Monthly Newsletter: May 2013

ENERGY CONSULTING & PROJECT MANAGEMENT
إستشارة و إدارة مشاريع الطاقة

Pearl GTL at night–Qatar. Photo courtesy of Shell.

May 2013

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End of the commodities supercycle and towards an "age of enough"?

By Robin Mills

'From an age of shortage to an age of enough?" as Barclays put it in a report, just released. They believe the commodities super cycle, which began in 1999, has reached its end. At almost the same time, Citigroup's veteran oil watcher Ed Morse declared the cycle was breathing its last.

The super cycle was driven by rapid Asian industrialisation, above all in China, requiring meat for more affluent consumers; petrol, steel and aluminium for new cars; copper and concrete for the apartments of megacities from Dubai to Mumbai to Shanghai.

China used 12 per cent of all industrial metals in 2000; by 2011, it devoured 40 per cent.

Soaring demand collided with a long period of under-investment in new fields, farms and mines, and oil prices went from US$10 to $145 per barrel, rice from $162 per tonne to $1,015, nickel from $5,000 per tonne to $50,000.

The boom in different commodities interacted: scarce steel drove up the cost of oil platforms and pipelines; expensive petroleum encouraged biofuels to take away farmland from food, and made mechanised agriculture and fertilizers costly. Nationalising governments from Venezuela and Argentina to Russia and Kazakhstan, South African platinum to Kyrgyz gold, were eager to reap their share of the rewards.

These booms inevitably bring with them concerns about resource exhaustion.

In the 1970s, we had Malthusian prophets of overpopulation, and the bestselling study "Limits to Growth". The 2000s brought much obsessing over "peak oil", followed by books on *Peak Everything* and *The End of Food*.

But the long history of commodity booms seems to show a distinct pattern: a decade of rising prices, following by two decades of declines, as technology and

investment in new supply catch up. The last great boom, of the 1960s and early 1970s, was led by affluence in North America and Western Europe. Now China may be slowing from the past decade's torrid pace, and Citi expects a shift from heavy capital investment towards more services and consumption.

Even continuing robust Chinese growth will now meet countervailing factors - ageing populations in Europe, Japan and increasingly China itself; high debt and slow growth in developed countries; and action against climate change, emphasising resource efficiency.

Some caution is necessary when calling the end of the boom. When oil and metals prices fell in May 2011, when Chinese demand slowed in May last year, and again when BHP Billiton cancelled US$40 billion (Dh146.91bn) of Australian mining projects in August, analysts trumpeted the end of the boom.

Chinese demand still has a long way to expand, even at a slower rate. Its urbanisation may not run its course until 2030. India, with 1.2 billion people, has not begun really resource-intensive growth. Africa, with another billion inhabitants, is yet farther behind.

The key theme, then, is not so much a crash - but increasing differentiation, by product and geography. Copper and nickel may be needed less, while other metals, such as platinum and aluminium, feature heavily in consumer goods. Coal may lose ground to cleaner fuels; gas is cheap in North America but still costly in Asia.

Droughts triggered by climate change, sprawling cities and desertification, and overfishing will contend with more meat-heavy diets. Geopolitical upsets can still strike major producing countries.

For investors, this puts a premium on choosing the right commodities and companies, not simply surfing the super cycle. Companies have to continue to invest, but more selectively, while cutting boom-era costs. Resource-rich countries - Canada, Australia, Russia, Brazil, Saudi Arabia - are about to learn just how much of the past decade's growth was because of the genius of their economic management.

And if consumers don't get a windfall, they may at least enjoy some respite from soaring prices.

We are not moving from an age of anxiety to one of abundance - but of simple sufficiency.

A version of this article appeared in The National newspaper on April 22st, 2013

No easy fixes for the oil pricing system, but concerns for the Middle East

By Robin Mills

Raids of oil companies' offices by European investigators in a surprise investigation into price manipulation going back as far as 2002. Immediate, outraged claims by consumer

organisations. Last week's events trigger immediate memories of great financial frauds such as Enron or last year's Libor scandal. The hasty assumption, aided by some sloppy journalism, is that oil companies have been colluding to raise prices.

Reuters' Robert Campbell is one of the few to unravel the actual situation, which is both more complicated, and more interesting.

The investigators entered the offices of Shell, BP and Statoil, as well as the price reporting agency Platts. None of these companies has yet been accused of wrongdoing - the suspicion is rather that traders may have gamed the Platts system.

Oil producers and users, such as refineries, use the "paper" market to hedge against the risk of price movements. Without this, oil trade would be almost impossible, too financially risky even for the largest companies. But by taking a loss on physical holdings - real oil in ships or tanks - traders could make profits on much larger paper positions.

The leading crude and refined oil benchmarks - notably the US's West Texas Intermediate and UK's Brent - are sold on regulated exchanges in New York and London. These exchanges, with tightly specified products, highly liquid markets and thousands of mutually anonymous participants, are not vulnerable to the kind of manipulation suspected in last week's case.

But many energy products are unique - different oil grades, delivery points and timings - and may not trade every day, making objective prices impossible to determine. Reporters from price reporting agencies - Platts and its main competitor, Argus - talk to traders and apply their judgement and experience to assess the market. Other than Dubai and Oman, which avoid these problems by using exchange-based pricing, nearly all Middle East crude exporters price their sales against such assessments. The agencies cannot compel traders to talk or to tell the truth; skilled traders can also influence assessments by, for instance, trading in the "window" late in the day, or offering cargoes that are physically impossible to deliver. Yet tighter regulation might make markets even less liquid and so more volatile.

