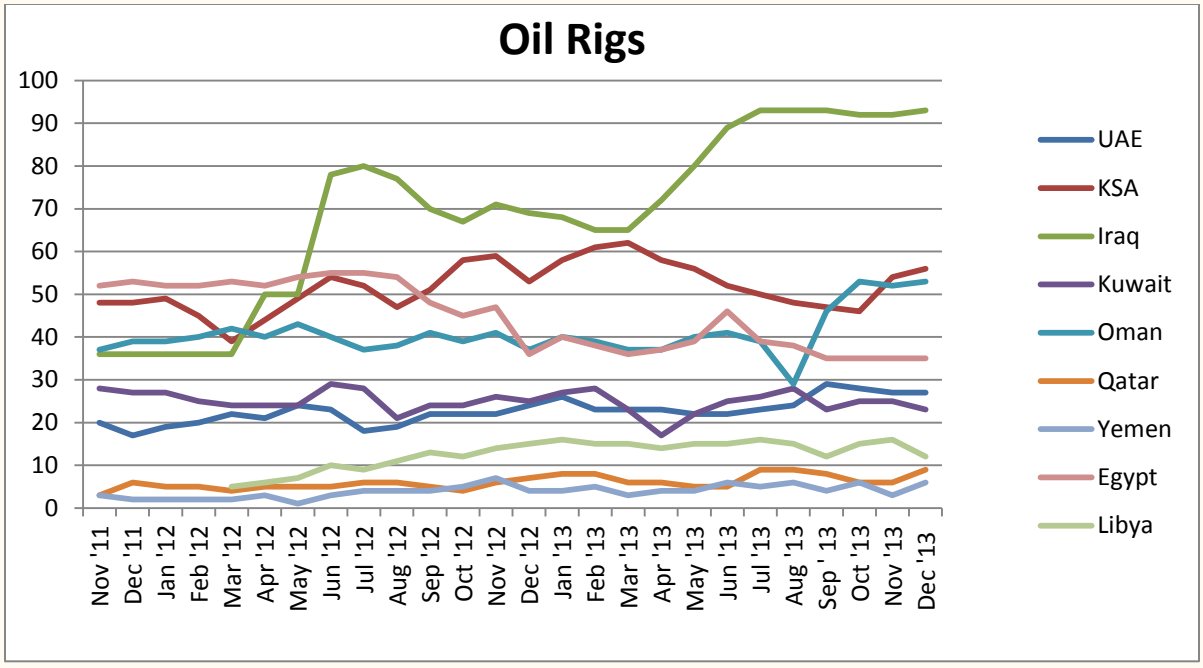
Note: The figures of the gasoline and diesel in the table above represent the pump prices. Only the US, Lebanon and Jordan prices can be considered non-subsidised.



Main changes: increased capital cost of nuclear in line with UAE programme; reduced uranium price; included nuclear decommissioning costs; included onshore wind in UAE conditions; differentiation of utility-scale and rooftop solar; inclusion of 1 c/kWh transmission & distribution credit for rooftop solar; slight increase to assumed LNG price; significant increase to capital & operating costs of coal CCS based on latest EIA assessment; minor changes to costs & heat rates for other plants based on latest EIA assessment.

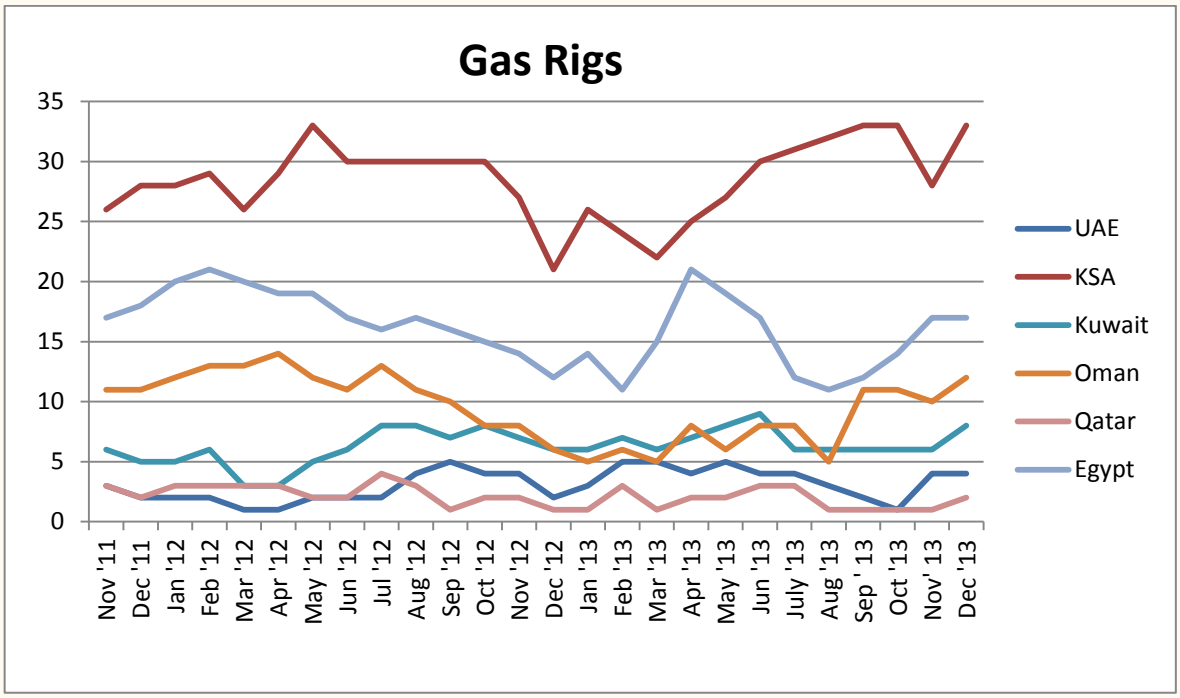
- Utility-scale solar PV is now clearly a more economic option than LNG- or oil-fired power generation, even allowing for the cost of back-up plants
- Gas CCS, though higher cost than solar and nuclear, could still be a viable low-carbon option, particularly if combined with use of CO_2 for enhanced oil recovery
- Coal CCS is much less attractive now, due to the significant increase in its capital and operating costs
- Unconventional gas remains economically attractive, still with a 15-25% cost advantage over nuclear and solar PV
- Onshore wind (based on UAE conditions), even with gas backup, appears competitive with LNG-fired power, but may be limited to suitable sites. Areas with good wind resources, such as the Red Sea coast of Saudi Arabia and Egypt, may offer lower costs
- In the GCC, only Dubai has top-rate tariffs that are representative of the new era of generation costs