So the alleged wrongdoing primarily concerns traders making money off other traders. Oil companies' trading arms are independent profit centres - indeed, some of the major players, such as Vitol and Glencore, are trading companies first and foremost.

And traders could benefit from influencing prices either higher or lower - this would not have been a systematic attempt to keep prices artificially high. Indeed, The Economist alleged last May that a large Russian trader was manipulating Russian prices - down, not up.

On the other hand, illegal activity would increase the volatility and risk of the oil

market and hence increase transaction costs, which would ultimately be passed on to consumers. So this is not a "victimless crime" - and the European Commission is entirely justified in going after any companies or traders shown to have manipulated prices.

Middle Eastern oil exporters would be worried, not about attempts to push prices up, but to keep them low, given, for instance, China's increasing market dominance.

Other than Oman and Dubai, virtually all the region's 17 million barrels per day of exports are referenced against price reporting agencies - not to mention the sizeable trade in refined oil products. Just a dollar per barrel less would cost the Middle East US$6 billion per year.

The European Commission's complex investigation may drag on for years. Meanwhile, the Middle Eastern oil exporters are largely passive bystanders. There is no easy fix to the current system, but they should think hard on how to use their influence to ensure more transparent, stable, competitive markets.

A version of this article appeared in The National newspaper on May 20th, 2013

Specific Gulf policies on climate needed as we pass 400 ppm

By Robin Mills

On Thursday, two observatories in Hawaii confirmed that atmospheric carbon dioxide had exceeded 400 parts per million. When carbon dioxide levels were last this high, three million years ago, the world was 3 degrees hotter, the sea was at least 10 metres higher than today and camels roamed the high Arctic.

In itself, this is an arbitrary, but notable landmark in the steady rise of greenhouse gases. Before the Industrial Revolution, carbon dioxide was only 280 parts per million - since then global temperatures have risen by 0.8 degrees, with two thirds of that increase since 1975.

Yet despite great advances by low-carbon energy over the past decade, global action against climate change is still painfully slow and uncoordinated. Major - perhaps abrupt and unpredictable - changes in climate are already on the way.

The Arabian Gulf countries are in a special position. Their wealth is founded on exports of oil and gas, and on high-carbon industries and lifestyles. They may feel their money and access to technology allows them to avoid the worst consequences of climate change. But their well-being is fragile - reliant on international trade links, air conditioning, desalinated water and imports of food.

Climate change could cause or exacerbate insecurity in the Gulf's neighbours. States

such as Egypt, the Sudans, Somalia, Lebanon, Syria, Jordan, Iraq, Yemen and Pakistan are exposed to a variety of ills: energy shortages, drought, land degradation, lack of water, rising sea levels, economic crises and political instability. These countries between them have 400 million inhabitants, against the GCC's 45 million. The Gulf cannot wall itself off.

But geography is not destiny. The good news is that the GCC states are also well placed to lead the Middle East's response to climate change. To do so, they need to rethink their economies and patterns of international cooperation.

Oil and gas will remain the bedrock of the regional economy. But, as Canada is finding out with opposition to its oil sands, high-carbon energy will increasingly face challenges- whether through widespread bans, carbon taxes or local activism.

The same applies to the Gulf's exports of petrochemicals and aluminium and to the efforts of Dubai, Abu Dhabi, Qatar and Oman to become hubs for travel, tourism and business. Expo 2020 and the FIFA World Cup 2022 will bring even more international scrutiny.

Climate action does not contradict economic growth - it supports it. Fast-rising domestic oil consumption, shortages of gas, blackouts, air pollution and depletion of aquifers already threaten the Gulf.

The GCC needs to create and commercialise technologies that address its particular needs: carbon capture and storage for gas power plants; new gas resources; dryland and saline agriculture; eco-friendly solar and nuclear desalination; ultra-efficient and solar-driven air conditioning; green architecture and urban planning for desert climates; cleaner ships and airplanes; solar panels that tolerate dust and heat.

But compared to the United States, Europe or China, the Gulf has a small talent pool.

To help to change that, the King Abdullah University for Science and Technology in Saudi Arabia, Masdar in Abu Dhabi, and the Qatar National Research Fund are investing heavily in creating the knowledge the region requires. But such institutions can be much more effective in working together on common challenges, which might also sidestep some of the political issues that hamper GCC cooperation.

By acting together, the Gulf countries could reduce their own carbon emissions, develop new technology and industries and make both themselves and their neighbours more resilient to the climate change that is now inevitable. It would be better to take action before camels again roam the Arctic.