Regional Energy Statistics



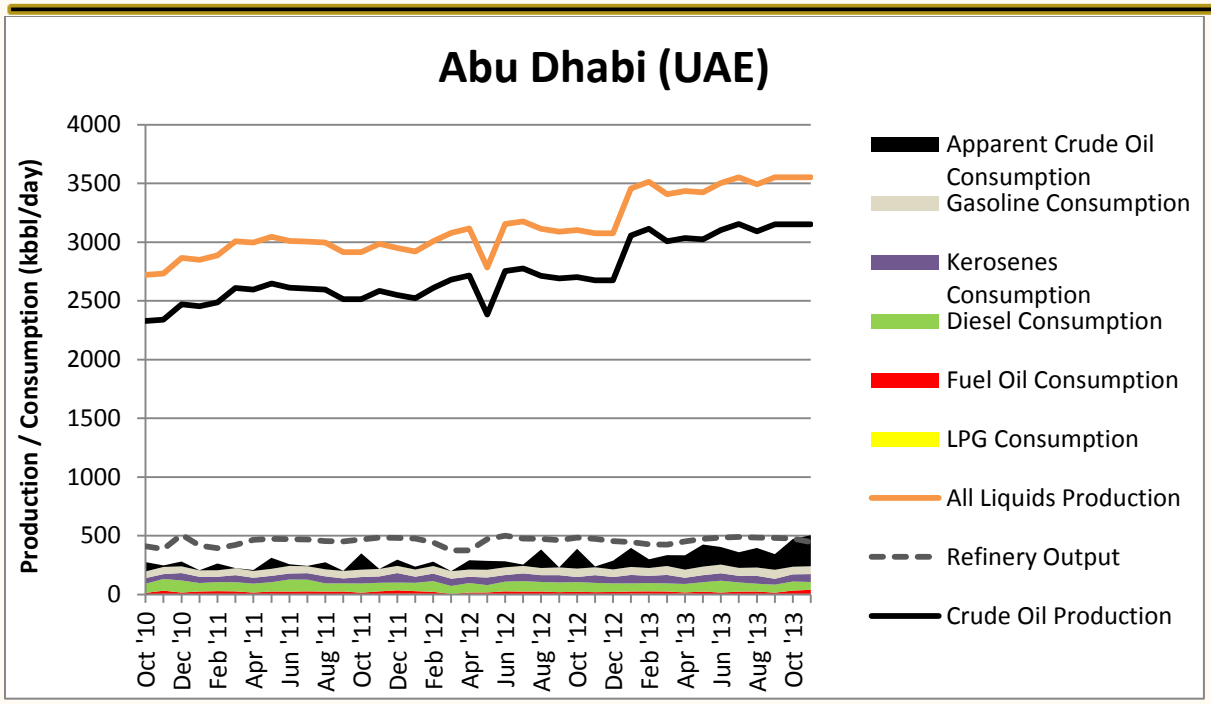
Source: Baker Hughes, Iraq: Baker Hughes and OPEC Monthly Oil Market Report

- Saudi Arabia drilling rebounds after continuous decrease for seven months as the Kingdom is expected to increase to a record 170 rigs (oil + gas) by the end of 2014 due to Khurais and Shaybah expansions
- Iraq rig count remained relatively constant over the summer months after five months of continuous growth
- Abu Dhabi plans to increase its oil output by 35 percent in 2018 and more than double its rig count
- Oman rig count reached a two-year high of 52 as continuing field development takes place
- Occidental acquired a rig on a long lease for the Idd El Shargi redevelopment in Qatar
- All other countries' rig counts remained quite stable over the month
- Baker Hughes and Halliburton posted an increase in quarterly profit due to higher drilling activity outside North Africa, particularly in the Middle East and Africa

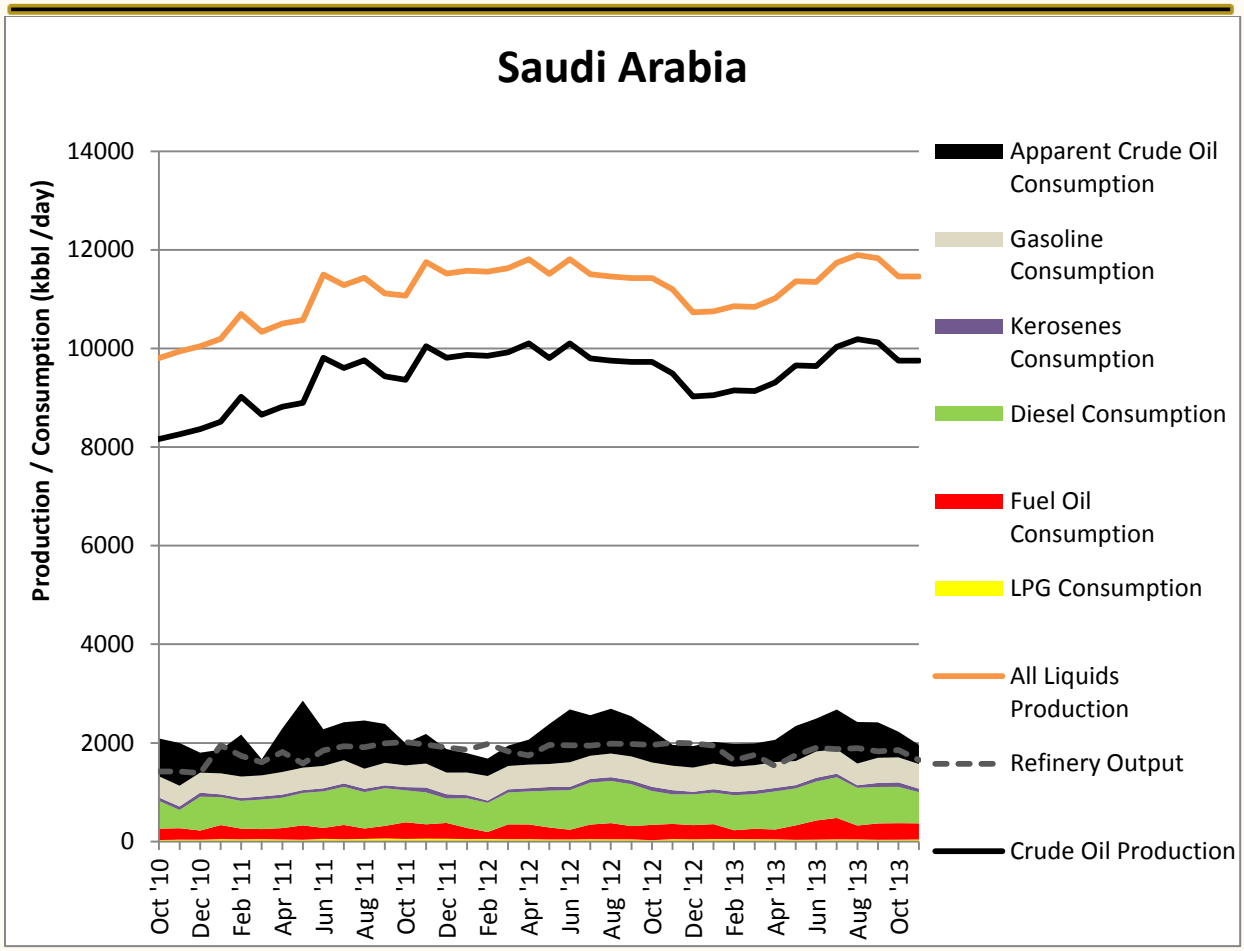


Source: Baker Hughes

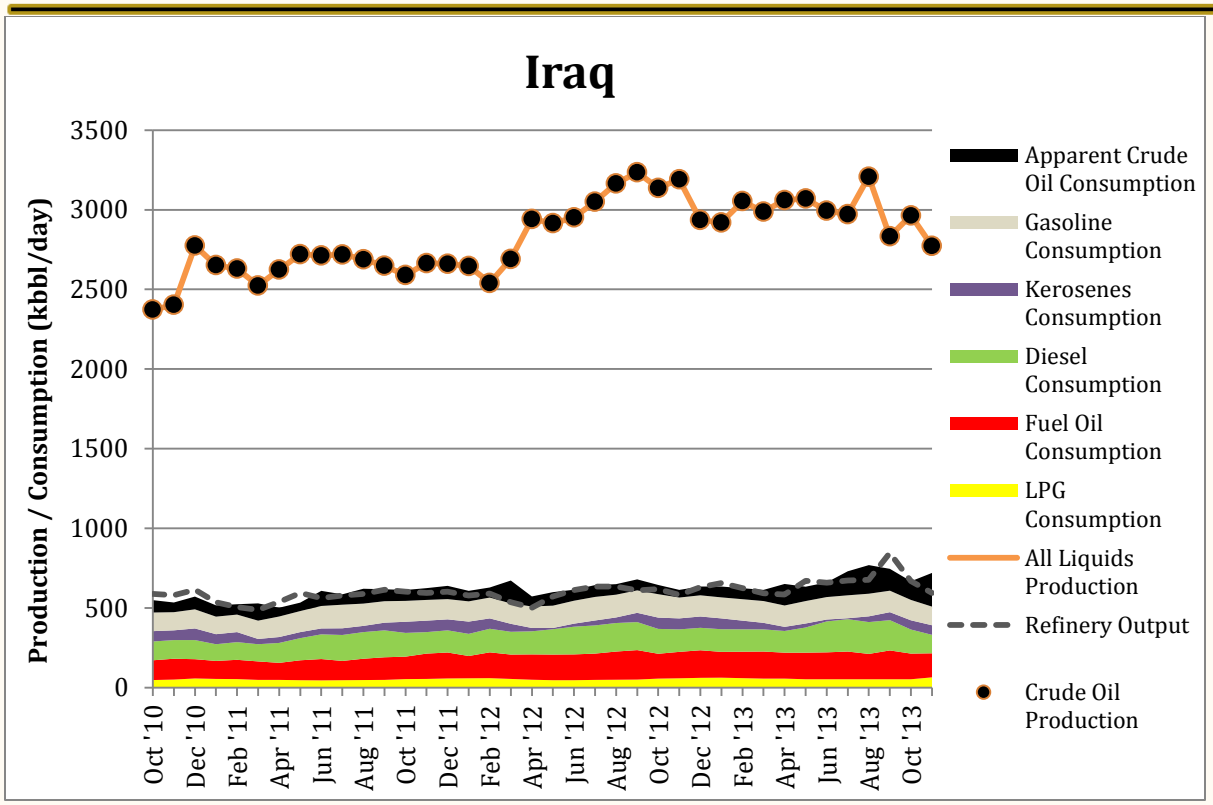
- Drilling rigs in Saudi Arabia went up to 33 in December from 28 in November
- Saudi Arabia is gearing up for unconventional gas exploration and is preparing for a big increase in its rig counts in the northwest part of Saudi Arabia and South Ghawar
- Kuwait, Oman, Qatar and Algeria also increased their number of gas rigs
- Oman December rig count increased to 12 in December from 10 in November, and is expected to ramp up when work commences on BP's Khazzan tight gas project
- Qatar rig count was constant (with 1 rig count) for four months – from August to November. In December, gas rig count increased by 1 for the first time since July