A version of this article appeared in The National newspaper on May 13th, 2013

Key MENA Energy Issues Scorecard

Gulf gas price reform	🟠	⇔	Continued discussion on Saudi prices & petrochemical competitiveness
MENA unconventional gas	🟠	⇔	Continuing discussion on Saudi shale gas
MENA renewable energy	🟢	⇔	Morocco starts constructing 160 MW CSP plant; Dubai finalising rooftop solar regulations; Oman completes solar EOR pilot system; Kuwait may tender 110 MW CSP; Saudi delegation visit NREL
MENA nuclear power	🟡	⇔	Decision expected on UAE nuclear waste disposal; UAE-Japan nuclear cooperation agreement; Turkey signs with Japan/France for 2nd nuclear power plant
Energy infrastructure security	🟠	⇔	EU to lift sanctions on Syrian opposition oil sales; further attacks on Iraq's northern oil pipeline; attack on Libya Mellitah gas terminal doesn't affect production; technical slowdown in South Sudan's oil exports; car bomb attack on Niger uranium mine; further bombing of Yemen's main oil export pipeline in Marib
OPEC production	🟡	↑	Production expected to increase in April on end of disruptions in Iraq and Libya; Saudi increasing output to meet summer demand
East Mediterranean gas commercialisation	🟢	↑	Noble finds 2 Tcf of gas at Karish off Israel; debate continues over limiting exports; new seismic survey starts off Lebanon; Noble to drill appraisal off Cyprus in June
Kuwait energy projects progress	🟠	⇔	Major reshuffle of KPC leadership
Abu Dhabi concessions renewal	🟠	↓	ADCO renewal reportedly not delayed beyond January 2014; Shell awarded Bab sour gas development
Baghdad-Erbil oil agreement	🔴	↓	Oil pipeline to border almost complete; Chevron & ExxonMobil to fund it?; Erdoğan visits US and confirms deal with ExxonMobil
Iraq oil production build-up	🟡	↑	Exports up 8% in April; Majnoon to reach 175 kbpd by June
Egypt subsidy reform	🔴	⇔	Egypt suffering expected summer power cuts; fuel rationing plan delayed
Iran oil sanctions	🔴	⇔	India makes significant cuts in Iran imports in April, small cut from China, gain from South Korea; but April imports up on March; significant negotiations likely only after 14th June election

Source: Manaar research

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

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Energy Prices and Generation Costs in the Middle East

The following table represents May 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.

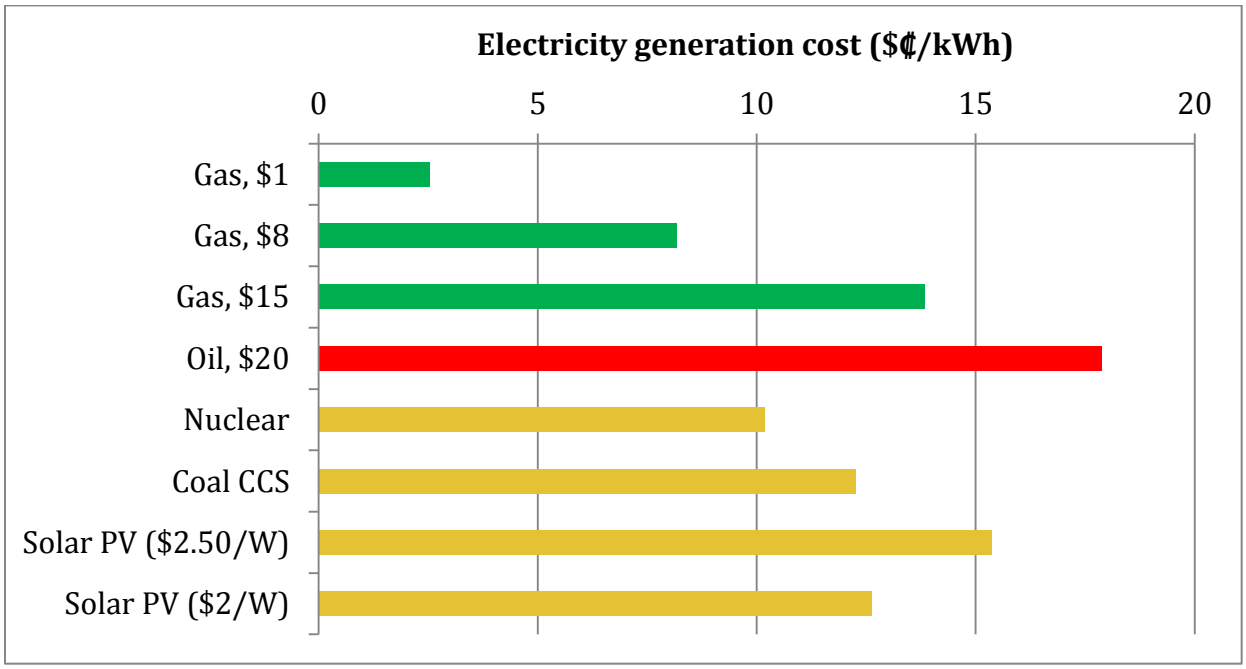
	Gasoline ($/Litre)	Diesel ($/Litre)	Electricity ($¢/Kwh)
Saudi	0.21	0.09	6.9
Qatar	0.25	0.25	2.7
Bahrain	0.27	0.17	4.2
Kuwait	0.30	0.27	0.7
Oman	0.40	0.48	7.8
Yemen	0.44	0.30	7.9
UAE	0.48	1.01 ↑	10.35*
Iran**	0.57	0.29	1.37

	Gasoline ($/Litre)	Diesel ($/Litre)	Electricity ($¢/Kwh)
Egypt	0.59	0.46	6.8
US	*0.97* ↑	*1.036* ↑	*9.66*
Iraq	1.00	0.72	6.7
Lebanon	1.15	0.90	13.3
Jordan	1.38	0.96	33.2

*Dubai's electricity price.