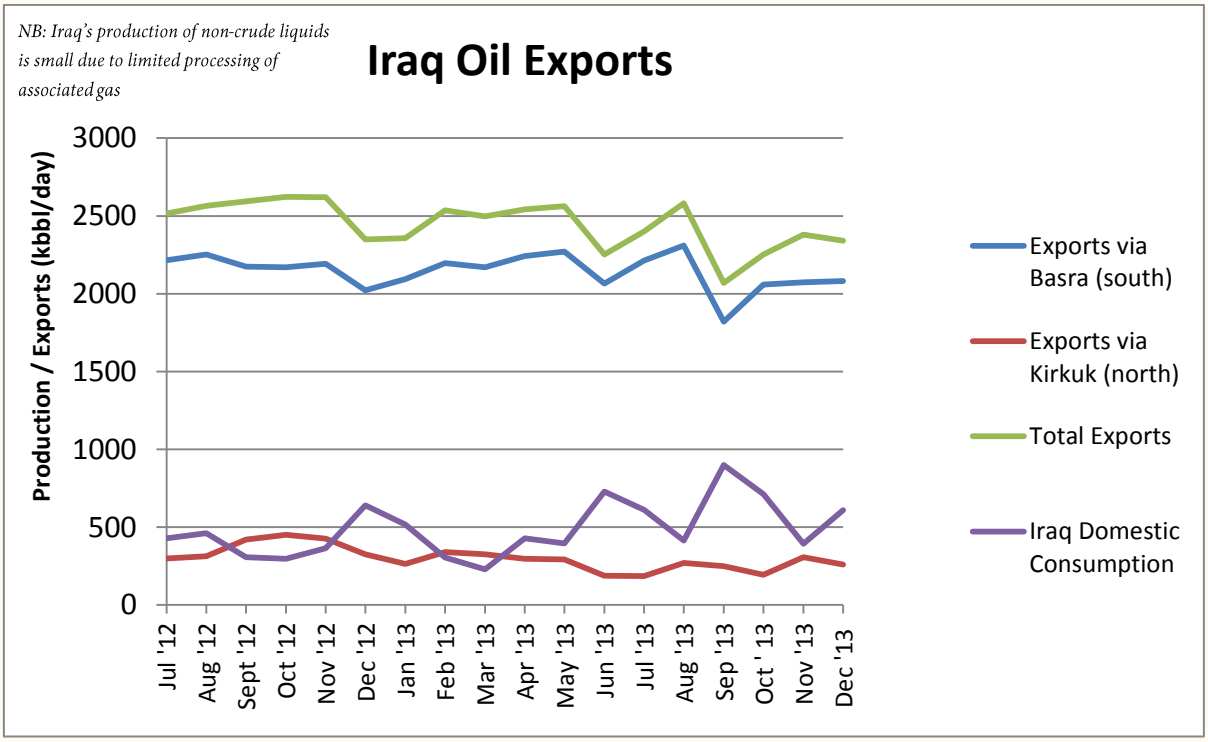


- The UAE's production trend remained at an elevated level
- The Abu Dhabi National Oil Company re-started crude shipments from the port of Fujairah, using the pipeline from Habshan
- ADNOC is pushing forth with plans to boost production at the Upper Zakum field by 28 percent to 750 000 barrels per day from 585 000 barrels per day by 2017
- Abu Dhabi also plans to increase production in the Bu Hasa, Bab, and SAS fields with increases expected to approach 200 000 barrels per day as soon as 2014
- Abu Dhabi is to introduce a new blend, Das, to improve shipping flexibility as the UAE seeks to boost production. Das will replace Abu Dhabi's Umm Shaif and Lower Zakum grades. Das crude will go on sale in July at about the same price as Lower Zakum



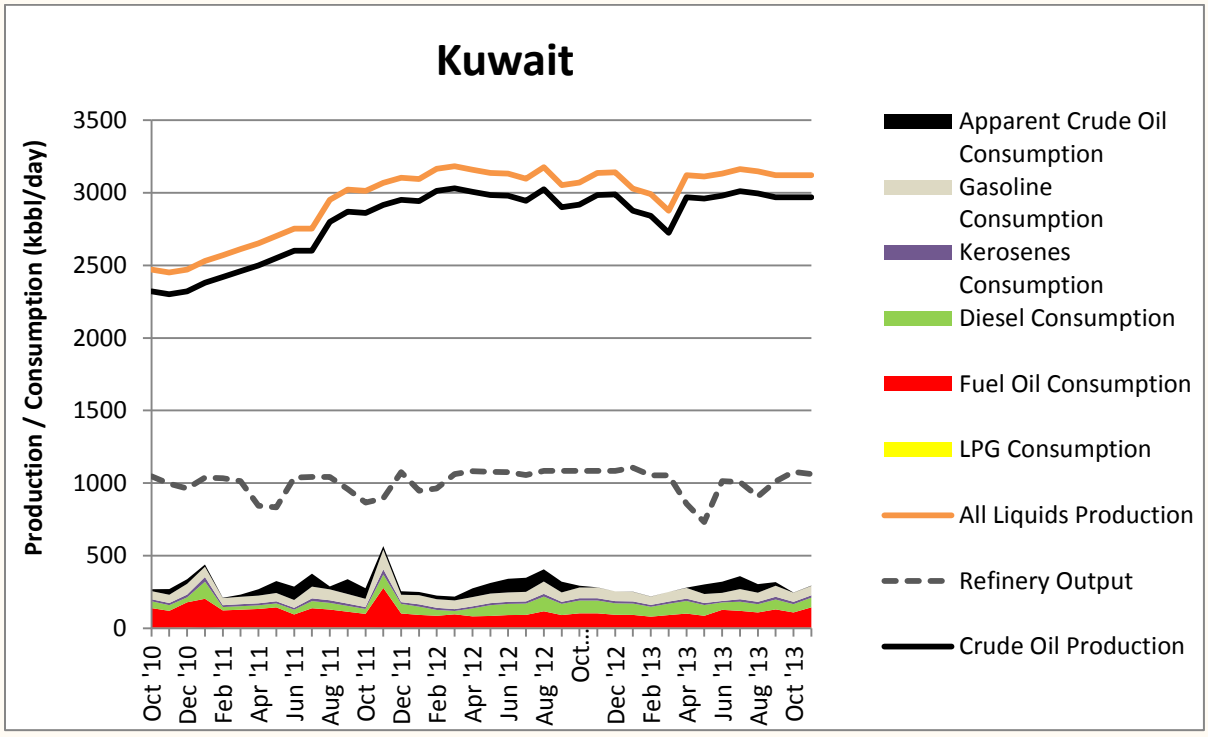
- Saudi production dipped due to seasonal factors late in the year and direct crude burning reduced into the autumn and winter
- An average 2014 oil price of $81/b for Saudi export crude, or about $85/b for Brent, is likely to be needed for Saudi Arabia to balance state revenues with government spending in the coming year as oil production is scaled back to 9.3 million bpd
- In a report on the kingdom's 2014 budget, the Saudi investment bank Jadwa forecast a budget surplus of Saudi riyal 140.8 billion ($37.45 billion), equivalent to 4.8% of expected GDP
- Platts estimated that the decline rates for existing fields in Saudi Arabia could range from 6 to 8 percent annually meaning that the country needs about 700 000 bbl/d in additional capacity each year to compensate for the natural decline





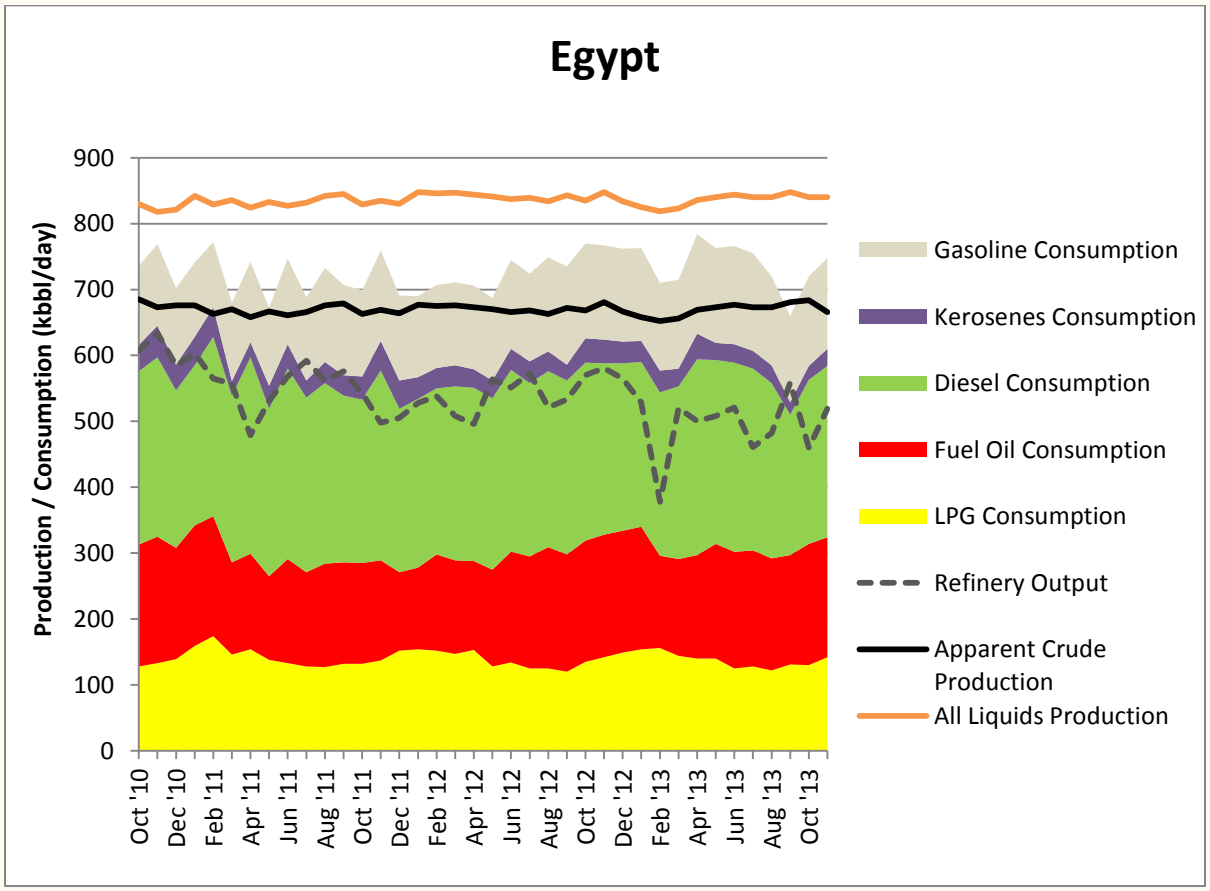
Source: Iraq Oil Ministry, Bloomberg

- Exports from Iraq's southern terminals have averaged 2.01 million barrels per day in December, down slightly from November's average of 2.07 million bpd
- Iraq exports most of its oil from the south, where work to expand port capacity has, temporarily, curbed shipments. In addition, bad weather in December has disrupted southern loadings and weather disruptions will continue while storage capacity remains limited
- As usual, direct crude and diesel burn dropped into the winter months while use of kerosene for heating increased
- Royal Dutch Shell's Majnoon oil field has quickly increased to more than 200,000 barrels per day (bpd) over the past three months, following nearly a year-long shut-down, as other key Basra fields also increase production
- Rumaila, operated by BP, is on track to hit 1.5 million bpd next year and 2.1 million bpd in 2017 – reflecting the unofficial reduction of the production plateau target from the 2.85 million bpd in the 2009 contract
- Lukoil expects to reach production of 400 000 barrels per day at its Iraqi West Qurna-2 field this autumn, with initial output of 120 000 bpd seen in April to May



- Kuwait is currently producing 2.9 Mbpd and has the capacity to produce 3.2 Mbpd. Production was steady in October and November
- Kuwait's crude oil exports to China in December 2013 hit a 5 month high of 267 000 barrels per day