* *Non-subsidized allocation, at current (volatile) open-market exchange rate (US$1:IR 35000)

Source: Gulf Oil Review; Manaar research



- Thermal generation (gas, oil) assumes combined-cycle turbine, baseload
- Alternative generation (solar, nuclear, coal CCS) is cheaper than LNG or oil
- However, high-cost domestic gas (e.g. unconventional) at approximately $8/MMBtu is still competitive against alternatives

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

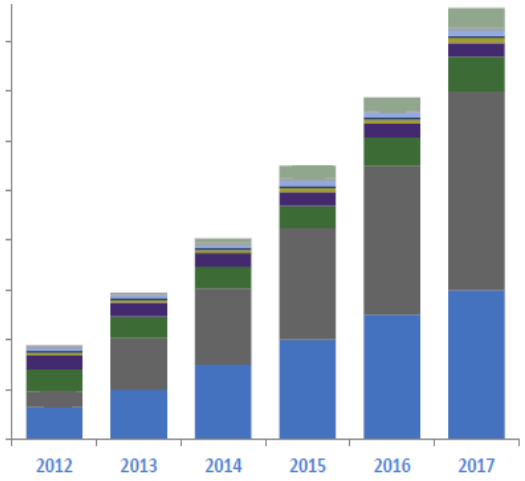


Figure 2. Forecast frac capacity, per MENA country

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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 large Gulf-based and international petrochemical producers and gas suppliers.

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.
- 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 a panel on the Middle East impact of shale oil and gas, at the Dubai International Financial Centre on 15th May 2013.

Jaafar Altaie spoke at the Doha Forum, Sheraton Hotel, Qatar from 20th-22nd of May 2013, on the effect of the US shale gas boom on the MENA region.

Robin Mills will be at the RevenueWatch regional coordination meeting in Beirut on 31st of May 2013.

Jaafar Altaie will speak at the 17th Asia Oil and Gas conference in Kuala Lumpur on 9th – 11th June 2013. Robin Mills will also attend the conference.

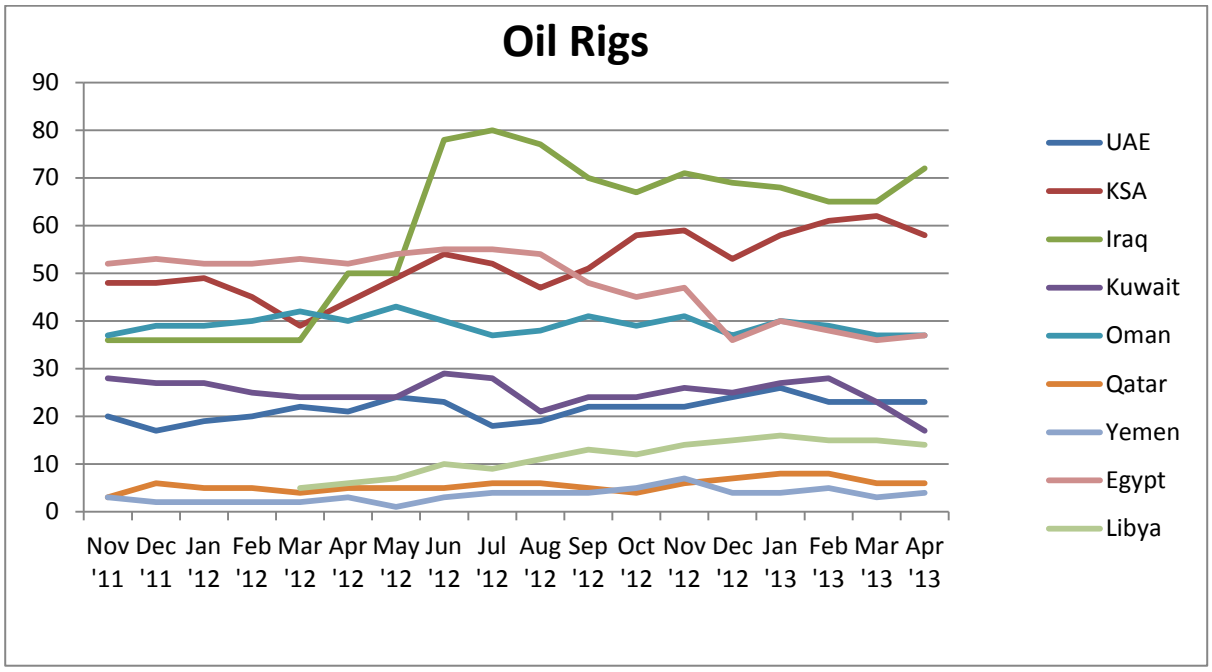
Robin Mills will speak at the EIC connect oil, gas and power conference about gas in the Middle East in Abu Dhabi on 4th June 2013