- Direct crude burn dipped into the cooler winter months
- France's Technip announced a $400 million contract with Kuwait Oil Company (KOC) to support the renovation and development of its oil and gas infrastructure.
- National targets for Kuwait aim to achieve oil production capacity of 4 Mbpd by 2020 (however this continues to face significant political challenges)
- Mina Abdullah oil refinery and the Shuaiba refinery shut down due to power cuts on January 22nd ; the Mina Ahmadi refinery was back to full production the morning of the 24th of January while Shuaiba took longer to recover



- Refinery output rebounded somewhat as GCC aid helped the country's financial and fuel situation
- Egypt seeks to develop three oilfields that it says were mishandled by Israel when the latter occupied the Sinai Peninsula between 1967 and 1979. The Sedr, Assal and Matarmah oilfields – now operated by Egypt's state-owned General Petroleum Company – currently produce only dozens of barrels of oil per day out of the company's total daily output of some 45 kbpd
- EGPC is expected to issue international tenders in early 2014 to search for shale oil

- Egypt's natural gas exports have fallen due to declining natural gas production. The government is considering importing natural gas for the first time, to satisfy rising domestic demand and continue to export natural gas to global markets, especially through the Arab Gas Pipeline.
- Egyptian gas exports to Jordan were affected again by a pipeline bombing in Sinai
- BG Group has been forced to declare force majeure on LNG deliveries from Egypt amid continuing unrest in the country and is also reducing its 2014 production target after Egyptian Natural Gas Holding Company (EGAS) diverted larger than expected volumes away from the LNG export plant towards the domestic market

Source: JODI, OPEC, Middle East Economic Survey & EIA

NOTE: All crude oil consumption values are apparent due to unreported / misreported stock change values and refining gains/losses.

Recent & Forthcoming MENA Licensing Rounds

Country	Round	Launch Date	Blocks on Offer	km² offered	Blocks Awarded	Closing Date
Egypt	EGAS	Jun – 12	15	57,300	9	Feb – 13
Egypt	Ganope	Dec – 12	20	125,577	1*	
Jordan	South Jordan Block	April - 12	1	10,416	-	June - 13
Egypt	EGAS	Dec – 13	22	NA	-	May - 14
Iraq	Nassiriyah refinery / field development	Dec - 13	1			
Iraq	5th Licensing Round	NA	10	NA	-	NA
Lebanon	1st Licensing Round	May – 13*	10	17,901	-	Jan - 14
Oman	MOG	Jan – 12	4	26,837	2	Aug – 12
Oman	MOG	Nov – 12	7	103,422	-	Jan – 13
Yemen	6th Licensing Round	Sep – 12	5	20,132	-	NA
Yemen	March 2013 Licensing Round	March – 13	20	222,812	-	May - 13

Updates since last issue in red

Source: Deloitte; Manaar Research

* Participating in the Ganope International 2012 Bid Round #1, Dragon Oil awarded 100% interest in shallow-water block 19 in the Gulf of Suez.

Current studies

Hydraulic fracturing

Manaar has recently completed a study of the market for hydraulic fracturing in the MENA region, with PacWest Consulting. The report is available in MENA-only (29 pages) and worldwide versions (45 pages including the MENA section). The report addresses historical and forecasted frac demand, supply, utilization, constraints and trends. Market coverage also includes current hydraulic fracturing projects, unconventional potential assessments and detailed basin and play maps. The majority of the information gathered in the reports relies on primary intelligence: in-depth surveys and conversations with industry leading experts and technical specialists.

Dimension	Score	Description
Geology		▪ Excellent geology that underlies the most prolific petroleum system in the world; Rub' Al Khali results disappointing thus far
Pricing regime		▪ State-set at very low $0.70 per mcf; unlikely to change soon; very problematic for foreign operators seeking JVs; less of an issue for Aramco, which wants to displace oil
E&P diversity		▪ Aramco dominates; JVs with three IOCs in the Rub' Al Khali have been disappointing; fiscal terms are difficult
OFS capacity		▪ SLB and HAL already serve the country, and BHI and others should enter the market in the next few years
Regulatory landscape		▪ Aramco is able to operate with little government interference, but challenges exist for foreign operators, if allowed to operate in unconventional development at all
Infrastructure		▪ Very well-developed infrastructure from existing petroleum output in Ghawar and northwest, but Rub' Al Khali is isolated
Development constraints		▪ Public very supportive of increased output
Weighted Score	2.6	