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

MEED Kuwait Energy & Infrastructure Projects Kuwait, November 2012

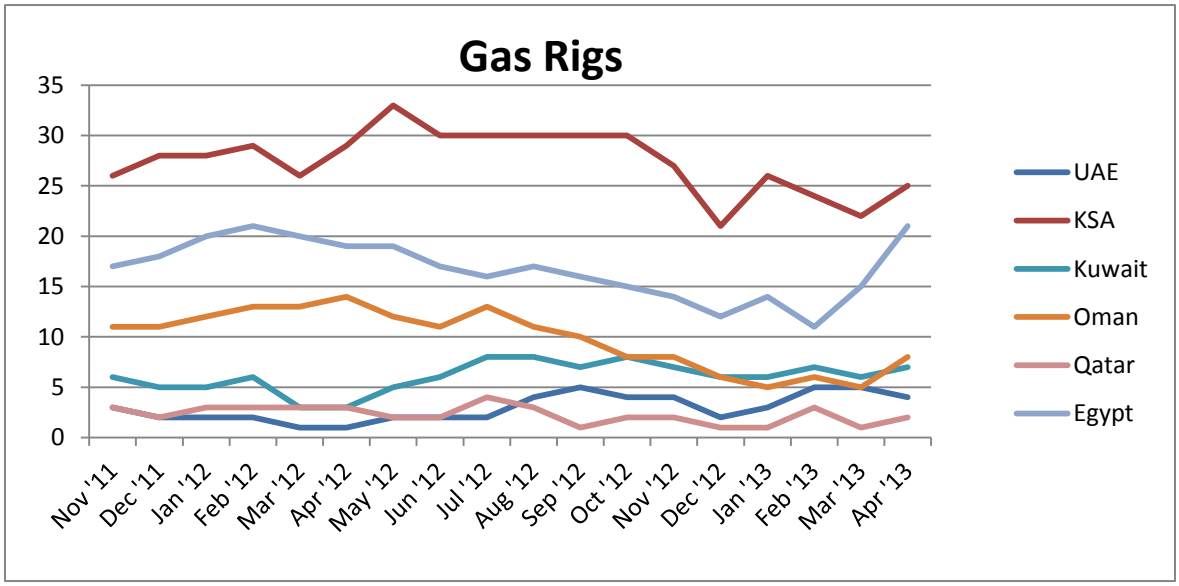
Middle East Energy Outlook; British Business Group, Dubai, 2012

Regional Energy Statistics



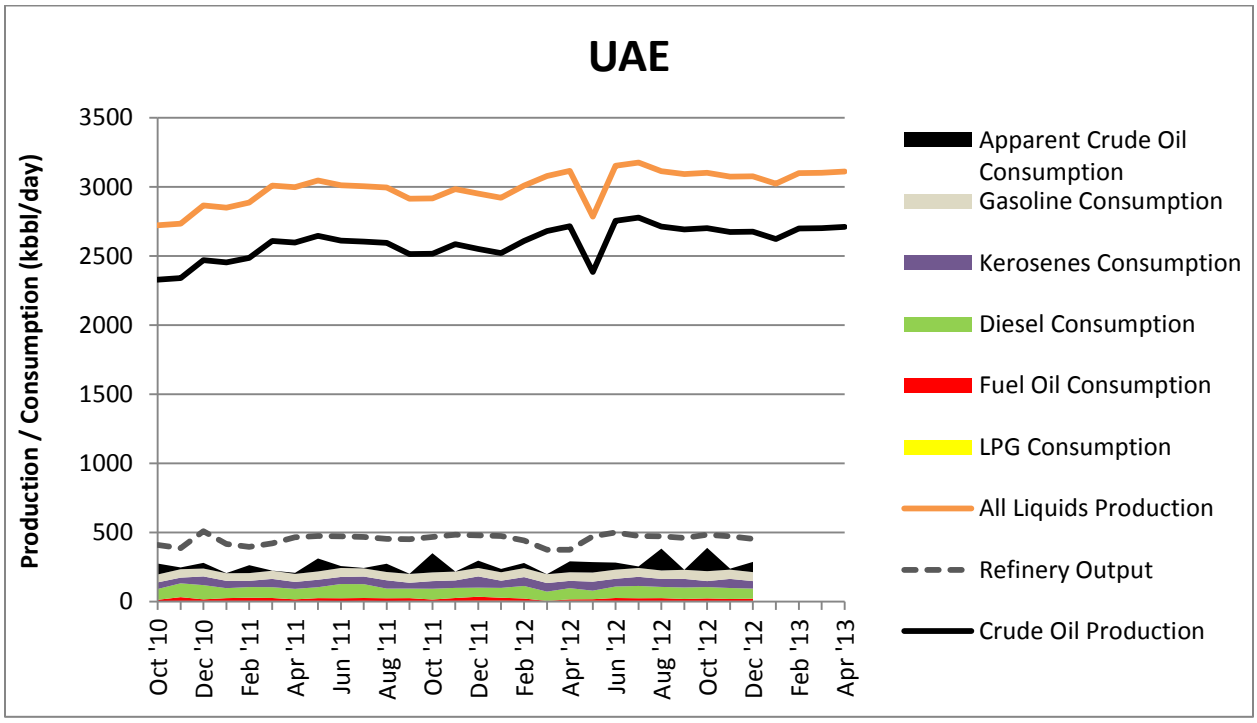
Source: Baker Hughes, Iraq: Baker Hughes and OPEC Monthly Oil Market Report

- Saudi Arabia drilling decreasing somewhat in April.
- Egypt drilling has remained fairly flat this year, amid political, community and payment uncertainties.
- Iraq rig count increased in April; it is still somewhat down from its mid-2012 high, but still top in MENA.
- Libya rig count was steady at around pre-revolution levels.
- Kuwait's rig count dropped sharply from 23 to 17 in April.

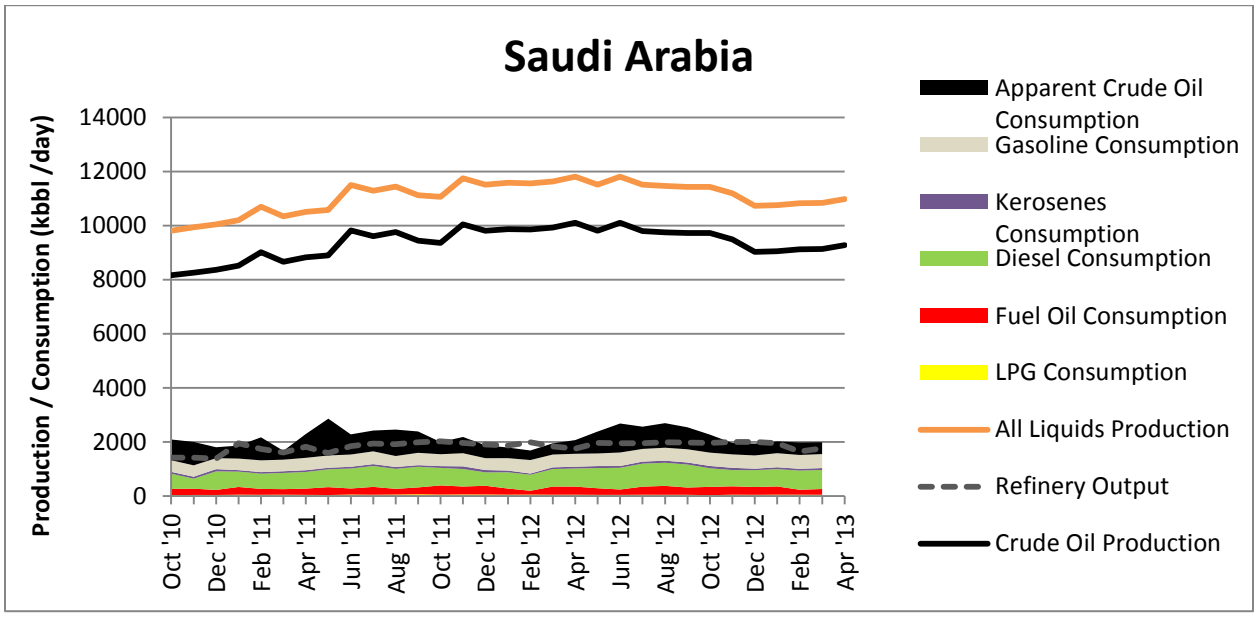


Source: Baker Hughes

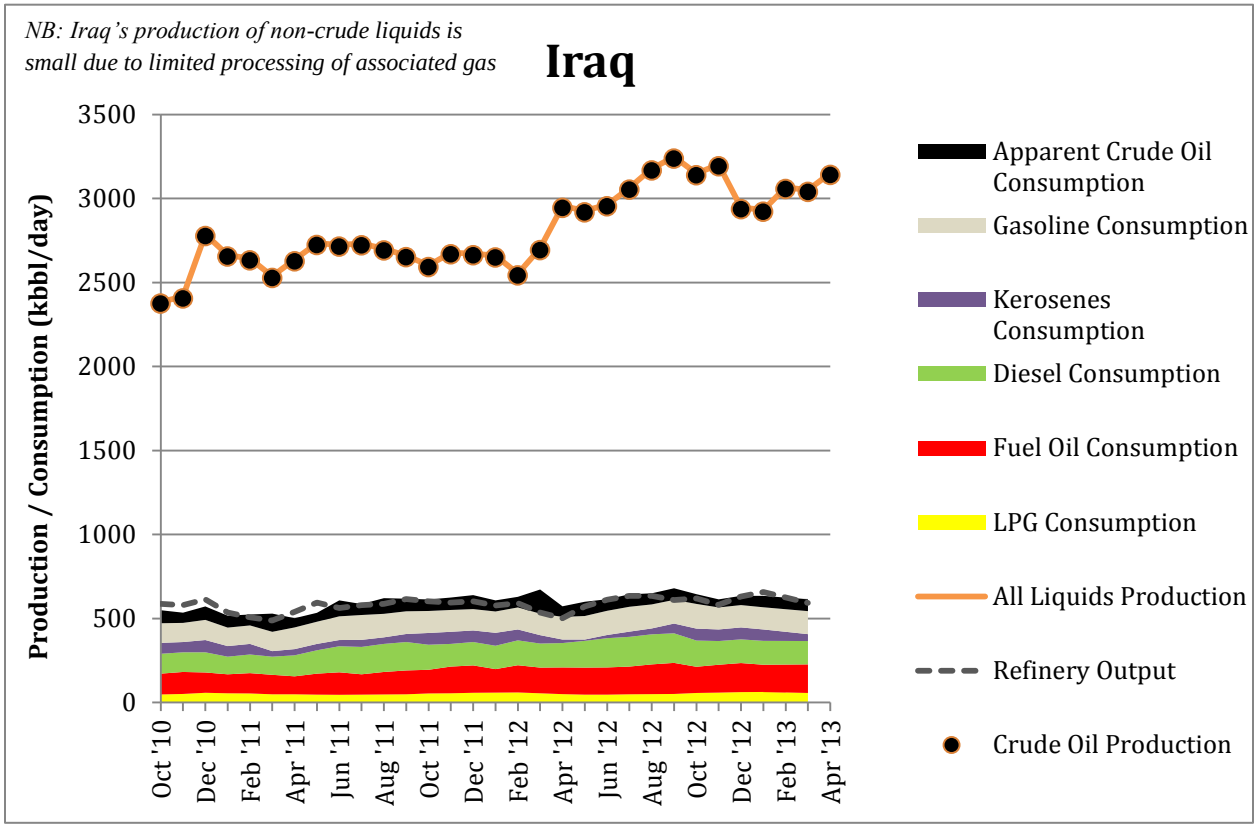
- Saudi Arabia's gas drilling increased slightly in April.
- Egypt's gas rig count recovered sharply from February's low, given the urgent neeed to boost supplies ahead of summer
- All UAE gas rigs are located in Abu Dhabi; there are no current gas projects in Dubai.
- Oman gas rig count increased by 3 in April after a long fall from midsummer 2012