Figure 1. Country attractiveness matrix for Saudi Arabia

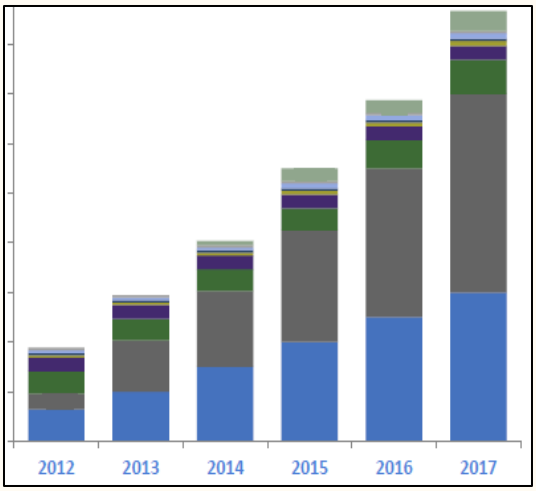


Figure 2. Forecast frac capacity, per MENA country

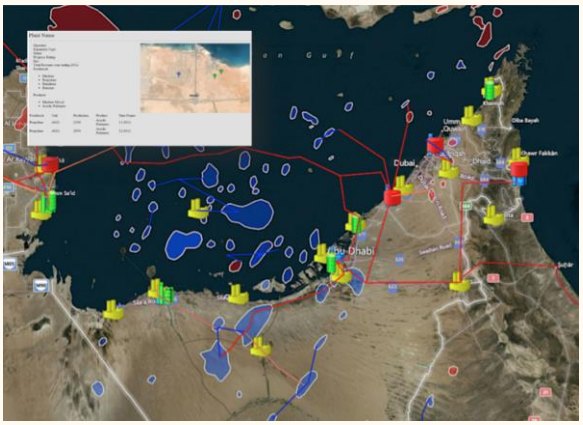
Please contact Roa Ibrahim r.ibrahim@manaarco.com, +971 4-3266-300 for further information and purchases.

MENA petrochemicals

Manaar is preparing a potential study of MENA petrochemicals and gas feedstock. The study will focus on

- the current gas situation in MENA,
- implications for petrochemicals in the region
- the downstream / speciality petrochemical value chain
- competitiveness of MENA petrochemical companies versus the US, EU and Asia

This study will be of key interest to Gulf-based and international petrochemical producers and gas suppliers.



MENA Shale Study

Manaar has prepared a study on the impact of global shale resources on MENA. The study will focus on:

- The strengths, weaknesses, threats and opportunities of unconventional gas in the MENA region.
- Differences in the development of unconventional gas between North America and MENA.
- Identifying MENA's unconventional gas potential; understanding current and planned activity levels per country, company and basin.
- The impact of the shale boom on future demand for MENA oil & gas, oil and gas prices, possible new pricing hubs, and oil and gas exports.

Recent & Forthcoming Events

Robin Mills spoke on:

- Middle East shale oil and gas potential and impacts, at MENA Shale in Abu Dhabi on 10th December
- Iraq oil and gas developments at Platts in Dubai on 11th December
- CNBC on OPEC challenges
- World Future Energy Summit on ADNOC panel on clean energy on 21st January

Robin will be speaking on:

- UAE and Oman gas at ACG Gas Forum at the Burj Al Arab Hotel on 13th February
- MENA and global energy developments at the World Oil & Gas Assembly, Yangon, Myanmar on 20-21st February

Please visit the links below to view some of the presentations by Manaar:

Impact of MENA insecurity on regional and global energy market

Middle East shale: Potentials and implications

Key Manaar people

JAAFAR ALTAIE
MANAGING DIRECTOR

• Jaafar founded Manaar in 2009. He is an energy economist and petroleum business advisor to IOCs and NOCs on regional upstream business and economics issues.

Jaafar founded Manaar in 2009 in response to growing international interest in Iraq. With a background in economics and engineering, Jaafar has worked for BP, Nomura, Petrobras and the Iraq Ministry of Oil.

ROBIN MILLS
HEAD OF CONSULTING

• Head of Consulting at Manaar Energy, Robin is an expert on energy strategy and economics, described by Foreign Policy magazine as "one of the energy world's great minds".

Robin is the author of two books and a prolific writer on energy and environmental issues. He worked for 15 years in geology and economics for Shell and the Dubai government.

MOHAMMED JAMBAZ
HEAD OF KURDISTAN OFFICE, ERBIL, IRAQ

• Mohammed represents Manaar in the Kurdistan Region of Iraq from our office in Erbil. He leads our support of companies in seismic, geoscience, exploration & production, logistics, laboratory services, energy market analysis, and other sectors of the oil industry.

Mohammed has extensive experience in the delivery of Energy, Civil Engineering, Planning, and Information technology project.

DR. SADIK AL JADIR
LEAD CONSULTANT

• Dr. Sadik is a Lead Consultant at Manaar with a focus on business operations consulting in Iraq and the UAE.

Dr. Sadik is a business and technology expert with broad and strategic knowledge of the Information and Communications Technologies and their applications in the oil and gas industry.

ROA IBRAHIM
CONSULTANT

• Roa is a specialist in assessing markets for energy industry technology in the Middle East, with a background in finance.

Roa Ibrahim received her Bachelor's degree in Finance from the American University in Dubai and her Master's degree in Applied Finance and Banking from the University of Wollongong in Dubai. Roa has produced expert analysis of petroleum fiscal systems, hydraulic fracturing and shale gas.

Nour Halabi
Industry Analyst

Nour specializes in petrochemical studies and recently joined Manaar Energy with a successful track record developing strategic assessments for chemical plays and feedstock forecasting. He graduated from Bentley University in Waltham, MA with dual (Hons.) Bachelor's degrees in Finance and Economics.

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