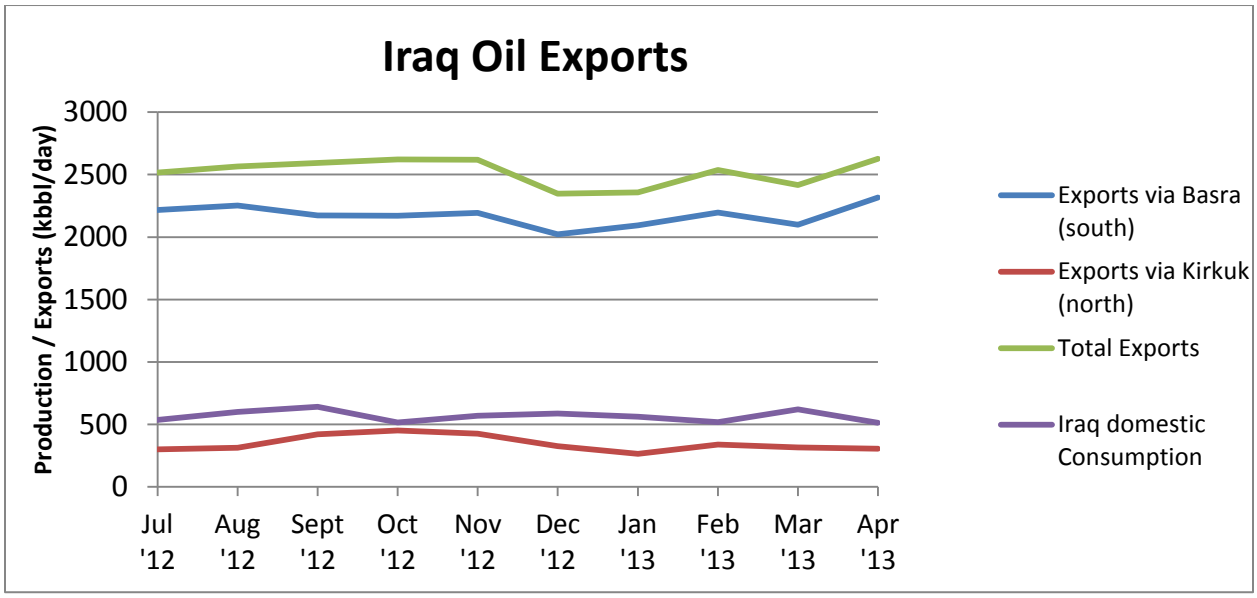


- UAE's crude oil production remained stable in April
- The country has not updated its JODI figures since December 2012



- Saudi crude oil production increased slightly in April to reach 9 270 kbpd.
- Crude oil exports dropped by 34 kbpd in April due to higher domestic consumption in summer

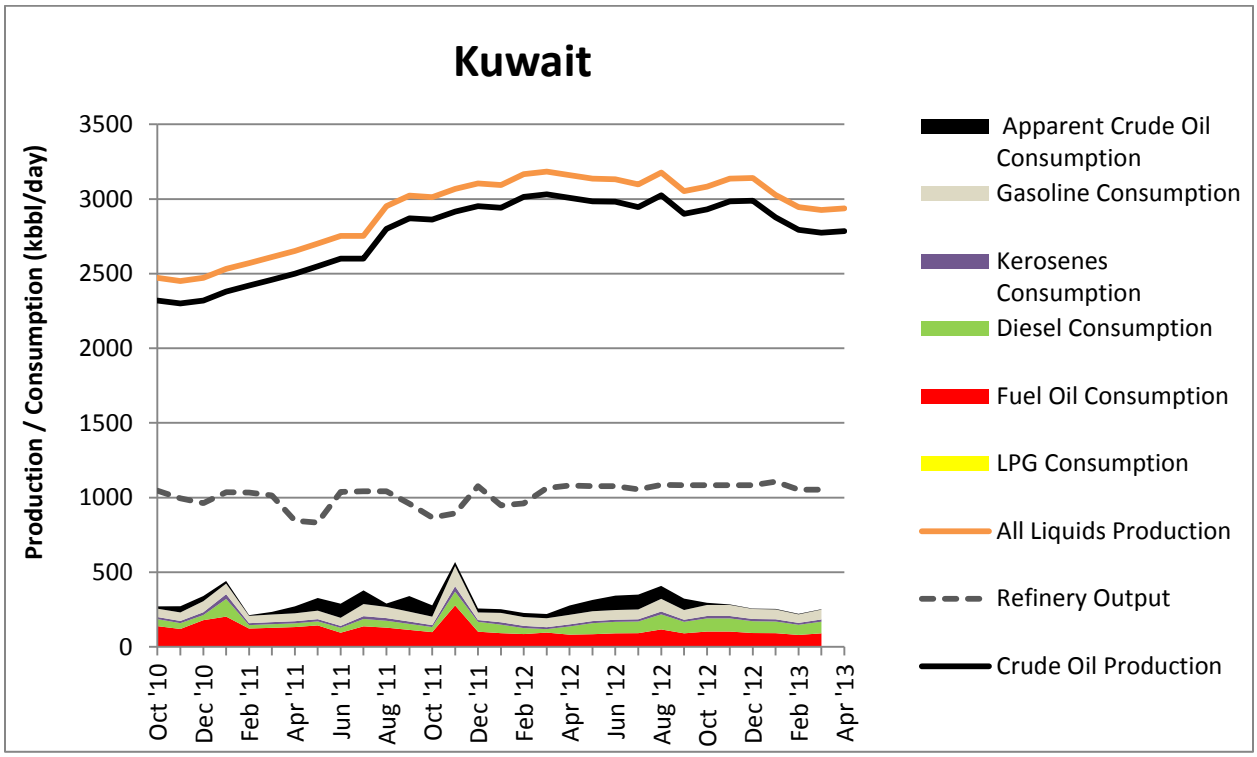




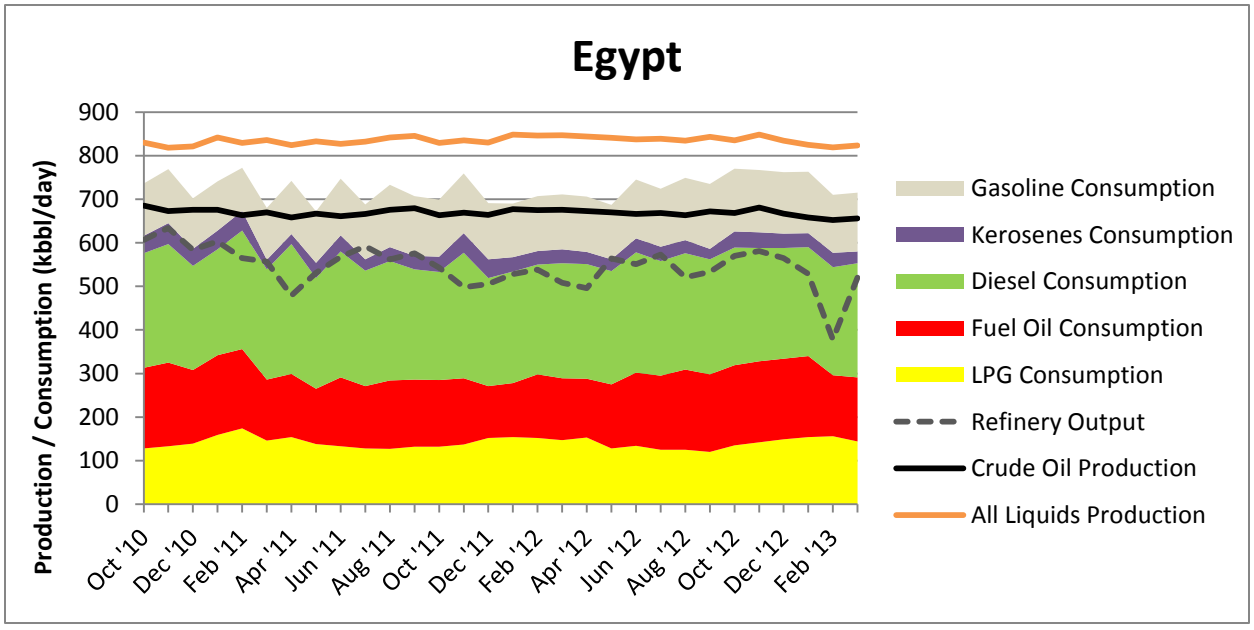
Source: Iraq Oil Ministry

- As expected, Iraq's crude oil exports increased in April after fixing the leak in the northern pipeline that occurred in March. The increase of exports via Basra and a fall in domestic consumption also contributed to increasing Iraq's total oil exports.

- Iraq's crude oil exports are expected to fall in May due to bombing of the northern pipeline which took place on May 17th
- Iraq's total oil exports reached 2.62 mbpd, the highest level in 2013, but is still below the target of 2.9 mbpd



- Kuwait oil production was steady in April, having fallen back significantly from November



- Refinery output improved in March after the sharp drop in February; crude oil supply deals have been signed with Libya and Iraq
- Fuel oil and diesel consumption dropped and power cuts struck, due to currency shortages
- Oil (and gas) production continued to decline

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	8	Feb – 13
Egypt	EGPC	Sep – 11	15	18,000	11	Mar – 12
Egypt	Ganope	Dec – 12	20	125,577	-	May - 13
Iraq	4th Licensing Round	Apr – 11	12	80,700	3	May – 12
Iraq	5th Licensing Round	NA	10	NA	-	NA
Lebanon	1st Licensing Round	Feb - 13	10	22,730	-	May -13
Syria	Offshore	May – 11	3	9,038	0	Oct – 11
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

Updates since last issue in red

Source: Deloitte; Manaar research

Key Manaar people

Jaafar Altaie,
Managing Director
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
Robin is an expert on Middle East energy strategy and economics. He 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.

Chad Al-Sherif Pasha
Advisor
Chad is a geo-political advisor and senior project manager with a successful track record developing strategic initiatives with corporations and governments. He has particular expertise in Central Asia.

Roa Ibrahim
Industry Analyst
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.

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